



Empirical evidence for a relationship between narcissistic personality traits and job burnout



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ABSTRACT

Purpose: The relationship between burnout and depression has been a major focus of burnout research, but personality factors might be equally important. Largely based on theoretical grounds, narcissism has repeatedly been proposed to contribute to burnout.

Objective: The aim of this study was to examine empirically the relationship between burnout and narcissism.

Methods: We investigated 723 consecutive in-patients, aged between 22 and 80 years (51.2% female), at a hospital specialized in the treatment of job stress-related disorders. Patients completed the 22-item Maslach Burnout Inventory and the 20-item Narcissism Inventory, the Beck Depression Inventory, the Pittsburgh Sleep Quality Index and the Perceived Stress Scale.

Results: After controlling for sociodemographic factors, depressive symptoms, sleep quality, and perceived stress, narcissism explained 3.5% of the total burnout score ($p < .001$); regarding burnout dimensions, narcissism explained 7.3% of emotional exhaustion ($p < .001$) and 3.6% of depersonalization ($p < .001$), but was unrelated to lack of achievements ($p = .45$). Depressive symptoms explained 3.6% of the total burnout score, 2.6% of emotional exhaustion, 2.0% of depersonalization, and 1.4% of lack of achievements (all p -values $\leq .005$).

Conclusions: Personality factors, especially narcissism, may be equally important as depressive symptoms, and thus should regularly be considered in burnout research and therapy.

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1. Introduction

1.1. Theoretical background of burnout

There is an ongoing discussion among researchers and in the public about the conceptualization of and factors contributing to job burnout (Rössler, Hengartner, Ajdacic-Gross, & Angst, 2013; Thalhammer & Paulitsch, 2014). Freudenberger introduced the term burnout in 1974, focusing on assessment, prevention and treatment, whereas Maslach and her colleagues (Maslach, 1976, 2003; Maslach & Jackson, 1982; Pines & Maslach, 1978) developed a theoretical framework for research on burnout. In the past 40 years, burnout research has established the complexity of the construct,

with burnout being primarily associated with workplace factors; however, these studies also showed that people deal with the same working conditions differently, thus hinting at the role of personality in this disorder (Alarcon, Eschleman, & Bowling, 2009; Gündel & Dammann, 2012; Schaufeli & Buunk, 2002; Swider & Zimmermann, 2010). Despite this, there has been little research on the influence of personality factors on burnout (Alarcon et al., 2009; Maslach et al., 2001; Swider & Zimmerman, 2010).

It is generally accepted that job burnout is a multidimensional phenomenon influenced by both job and individual characteristics (Karaniola & Kleanthous, 2011). There is no “gold standard” definition of this condition. Rook (1998)—listed 16 different definitions, and this number has been increasing steadily (Burisch, 2010; Hillert & Marwitz, 2006; Rösing, 2003). The International Classification of Diseases (ICD)-10 codes burnout under the additional section Z73.0 “Problems related to life management difficulty” (Dilling, Mombour, & Schmidt, 1991). The definition by Maslach

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and Jackson (1986) has most often been used in research; it characterizes burnout by three symptoms dimensions, namely emotional exhaustion (EE), depersonalization (DP) and lack of accomplishment (LA) at work (Maslach & Jackson, 1981) that are assessed with the Maslach Burnout Inventory (MBI). The three-factor solution of the MBI is supported by empirical studies (Worley, Vassar, Wheeler, & Barnes, 2008).

1.2. *Overlap between burnout and depression*

Depression is one of the leading causes of work disability (Rössler, 2012). Work stress has significantly been associated with the risk of a major depressive episode (Wang, 2005). Depressive disorders are common in the workplace, negatively impact on performance and promote absenteeism. Furthermore, depression is highly prevalent in working individuals early in their careers, and persists over years (Patten et al., 2006). Burnout is often associated with depression (Ahola & Hakanen, 2007; Bianchi, Boffy, Hingray, Truchot, & Laurent, 2013; Campos & Maroco, 2012). Some authorities view depression and burnout as equivalent (Bianchi et al., 2013), emphasizing a substantial overlap between burnout and depressive symptoms (Ahola, Hakanen, Perhoniemi, & Mutanen, 2014; Bianchi, Schonfeld, Laurent, 2015; Hintsa et al., 2014; Reime & Steiner, 2001). An increase in depressive symptoms was shown to predict an increase in burnout symptoms and vice versa (Toker & Biron, 2012). The risk of having a depressive disorder was greater when burnout was severe, compared to mild or no burnout (Ahola et al., 2005). In a Finnish study (Ahola & Hakanen, 2007), burnout was found to act as a mediator between job strain and depression.

In contrast, differences between burnout and depression have also been observed in empirical studies (Bakker, Demerouti, & Schaufeli, 2002; Glass & McKnight, 1996). Correlation coefficients between burnout and depression have been reported to be around .6 (Glass & McKnight, 1996; Hakanen & Schaufeli, 2012; Upton et al., 2012), although spanning a range between .22 (Zhong et al., 2009) and .90 (Waldman et al., 2009) for relations between the MBI total scores and Beck Depression Inventory (BDI) totals scores. A parsimonious interpretation of the current literature may be that burnout and depression share some commonalities, but neither of them is a redundant concept. To this end, we also tested the relationship between burnout and depression in our sample.

1.3. *Burnout and its possible relationship with narcissism*

Narcissism should be distinguished from narcissistic personality disorder (Emmons, 1984, 1987; Ritter & Lammers, 2007) as a normal but heterogeneously formed personality facet; it ranges from 'grandiosity-exhibitionism', which is related to extraversion and self-idealization, to 'vulnerability-sensitivity', which is associated with introversion, defensiveness, and anxiety (Wink, 1991). Overt narcissism (grandiosity-exhibitionism) can be distinguished from covert narcissism (vulnerability-sensitivity) (Cooper & Ronningstam, 1992; Wink, 1991). Only when there is an extreme expression of narcissistic symptoms should a diagnosis of pathological narcissistic personality disorder be made (Ritter & Lammers, 2007; Ronningstam, Gunderson, & Lyons, 1995; Wink, 1991). According to Deneke and Hilgenstock (1989) who introduced the Narcissism Inventory, narcissism is a multidimensional construct with a self-regulatory character, consisting of both positive, narcissistically satisfying processes, and negative processes subjectively experienced as threatening, degrading and nagging.

Important to narcissistic individuals is the visibility of their accomplishments and being acknowledged (Kohut, 2013). There often is a discrepancy between self-awareness and the perception of others, with a trend towards self-aggrandizement (Tominschek & Zäuner, 2012), so that narcissistic individuals experience feel-

ings of being misunderstood and offended. Work can be important for the stabilization of their self-esteem, while private life is often unsatisfactory. There is evidence to suggest that self-esteem may play an important role in both burnout and narcissism. One previous study revealed an association between emotional exhaustion and diminished self-esteem in nurses (Tomás-Sábado et al., 2010). Indeed, self-esteem is a predictor and a consequence of burnout (Dahlin, Joneborg, & Runeson, 2007; Rosse, Boss, Johnson, & Crown, 1991), and narcissism has consistently been shown to relate to elevated self-esteem (Campbell, Rudich, & Sedikides, 2002; Emmons, 1984, 1987; Rhodewalt, Madrian, & Cheney, 1998). Fischer (1983) postulates that self-esteem is based on a narcissistic illusion. The combination of idealization of the job and the subsequent disillusionment caused by reality comes with two opportunities, namely either lowering ideals or quitting the unsatisfying job. Narcissistic workers would rather exhaust (i.e., "burn out") their resources before facing disillusionment at workplace.

