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Original Article

Association of adaptive and maladaptive narcissism with personal burnout: findings from a cross-sectional study

Roland VON KÄNEL[1, 2]*, Raphael Manfred HERR[3], Annelies Elizabeth Maria VAN VIANEN[4] and Burkhard SCHMIDT[3, 4, 5]

[1]Department of Neurology, Inselspital, Bern University Hospital, and University of Bern, Switzerland
[2]Department of Psychosomatic Medicine, Clinic Barmelweid, Switzerland
[3]Mannheim Institute of Public Health, Social and Preventive Medicine, Medical Faculty Mannheim, Heidelberg University, Germany
[4]Department of Work and Organizational Psychology, University of Amsterdam, The Netherlands
[5]Department of Business, Work