Based both on clinical observations and theoretical concepts as described above, Schaufeli and Enzmann (1998) described burnout as a narcissistic disorder (pp. 108–109). They pointed out that as early as 1979, Lasch (1979) described society—as being narcissistic with increasingly transient, unrewarding, and also combative nature of social relationships. Farber (1983, p. 11) described this trend as "a perfect recipe for burnout". As a result, the development of narcissistic, self-absorbed, manipulative individuals who demand immediate gratification of their desire but remain perpetually unsatisfied is fostered." (Schaufeli & Enzmann, 1998; p. 13). Other unresolved narcissistic issues such as overextending oneself and conflicts between role demands and needs for personal gratification (Glickauf-Hughes & Mehlman, 1995) also might lead to burnout. One study found narcissistic personality type to be considerably frequent in dentists with burnout (Alemany Martínez, Berini Aytés, & Gay Escoda, 2008). However, to our knowledge, the relationship between burnout and narcissistic regulatory mechanisms has not previously been investigated empirically.

1.4. *The present study*

The above-mentioned literature is intriguing, as it may suggest that prevention and interventions for job burnout might be informed by targeting coping with narcissistic regulation mechanisms. Against this background, the primary aim of our study was to empirically explore the relationship between burnout and narcissism in a cohort of patients hospitalized for professional burnout. We hypothesized a direct relationship between narcissism and burnout independent of important covariates, including sociodemographic factors, depressive symptoms, perceived stress, and sleep problems. As described above, not only depression, but also stress and sleep problems are highly associated with burnout (Ahola & Hakanen, 2007; Sonnenschein, Sorbi, van Doornen, Schaufeli, & Maas, 2007) and, moreover, stress and depression are also associated with narcissism (Fukunishi, Moroji, & Okabe, 1995; Kealy, Tsai, & Ogrodniczuk, 2012). A secondary aim was to compare the variance explained in burnout symptoms by narcissism to that by depressive symptom severity.

2. **Methods**

2.1. *Study participants and recruitment*

This ongoing study was conducted with a consecutive sample of employees, referred for in-patient treatment to a hospital specialized in the treatment of job stress-related disorders, including burnout. In the present study, we analyzed 723 patients hospitalized in 2012 and 2013. In Switzerland, patients with burnout

(ICD-10 Z73.0) are only hospitalized and reimbursed by insurance if they also have an ICD-10 F diagnosis. Accordingly, inclusion criteria were meeting the ICD-10 criteria for an F3 or F4 diagnosis in addition to burnout (Z73.0). We documented the primary F3 or F4 diagnosis, age, gender, and socioeconomic status. All patients were asked to complete a set of psychological questionnaires for the assessment of job burnout, narcissism, depressive symptoms, sleep quality, and perceived stress (cf. below). All patients provided written informed consent and the study protocol was approved by the ethics committee of the state of Zurich, Switzerland.

2.2. Psychosocial measures

2.2.1. Job burnout

To assess burnout, we applied the validated German version (Schwarzer & Jerusalem, 1999) of the widely used 22-item MBI (Bakker et al., 2002; Maslach & Jackson, 1986; Schaufeli & Leiter, 1996) with its subscales/dimensions EE, DP and LA. The core symptom EE is the most robust scale of the MBI. In particular, EE is closely related to chronic fatigue and feelings of being overwhelmed. Additional common, but unspecific symptoms are dejection, tension states, sleeping disorders, as well as head and back pain (Berger et al., 2012). The employee has no more energy to engage in his or her job. DP is expressed by a sense of alienation from work. Increasing frustration leads to an inner distance from and cynicism towards work. LA includes self-perception of reduced efficacy in professional performance, diminished self-esteem, and withdrawal from work. Typical items for EE are: 'I feel emotionally drained from my work'; for DP: "I have become more cynical about whether my work contributes anything"; and for LA: "At my work, I am not confident that I am effective at getting things done". The scoring of the individual items was with a Likert scale ranging from 0 (*never*) to 6 (*every day*). Scores range from 0 to 6 for the three subscales EE, DP and LA, and from 0 to 18 for the MBI total score (Buunk, Ybema, Gibbons, & Ipenburg, 2001). In our sample, Cronbach's alpha was .87 for EE, .78 for DP, .81 for LA, and .72 for the MBI total scale, indicating acceptable to good internal consistency.

2.2.2. Narcissism

The Narcissism Inventory (NI-90) (Schoeneich et al., 2000; Daig et al., 2010) is an operationalization of narcissistic regulatory mechanisms that aim to control self-experience. We used the 20-item short form of the NI (NI-20) (Daig et al., 2010), a time-efficient and easy-to-administer screening instrument to assess narcissistic aspects in clinical settings (Daig et al., 2010). The items of the NI-20 reflect the heterogeneous aspects of narcissism. According to Deneke and Hilgenstock (1989), there are four second-order dimensions of narcissistic self-regulation, namely threatened self (TS), classic narcissistic self (CnS), idealistic self (IS), and hypochondriac self (HS). The TS dimension includes self-organization along a continuum from a state of structural cohesiveness to stages of narcissistic decompensation, reflecting highly unstable self-esteem. The CnS dimension corresponds to the traditional aspect of narcissistic personality, namely egocentrism or overestimation of one's own capabilities. In sum, it reflects aspects of the narcissistic personality traits. The IS dimension addresses the latent or manifest anxiety of being disappointed or emotionally wounded, while engaging in a relationship. It reflects the attempt to stabilize oneself through identification with ideal modes. HS, the fourth dimension, measures attention to one's own body, and how it is experienced and used as an object. It reflects a hypochondriac anxiety-binding mode of self-regulation (Daig et al., 2010; Walter et al., 2005). Typical items for the TS are: "I often desire nothing more than to fall into a long, deep sleep."; for the CnS: "I think I might well enjoy being the centre of attention for once."; for the IS: "I see every new task as a challenge in which I have to prove myself."; and for the

HS: "I am sometimes suddenly gripped by the terrible fear that I could become seriously ill."

Participants quantified each item on a 5-point Likert scale ranging from 1 (*does not apply at all*) to 5 (*applies exactly*). In our sample, Cronbach's alpha was .80 for TS, .74 for CnS, .69 for IS and .76 for HS, and .79 for the NI-20 total score, indicating acceptable internal consistency.

2.2.3. Assessment of sociodemographic and psychological covariates

2.2.3.1. Sociodemographic factors. We collected data on age, gender, and the socioeconomic status per the highest level of educational attainment with the following categories: Lower than apprenticeship, apprenticeship or vocational school, high school certificate and university degree. Less than 5% had high school graduation entrance qualification and thus were categorized along with participants with university graduation into the category higher graduation.

2.2.3.2. Depression. We assessed the severity of depressive symptoms with the 21-item Beck Depression Inventory (BDI) (Beck, Ward, & Mendelson, 1961). Each item is rated on a 4-point Likert scale covering symptoms over the previous week with BDI total scores ranging from 0 to 63. Depressive symptom scores <10 indicate absence of clinically relevant depression, 10–18 borderline clinical depression, 19–29 moderate depression, and ≥ 30 severe depression.

2.2.3.3. Sleep quality. We assessed subjective sleep quality in the previous month with the Pittsburgh Sleep Quality Index (PSQI). The questionnaire includes items on sleep latency, sleep duration, habitual sleep efficiency, sleep disturbance, use of sleep medications, and daytime dysfunction (Buysse, Reynolds, Monk, & Berman, 1989). The PSQI global score has a possible range from 0 to 21 with a score of 5 or above indicating poor subjective sleep quality.

2.2.3.4. Perceived stress. We used the widely applied 14-item Perceived Stress Scale (PSS) to measure the degree to which situations are perceived as stressful during the last month (Cohen, Kamarck, & Mermelstein, 1983). The PSS includes two aspects of the job demands-resources model (i.e., loss of control and feelings of being overwhelmed), according to which work stress results from an imbalance between job demands and the resources of an individual to deal with those demands, (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). Each item is rated on a 5-point Likert scale ranging from 0 (*never*) to 4 (*very often*).

2.3. Statistical analysis

Data were analyzed using SPSS Statistics version 21.0 for Macintosh, with level of significance at $p < .05$ (two-tailed). Multivariate normality of the data distribution was tested using Mahalanobis Distance. The significance of results was the same with and without three possible outliers. Therefore, regression outputs refer to the full sample of $n = 723$ patients. Pearson's correlation analysis was applied to estimate the relationship between two variables. According to Cohen (1977), effect sizes to determine clinical significance of correlation coefficients were deemed to be small if $r = .10$, medium if $r = .30$, or large if $r = .50$.

We conducted a linear regression analysis to investigate whether narcissism would be significantly associated with job burnout adjusting for gender, age, socioeconomic status, depressive symptom severity, sleep quality, and perceived stress. We specified these covariates a priori, as they have been shown to be associated with burnout in previous studies (Iacovides, Fountoulakis, Kaprinis, & Kaprinis, 2003; Maslach et al., 2001; Vela-Bueno et al., 2008;

Table 1
Characteristics of the 723 study participants with job burnout.

Age (years)			
22 to 39	100 (14%)		
40 to 59	527 (73%)		
60 to 81	96 (13%)		
Gender			
Female	370 (51.2%)		
Male	353 (48.8%)		
Socioeconomic status			
Lower than apprenticeship or vocational school	5 (.7%)		
Apprenticeship or vocational school	320 (44.3%)		
Higher education	370 (51.2%)		
Unknown	28 (3.9%)		
		Cronbach's Alpha	
Burnout			
Total score	7.90 ± 2.82	.72	
Emotional exhaustion	3.77 ± 1.23	.87	
Depersonalisation	1.81 ± 1.35	.78	
Lack of accomplishment	3.68 ± 1.13	.81	
		Narcissism	
Total score	2.62 ± .55	.79	
Threatened self	2.65 ± .86	.80	
Classic narcissistic self	2.38 ± .87	.74	
Idealistic self	3.18 ± .84	.69	
Hypochondriac self	2.32 ± .95	.76	
Depressive symptoms	20.3 ± 8.98	.87	
Sleep quality	10.4 ± 4.29	.71	
Perceived stress	34.2 ± 8.10	.84	

Data are given as *n* (% total number) or mean ± standard deviation, and Cronbach's alpha

Waldman et al., 2009). Separate regression analyses were run for the MBI total score and each of its subscales. All variance inflation factors were below 2.5, indicating there was no concern for multicollinearity.

3. RESULTS

3.1. Patient characteristics

Table 1 shows the sociodemographic and psychological characteristics of the 723 study participants, aged between 22 and 81 years (mean ± SD, 49.57 ± 8.80). The percentage of men and women was roughly equal and socioeconomic status was fairly high. Regarding depressive symptom severity, 11.3% had no depression, 30.8% had borderline clinical depression, 35.8% had moderate depression, and 16.2% had severe depression. In addition, 82.0% scored at least 5 on the PSQI, indicative of clinically relevant sleep disturbance.

The primary psychiatric diagnosis was an affective disorder in 92% of our patients; 92.0% met the diagnostic criteria for an affective disorder (F3). Specifically, 1% had a mild depressive episode (F32.0), 65.9% a moderate depressive episode (F32.1), and 3.8% a severe depressive episode (3.6% without psychotic symptoms, F32.2; .2% with psychotic symptoms, F32.3). Further, 13.2% had a recurrent depressive episode (F33) (11.1% current episode moderate, F33.1; 2.0% current episode severe without psychotic symptoms, F33.2). Less than 1% had other affective disorders. The diagnostic criteria for a neurotic, stress-related or somatoform disorder (F4) were met by 6.6% of our patients. In detail, 1.5% suffered from a mixed anxiety and depressive disorder (F41.2), and 2.7% had an adjustment disorder (F43.2). Less than 1% had other neurotic, stress-related or somatoform disorders. Only .1% met the diagnostic criteria for behavioral and emotional disorders (F9). The remainder (1.3%) had no definite psychiatric diagnosis.

3.2. Bivariate correlations

3.2.1. Correlations between burnout, narcissism, depression, sleep disturbance, and perceived stress

There were statistically significant and clinically relevant bivariate correlations of similar magnitude between the total burnout score on the one hand, and the total narcissism score, depressive symptom severity, and perceived stress, on the other (Table 2). The total narcissism score was also significantly associated with depressive symptom severity, sleep disturbances, and perceived stress.

3.2.2. Correlations between burnout and narcissism scales

Table 3 shows the various correlations between narcissism and burnout scores. In addition to the significant correlation between the total narcissism score and the total burnout score (Fig. 1A), the total narcissism score was also significantly correlated with all three burnout dimensions (Fig. 1B–D). All four narcissism dimensions correlated significantly with the MBI total score, although the magnitude of the association with IS was not of clinical relevance. Moreover, only TS scores achieved significant correlations with all burnout subscales; CnS and HS scores showed significant correlations with EE and DP scores, and IS correlated significantly with LA scores.

3.3. Multivariable analysis

Linear regression analysis was performed with the total burnout score as the dependent variable (outcome) and the total narcissism score as the independent variable (predictor), adjusting for sociodemographic and psychological factors (Table 4). We found that 24.6% of the variance in the total burnout score was explained by all variables in the model. Narcissism and depressive symptoms emerged as similarly strong predictors, explaining 3.5% and 3.4% of the variance in the total burnout score, respectively, showing a small-to-medium effect. Likewise, standardized coefficient beta values indicated that the increase in the total burnout score was only .222/.204 = 1.09-fold greater with one standard deviation increase in the total depressive symptom score as opposed to one standard deviation increase in the total narcissism score. Also, and with clinical relevance, the total burnout scores were significantly greater in older, male and less stressed workers than younger, female and more stressed workers, respectively.

Separate analyses for each burnout dimension showed that EE (29.1%) could be better predicted by all independent variables than DP (14.3%) and LA (9.8%). After controlling for all covariates, narcissism was a significant predictor of EE and DP, explaining 7.3% and 3.6% of the respective variance, indicating a medium and small effect, respectively. In contrast, narcissism did not emerge as a significant predictor of LA ($p = .45$). Moreover, depressive symptom severity was significantly and independently associated with all burnout dimensions. There was a 1.61-fold greater increase in the EE score, whereas the increase in the DP score was 1.08-fold, with one standard deviation increase in the total narcissism score as opposed to one standard deviation increase in the total depressive symptom score.

There emerged additional significant and clinically relevant (r partial $\geq .10$) associations between several covariates and the three burnout dimensions. Scores for EE were greater in patients with greater levels of perceived stress. Scores for DP were higher in men than in women and in younger than in older patients. Scores for LA were higher, indicative of greater accomplishments, in older than in younger patients, in those with higher versus lower socioeconomic status, and in those with lower levels of perceived stress.

Table 2
Correlations between burnout, narcissism, depressive symptoms, sleep quality, and perceived stress.

Variables	1	2	3	4	5
1. Burnout total score	–				
2. Narcissism total score	.39**	–			
3. Depressive symptoms	.40**	.54**	–		
4. Sleep quality	.09*	.24**	.36**	–	
5. Perceived stress	.35**	.45**	.58**	.34**	–

Table 3
Correlations between burnout and narcissism scores.

Variables	1	2	3	4	5	6	7	8	9	10
1. MBI_total	–									
2. EE	.78**	–								
3. DP	.83**	.52**	–							
4. LA	-.66**	-.25**	-.32**	–						
5. NI_total	.39**	.45**	.30**	-.12**	–					
6. TS	.45**	.49**	.32**	-.22**	.75**	–				
7. CnS	.23**	.24**	.22**	-.07	.65**	.28**	–			
8. IS	-.08*	.01	-.04	.17**	.36**	-.03	.17**	–		
9. HS	.24**	.28**	.19**	-.07	.65**	.36**	.26**	.07	–	
10. BDI	.40**	.44**	.28**	-.21**	.54**	.68**	.21**	-.09*	.35**	–

Abbreviations: MBI_total = Maslach Burnout Inventory total score; EE = Emotional Exhaustion; DP = Depersonalisation; LA = Lack of Accomplishment; NI_total = Narcissism Inventory total score; TS = Threatened Self; CnS = Classic Narcissistic Self; IS = Idealistic Self; and HS = Hypochondriac Self; BDI = Beck Depression Inventory total score

* $p < .05$.

** $p < .01$.

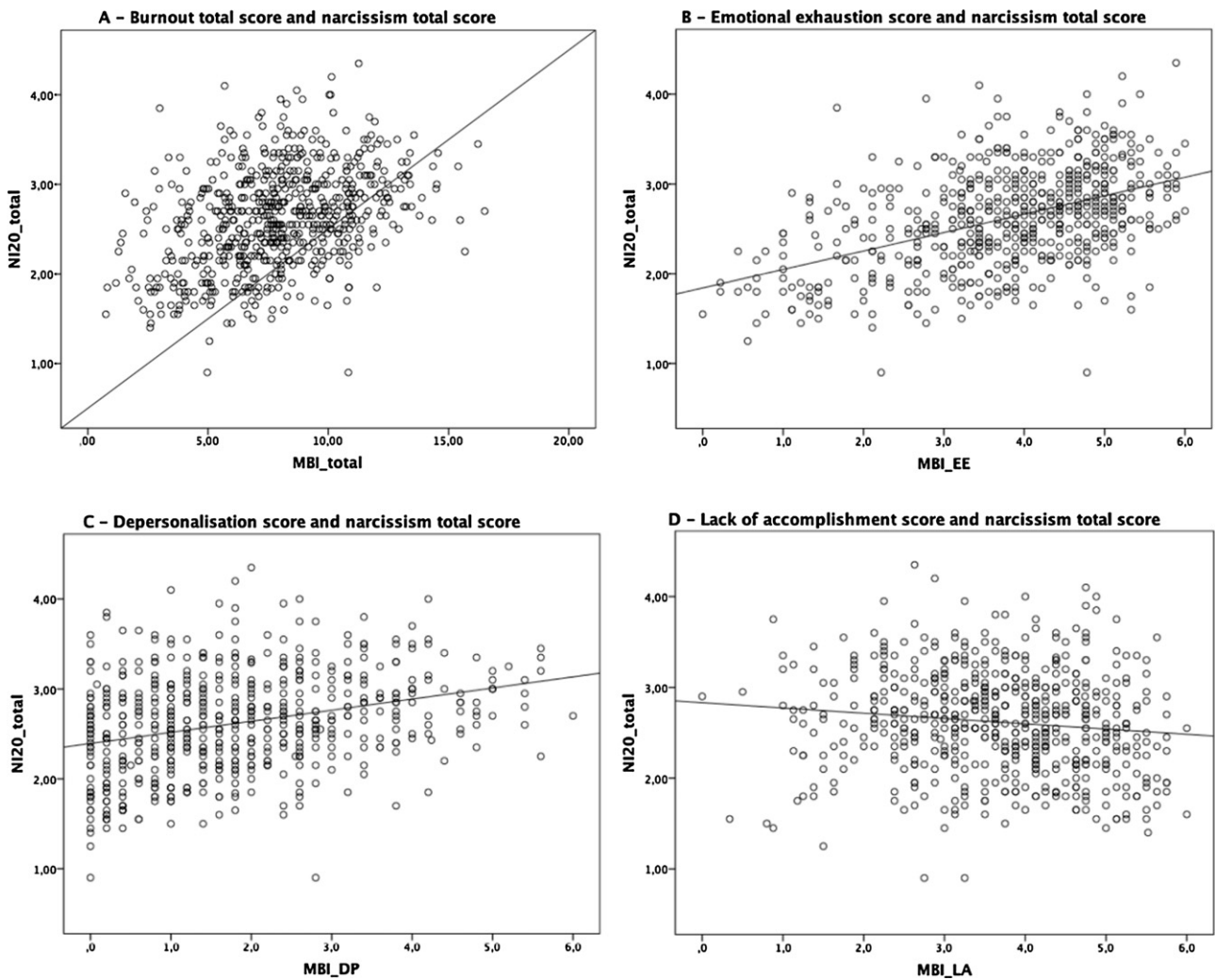


Fig. 1. Relationship between narcissism and burnout scores. The scatterplots with fit line show the significant associations (all p -values $< .01$) of the Narcissism Inventory (NI) 20 total score and the Maslach Burnout Inventory (MBI) total score (A) and scores for emotional exhaustion (EE) (B), depersonalisation (DP) (C) and low accomplishment (LA) (D).

Table 4
Multivariate linear regression analyses linking narcissism with burnout scores.

Entered variables	Total burnout score			Emotional exhaustion			Depersonalization			Lack of achievement		
	Standardized coefficients Beta	p-Value	Part. corr.	Standardized coefficients Beta	p-value	Part. corr.	Standardized coefficients Beta	p-Value	Part. corr.	Standardized coefficients Beta	p-Value	Part. corr.
Age	-.12	.001	-.14	-.06	.08	-.07	-.08	.03	-.09	.14	<.001	.14
Male gender	.11	.003	.12	.01	.78	.01	.16	<.001	.17	-.07	.06	-.08
Socioeconomic status	-.05	.17	-.04	-.06	.09	-.07	.04	.25	.05	.11	.004	.12
Depressive symptoms	.22	<.001	.19	.18	<.001	.16	.18	<.001	.14	-.15	.005	-.12
Sleep quality	-.08	.03	-.09	-.08	.03	-.09	-.05	.21	-.05	.06	.16	.06
Perceived stress	.15	.001	.14	.19	<.001	.17	.03	.53	.03	-.16	.002	-.13
Narcissism	.20	<.001	.19	.29	<.001	.27	.19	<.001	.19	.04	.45	.03
<i>Model statistics</i>	Adjusted $R^2 = .246$; $F_{7,612} = 28.267$, $p < .001$			Adjusted $R^2 = .291$; $F_{7,612} = 35.513$, $p < .001$			Adjusted $R^2 = .143$; $F_{7,612} = 14.421$, $p < .001$			Adjusted $R^2 = .098$; $F_{7,612} = 9.380$, $p < .001$		

4. Discussion

4.1. Main findings with respect to narcissism

In our large sample of 723 in-patients, we found higher levels of narcissism to be associated with higher levels of burnout. Specifically, the total narcissism score was significantly related to the total burnout score and explained 3.5% of the variance after adjusting for sociodemographic and psychological variables, including depressive symptoms, sleep disturbances, and perceived stress. With a small-to-medium effect size, this result was also clinically meaningful.

Based on clinical observations and theoretical concepts, several researchers have previously proposed that individuals with narcissistic personality traits may run an increased risk of burning out in their jobs (Fischer, 1983; Schaufeli & Enzmann, 1998). As a basic personality trait, narcissism may predispose a person towards workaholic and, as a consequence, also burnout (Andreassen, Hetland, & Pallesen, 2010; Andreassen, Ursin, Eriksen, & Pallesen, 2012; Wink, 1991). In addition to organizational factors, intrapersonal factors such as high idealism, narcissism, and perfectionism have been suggested to be important for an understanding of burnout in the clergy (Grosch & Olsen, 2000). Investing excessive efforts in pursuit of high ideals and having high expectations from oneself lead to working too hard and doing too much, so EE and DP may follow when goals are not achieved (Maslach et al., 2001). Our findings are novel in that they lend empirical support to more theoretical concepts linking narcissism as a personality trait with burnout.

Regarding the three burnout dimensions, the total narcissism score was significantly related to EE, DP and LA in the unadjusted correlation analysis and, after adjusting for sociodemographic and psychological variables, also to EE and DP. Narcissism explained more of the variance in EE (7.3%) than in DP (2.8%) with both these effects being clinically meaningful. The lack of a significant association with LA in the covariate-adjusted analysis supports the recently proposed three-factor solution of the MBI, based on meta-analytic findings (Worley et al., 2008). The LA subscale captures the perception of reduced efficacy in professional performance. In contrast, workers with a narcissistic self may overestimate their capabilities or may identify themselves with an ideal but not “real” job situation. As a consequence of not giving up their illusion (Fischer, 1983), narcissistic patients perhaps will not even recognize their own reduced efficacy, while continuing to exhaust their resources and becoming cynical about their job. Altogether, our observation that patients with greater narcissism scored higher not only on the total burnout scale, and also on the EE and DP dimensions, suggests that narcissistic personality traits warrant further exploration in burnout research.

Of the narcissism dimensions, TS achieved most consistently significant correlations with the total burnout score as well as with all burnout subscales. Particularly, the EE subscale achieved the largest correlations with all narcissism dimensions, except IS. The largest correlation at all was found between TS and EE, explaining 24% of the variance. EE is the core dimension of the MBI, representing the basic individual stress dimension of burnout. In agreement, we found perceived stress to be significantly and independently associated with EE in our patients. EE also refers to feelings of being emotionally and physically invalidated (Maslach et al., 2001). TS is characterized by depressive feelings, a deep insecurity, and fear of failure. Not surprisingly, depressive symptoms showed a strong correlation with TS. Thus, both constructs, EE and TS, have a negative affect component in common. Negative affect has also been shown to correlate longitudinally with EE (Swider & Zimmerman, 2010).

All of the narcissism dimensions, except IS, were also significantly correlated with DP, showing small-to-medium effects. DP is characterized by alienation from work. In the context of narcissism, DP could be a manifestation of a resigning-suspicious attitude towards the job and others. Considering the classic narcissistic self, DP could be a narcissistic self-regulatory mechanism against insults through negative relationship experiences and threats to the self. Through the sense of one's own grandiosity, and distancing oneself from personal relationships, an attempt is made to maintain internal stability.

Individuals high in HS try to regulate large, confusing fears, including those that concern their own physical integrity. In the long run, fear-related symptoms (anxiety, nervousness, tension) could result in psychosomatic complaints and feelings of exhaustion. This could explain the significant associations of HS with EE and DP.

The narcissism dimension IS showed no significant correlations with burnout, except with the LA subscale and the total burnout score, although the latter association was not of clinical relevance. The IS dimension is characterized by the latent or manifest fear of failure and of being disappointed or emotionally hurt by others. Trying to avoid such disappointments by distancing themselves from interpersonal relationships and increasing one's own value through identification with high ideals that cannot realistically be met may elicit feelings of being inefficient at work. Also, it should be emphasized that the socioeconomic status of our study participants was high when compared with the normal population. On average, people with higher education have jobs with greater responsibilities that may increase work stress as a risk factor for burnout. At the same time, highly educated and narcissistic individuals have high expectations about the kind of job they are doing and about the chances of being successful in their jobs. If these expectations are not met despite investing high efforts in their jobs, they suffer from greater levels of stress leading to burnout (Maslach et al., 2001).

4.2. Secondary findings with respect to depressive symptoms

As expected, we found a significant correlation between depressive symptoms and the total burnout score in the unadjusted analysis. However, with a correlation coefficient of $r = .40$, explaining 16.0% of the variance, our result was in the lower range of previously reported correlation coefficients between MBI and BDI totals cores spanning values from .22 (Zhong et al., 2009) to .90 (Waldman et al., 2009). Moreover, depressive symptoms and the total narcissism score showed similar effect sizes for the correlation with the total burnout score, both in the unadjusted and adjusted analyses. With respect to burnout dimensions, depressive symptoms showed significant and independent associations with EE, DP and LA, although, again, effect sizes were small. Taken together, we found only a small overlap between depression and burnout in our study. This could partially be explained by the characteristics of our sample. By meeting requirements stipulated by health insurance, virtually all of our in-patients met ICD-10 diagnostic criteria for an affective disorder, which, in the majority of cases, was a depressive episode of moderate severity. Likewise, 52.0% had depressive symptoms of at least moderate severity with a BDI score of 19 and higher. Unlike in population-based studies, BDI scores showed a normal distribution in our sample. While minor symptoms of depression (e.g. fatigue) might show greater overlap with burnout, particularly EE, more severe depression might manifest with cognitive and somatic affective symptoms that show less of an overlap with work-related burnout symptoms. This concurs with the view of Ahola et al. (2014) who differentiate between the association of burnout with depressive symptoms and burnout as a precursor of a depressive episode, as these two situations may

represent different phases in the development of job-stress related disorders.

4.3. Potential therapeutic implications

Burnout prevention and therapy should integrate both personal and environmental/organizational factors (Schulze & Rössler, 2006; von Känel, 2008). Co-existence of burnout with narcissism would seem to make such efforts more difficult, although thoroughly planned intervention studies would be needed to substantiate this assumption.

Burnout-related vulnerabilities of narcissistic individuals to be addressed in therapy may include recognition of one's limits, expectations and demanding attitudes, interpersonal vulnerability, desire for instant success, idealism, often unconscious competitiveness, and difficulties with accepting help (Dammann, 2009). In spite of such starting points, treatment of narcissistic patients can be expected to be prolonged, laborious, and not always promising (Battegay, 1981) and thus will go beyond burnout therapy in a stricter sense.

Key therapeutic issues in a patient with narcissism and burnout, such as perfectionism and low self-worth, may emerge from the sense that their "true self" is not acceptable and that it is only their competent, responsible "false self" for which they receive acknowledgment and affirmation. Hence, the development of resilient, healthy, and fully functional self-esteem and stabilization of the self and interpersonal relationships are in the therapeutic focus (Glickauf-Hughes & Mehlman, 1995; Kernberg, 2006; Kohut, 2013; Sachse, Sachse, & Fasbende, 2011; Sedikides, Rudich, Gregg, Kumashiro, & Rusbult, 2004). A multidimensional approach combining individual therapy with narcissism-related group-therapy, regenerative use of leisure time, (re) activation of the social and professional network, and nonverbal treatments (e.g. relaxation, sports activities) seems promising; particularly so, if patients succeed in implementing lessons and skills learned in therapy to their workplace (Tominschek & Zäuner, 2012).

4.4. Strengths and limitations

Notable strengths of our study are the sample size and adjustment for several covariates of burnout and narcissism, namely depression, sleep problems and chronic stress (Ahola & Hakanen, 2007; Fukunishi et al., 1995; Kealy et al., 2012; Sonnenschein et al., 2007).

The most important limitation is the cross-sectional study design, so that we cannot interpret our findings to mean that burnout is caused by narcissistic regulatory mechanisms. Burnout could also be a consequence or a symptom of underlying narcissistic traits. A longitudinal design would be necessary to disentangle the directionality of effects between narcissism and burnout.

Further limitations to be mentioned are the self-reported data and lack of detailed information about participants' job characteristics, illness history, comorbidities, and objective medical and work-related variables. The PSS does not specifically capture job strain; however, it covers loss of control and feelings of being overwhelmed (Cohen et al., 1983), which, in our patients hospitalized with job-stress related illnesses, are very likely and substantially triggered by work stress.

We used the NI-20, a short version of the NI-90, which does not capture all aspects of the narcissism construct. Specifically, while pathological narcissism can be dysfunctional and even destructive (Penney & Spector, 2002), we did not investigate the effects of healthy narcissism that could be a protective factor in the work environment. For instance, people with healthy narcissism report

being happy and self-satisfied, and have a greater interest in success and achieving their job expectations (Campbell, 2001).

4.5. Conclusions and implications

Our empirically driven findings support both previous clinical observations of narcissistic traits in persons who suffer from burnout, as well as theoretical concepts about a key role of narcissistic traits in burnout. The main results of our study suggest an independent relation between narcissism and burnout with practical relevance and important clinical implications. The observation that the magnitude of the relationship between narcissism and burnout was comparable to that between depressive symptom severity and burnout may support this notion. Longitudinal population-based studies with, ideally, repeated assessments are needed to shed light on causal relationships between narcissism and burnout. Whether targeting narcissism as part of a multi-component burnout therapy improves clinical outcome warrants further studies.

Conflict of interest

The authors declare that there are no conflicts of interest.

References

- Ahola, K., & Hakonen, J. (2007). Job strain, burnout, and depressive symptoms: a prospective study among dentists. *Journal of Affective Disorders*, *104*(1), 103–110.
- Ahola, K., Hakonen, J., Perhoniemi, R., & Mutanen, P. (2014). Relationship between burnout and depressive symptoms: a study using the person-centred approach. *Burnout Research*, *1*(1), 29–37.
- Ahola, K., Honkonen, T., Isometsä, E., Kalimo, R., Nykyri, E., Aromaa, A., et al. (2005). The relationship between job-related burnout and depressive disorders—results from the Finnish Health 2000 Study. *Journal of Affective Disorders*, *88*(1), 55–62.
- Alarcon, G., Eschleman, K. J., & Bowling, N. A. (2009). Relationships between personality variables and burnout: a meta-analysis. *Work & Stress*, *23*(3), 244–263.
- Alemayehu Martínez, A., Berini Aytés, L., & Gay Escoda, C. (2008). The burnout syndrome and associated personality disturbances. The study in three graduate programs in dentistry at the University of Barcelona. *Medicina Oral, Patología Oral y Cirugía Bucal*, *13*(7), 444–450.
- Andreassen, C. S., Hetland, J., & Pallesen, S. (2010). The relationship between 'workaholism', basic needs satisfaction at work and personality. *European Journal of Personality*, *24*(1), 3–17.
- Andreassen, C. S., Ursin, H., Eriksen, H. R., & Pallesen, S. (2012). The relationship of narcissism with workaholism, work engagement, and professional position. *Social Behavior & Personality: An International Journal*, *40*(6).
- Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2002). Validation of the Maslach burnout inventory-general survey: An internet study. *Anxiety Stress & Coping*, *15*(3), 245–260.
- Battagay, R. (1981). *Grenzsituationen*. Huber.
- Beck, A. T., Ward, C., & Mendelson, M. (1961). Beck depression inventory (BDI). *Archives of General Psychiatry*, *4*(6), 561–571.
- Berger, M., Linden, M., Schramm, E., Hillert, A., Voderholzer, U., & Maier, W. (2012). Positionspapier der Deutschen Gesellschaft für Psychiatrie: Psychotherapie und Nervenheilkunde (DGPPN) zum Thema Burnout. *Nervenarzt*, *4*, 537–543.
- Bianchi, R., Boffy, C., Hingray, C., Truchot, D., & Laurent, E. (2013). Comparative symptomatology of burnout and depression. *Journal of Health Psychology*, *18*(6), 782–787.
- Bianchi, R., Schonfeld, I. S., & Laurent, E. (2015). Is burnout separable from depression in cluster analysis? A longitudinal study. *Social Psychiatry and Psychiatric Epidemiology*, *50*(6), 1005–1011.
- Buunk, B. P., Ybema, J. F., Gibbons, F. X., & Ipenburg, M. (2001). The affective consequences of social comparison as related to professional burnout and social comparison orientation. *European Journal of Social Psychology*, *31*(4), 337–351.
- Burisch, M. (2010). *Das Burnout-Syndrom. Theorie der inneren Erschöpfung*. Berlin, Heidelberg: Springer-Verlag, 4., aktualisierte Auflage.
- Buyse, D. J., Reynolds, C. F., III, Monk, T. H., Berman, S. R., & Kupfer, D. J. (1989). The Pittsburgh sleep quality index: a new instrument for psychiatric practice and research. *Psychiatry Research*, *28*(2), 193–213.
- Campbell, W. K. (2001). Is narcissism really so bad? *Psychological Inquiry*, *214*–216.
- Campbell, W. K., Rudich, E. A., & Sedikides, C. (2002). Narcissism, self-esteem, and the positivity of self-views: Two portraits of self-love. *Personality and Social Psychology Bulletin*, *28*(3), 358–368.
- Campos, J. A. D. B., & Maroco, J. (2012). Maslach Burnout inventory-student survey: Portugal-Brazil cross-cultural adaptation. *Revista de Saúde Pública*, *46*(5), 816–824.
- Cohen, J. (1977). *Statistical power analysis for the behavioral sciences*. Lawrence Erlbaum Associates Inc. Rev. ed.
- Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, *385*–396.
- Cooper, A. M., & Ronningstam, E. (1992). Narcissistic personality disorder. *Review of Psychiatry*, *11*, 80–97.
- Dahlin, M., Joneborg, N., & Runeson, B. (2007). Performance-based self-esteem and burnout in a cross-sectional study of medical students. *Medical Teacher*, *29*(1), 43–48.
- Daig, I., Burkert, S., Fischer, H. F., Kienast, T., Klapp, B. F., & Fliege, H. (2010). Development and factorial validation of a short version of the Narcissism Inventory (NI-20). *Psychopathology*, *43*(3), 150–158.
- Dammann G. (2009). *Narzissmus und Führung Leadership in sozialen Organisationen*. VS Verlag für Sozialwissenschaften, 61–89.
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology*, *86*(3), 499.
- Deneke, F. W., & Hilgenstock, B. (1989). *Das Narzissmusinventar: Handbuch*. Huber.
- Dilling, H., Mombour, W., & Schmidt, M. H. (1991). *International Classification of Psychiatric Disorders: ICD-10, chapter V, clinical diagnostic guidelines*. Toronto: World Health Organisation.
- Emmons, R. A. (1984). Factor analysis and construct validity of the narcissistic personality inventory. *Journal of Personality Assessment*, *48*(3), 291–300.
- Emmons, R. A. (1987). Narcissism: theory and measurement. *Journal of Personality and Social Psychology*, *52*(1), 11.
- Farber, B. A. (1983). Introduction: a critical perspective on burnout. *Stress and Burnout in the Human Service Professions*, 1–20.
- Fischer, H. J. (1983). A psychoanalytic view of burnout. *Stress and Burnout in the Human Service Professions*, 40–45.
- Fukunishi, I., Moroji, T., & Okabe, S. (1995). Stress in middle-aged women: influence of type A behavior and narcissism. *Psychotherapy and Psychosomatics*, *63*(3–4), 159–164.
- Glass, D. C., & McKnight, J. D. (1996). Perceived control, depressive symptomatology, and professional burnout: a review of the evidence. *Psychology and Health*, *11*(1), 23–48.
- Glickauf-Hughes, C., & Mehlman, E. (1995). Narcissistic issues in therapists: diagnostic and treatment considerations. *Psychotherapy: Theory, Research, Practice, Training*, *32*(2), 213.
- Grosch, W. N., & Olsen, D. C. (2000). Clergy burnout: An integrative approach. *Journal of Clinical Psychology*, *56*(5), 619–632.
- Gündel H., Dammann G. *Mögliche Zusammenhänge von arbeitsbezogenen psychischen Erkrankungen (Burnout) und Störungen der Persönlichkeit [Possible interactions between work-related psychological disturbances (burnout) and underlying personality disorders] O.F. Kernberg, Persönlichkeitsstörungen PTT/Persönlichkeitsstörungen-Theorie und Therapie: Stress, Burnout und Persönlichkeit, Schattauer GmbH, vol. 2 2012 125–133.*
- Hakanen, J. J., & Schaufeli, W. B. (2012). Do burnout and work engagement predict depressive symptoms and life satisfaction? A three-wave seven-year prospective study. *Journal of Affective Disorders*, *141*(2), 415–424.
- Hillert, A., & Marwitz, M. (2006). *Die Burnout-Epidemie oder brennt die Leistungsgesellschaft aus?* München: CH Beck oHG.
- Hintsala, T., Elovainio, M., Jokela, M., Ahola, K., Virtanen, M., & Pirkola, S. (2014). Is there an independent association between burnout and increased allostatic load? Testing the contribution of psychological distress and depression. *Journal of health psychology*.
- Iacovides, A., Fountoulakis, K. N., Kaprinis, S., & Kaprinis, G. (2003). The relationship between job stress, burnout and clinical depression. *Journal of Affective Disorders*, *75*(3), 209–221.
- Karantakou, M. N., & Kleantous, E. (2011). Exploration of Burnout Risk Factors among Mental Health Nurses. *Nosileftiki*, *50*(2).
- Kealy, D., Tsai, M., & Ogrodniczuk, J. S. (2012). Depressive tendencies and pathological narcissism among psychiatric outpatients. *Psychiatry Research*, *196*(1), 157–159.
- Kernberg, O. F. (Ed.). (2006). *Narzissmus: Grundlagen-Störungsbilder-Therapie*. Stuttgart, New York: Schattauer Verlag.
- Kohut, H. (2013). *The analysis of the self: a systematic approach to the psychoanalytic treatment of narcissistic personality disorders*. University of Chicago Press.
- Lasch, C. (1979). *The culture of narcissism: American life in an age of diminishing returns*. New York: Norton.
- Maslach, C. (1976). Burned-out. *Human Behavior*, *5*, 16–22.
- Maslach, C. (2003). *Burnout: The cost of caring*. Los Altos, CA: ISHK.
- Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of Organizational Behavior*, *2*(2), 99–113.
- Maslach, C., & Jackson, S. E. (1982). Burnout in health professions: A social psychological analysis. In G. Sanders, & J. Suls (Eds.), *Social Psychology of Health and Illness* (pp. 227–251). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Maslach, C., & Jackson, S. E. (1986). *MBI: Maslach Burnout Inventory; Manual Research Edition*. Palo Alto, CA: Consulting Psychologists Press.
- Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology*, *52*(1), 397–422.
- Patten, S. B., Li Wang, J., Williams, J. V., Currie, S., Beck, C. A., Maxwell, C. J., et al. (2006). Descriptive epidemiology of major depression in Canada. *Canadian Journal of Psychiatry*, *51*(2), 84.

- Penney, L. M., & Spector, P. E. (2002). Narcissism and counterproductive work behavior: Do bigger egos mean bigger problems? *International Journal of Selection and Assessment*, 10(1–2), 126–134.
- Pines, A., & Maslach, C. (1978). Characteristics of staff burn-out in mental health settings. *Hospital and Community Psychiatry*, 29, 233–237.
- Reime, B., & Steiner, I. (2001). Ausgebrannt oder depressiv? Eine empirische Studie zur Konstruktvalidität von Burnout in Abgrenzung zur Depression [Burned-out or depressive? An empirical study regarding the construct validity of burnout in contrast to depression]. *Psychotherapie, Psychosomatik, medizinische Psychologie*, 51(8), 304–307.
- Ritter, K., & Lammers, C. H. (2007). Narcissism—variable of personality and personality disorder. *Psychotherapie, Psychosomatik, Medizinische Psychologie*, 57(2), 53–60.
- Rhodewalt, F., Madrian, J. C., & Cheney, S. (1998). Narcissism, self-knowledge organization, and emotional reactivity: the effect of daily experiences on self-esteem and affect. *Personality and Social Psychology Bulletin*, 24(1), 75–87.
- Ronningstam, E., Gunderson, J., & Lyons, M. (1995). Changes in pathological narcissism. *American Journal of Psychiatry*, 152(2), 253–257.
- Rösing, I. (2003). *Ist die Burnout-Forschung ausgebrannt?* Heidelberg: Asanger, Kröning.
- Rössler, W. (2012). Stress, burnout, and job dissatisfaction in mental health workers. *European Archives of Psychiatry and Clinical Neuroscience*, 262(2), 65–69.
- Rössler, W., Hengartner, M. P., Ajdacic-Gross, V., & Angst, J. (2013). Zusammenhang zwischen Burnout und Persönlichkeit [Association between burnout and personality]. *Der Nervenarzt*, 84(7), 799–805.
- Rook, M. (1998). Theorie und Empirie in der Burnout-Forschung. In *Eine wissenschaftstheoretische und inhaltliche Standortbestimmung*. Hamburg: Dr. Kovac.
- Rosse, J. G., Boss, R. W., Johnson, A. E., & Crown, D. F. (1991). Conceptualizing the role of self-esteem in the burnout process. *Group & Organization Management*, 16(4), 428–451.
- Sachse, R., Sachse, M., & Fasbender, J. (2011). Klärungsorientierte Psychotherapie der narzisstischen Persönlichkeitsstörung. *Hogrefe Verlag*.
- Schaufeli, W. B., & Buunk, B. P. (2002). Burnout: an overview of 25 years of research and theorizing. In M. Schabracq, J. A. K. Winnubst, & C. L. Cooper (Eds.), *The Handbook of Work and Health Psychology* (2nd edition, pp. 282–424). Chichester: Wiley.
- Schaufeli, W., & Enzmann, D. (1998). *The burnout companion to study and practice: a critical analysis*. CRC press.
- Schaufeli, W. B., & Leiter, M. P. (1996). Maslach burnout inventory—general survey. *The Maslach Burnout Inventory-Test Manual*, 19–26.
- Schoeneich, F., Rose, M., Danzer, G., Thier, P., Weber, C., & Klapp, B. F. (2000). Narzissmusinventar-90 (NI-90) [Narcissism inventory-90 (NI-90). Empirically-based reduction and identification of items sensitive for change—a questionnaire particularly suited for measuring self-regulatory parameters]. *Psychotherapie, Psychosomatik Medizinische Psychologie*, 50, 396–405.
- Schulze, B., & Rössler, W. (2006). Burnout-Syndrom: Diagnose und Therapie in der klinischen Praxis. *Neurologie & Psychiatrie*, 4, 23–25.
- Schwarzer, R., erusalem, M. J. (1999). Skalen zur Erfassung von Lehrer- und Schülermerkmalen. Dokumentation der psychometrischen Verfahren im Rahmen der Wissenschaftlichen Begleitung des Modellversuchs Selbstwirksame Schulen, Berlin.
- Sedikides, C., Rudich, E. A., Gregg, A. P., Kumashiro, M., & Rusbult, C. (2004). Are normal narcissists psychologically healthy? Self-esteem matters. *Journal of Personality and Social Psychology*, 87(3), 400.
- Sonnenschein, M., Sorbi, M. J., van Doornen, L. J., Schaufeli, W. B., & Maas, C. J. (2007). Evidence that impaired sleep recovery may complicate burnout improvement independently of depressive mood. *Journal of Psychosomatic Research*, 62(4), 487–494.
- Swider, B. W., & Zimmerman, R. D. (2010). Born to burnout: a meta-analytic path model of personality, job burnout, and work outcomes. *Journal of Vocational Behavior*, 76(3), 487–506.
- Thalhammer, M., & Paulitsch, K. (2014). Burnout—eine sinnvolle Diagnose? Kritische Überlegungen zu einem populären Begriff [Burnout- a useful diagnosis?]. *Neuropsychiatrie*, 1–9.
- Toker, S., & Biron, M. (2012). Job burnout and depression: Unraveling their temporal relationship and considering the role of physical activity. *Journal of Applied Psychology*, 97(3), 699.
- Tomás-Sábado, J., Maynegre-Santaulària, M., Pérez-Bartolomé, M., Alsina-Rodríguez, M., Quinta-Barbero, R., & Granell-Navas, S. (2010). Burnout syndrome and suicide risk among primary care nurses. *Enfermería Clínica*, 20(3), 173–178.
- Tominschek, I., & Zäuner, A. (2012). Intrapsychische, interpersonelle und organisationale Besonderheiten bei der Behandlung von Burnout-Patienten [Intrapsychic, interpersonal and organizational characteristics in the treatment of burnout-patients]. *Persönlichkeitsstörungen—Theorie und Therapie*, 16(2), 143–149.
- Upton, D., Mason, V., Doran, B., Solowiej, K., Shiralkar, U., & Shiralkar, S. (2012). The experience of burnout across different surgical specialties in the United Kingdom: a cross-sectional survey. *Surgery*, 151(4), 493–501.
- Vela-Bueno, A., Moreno-Jiménez, B., Rodríguez-Muñoz, A., Olavarrieta-Bernardino, S., Fernández-Mendoza, J., De la Cruz-Troca, J. J., et al. (2008). Insomnia and sleep quality among primary care physicians with low and high burnout levels. *Journal of Psychosomatic Research*, 64(4), 435–442.
- von Känel, R. (2008). Das Burnout-Syndrom: eine medizinische Perspektive [The burnout syndrome: a medical perspective]. *Praxis*, 97(9), 477–487.
- Waldman, S. V., Diez, J. C. L., Arazi, H. C., Linetzky, B., Guinjoan, S., & Grancelli, H. (2009). Burnout, perceived stress, and depression among cardiology residents in Argentina. *Academic Psychiatry*, 33(4), 296–301.
- Walter, M., Dammann, G., Küchenhoff, J., Frommer, J., Schoeneich, F., Danzer, G., et al. (2005). Psychosocial situation of living donors: moods, complaints, and self-image before and after liver transplantation. *Medical Science Monitor*, 11(11), 509.
- Wang, J. (2005). Work stress as a risk factor for major depressive episode(s). *Psychological Medicine*, 35(06), 865–871.
- Wink, P. (1991). Two faces of narcissism. *Journal of Personality and Social Psychology*, 61(4), 590.
- Worley, J. A., Vassar, M., Wheeler, D. L., & Barnes, L. L. (2008). Factor structure of scores from the Maslach Burnout Inventory: a review and meta-analysis of 45 exploratory and confirmatory factor-analytic studies. *Educational and Psychological Measurement*, 68(5), 797–823.
- Zhong, J., You, J., Gan, Y., Zhang, Y., Lu, C., & Wang, H. (2009). Job stress, burnout, depression symptoms, and physical health among Chinese university teachers 1, 2. *Psychological Reports*, 105(3), 1248–1254.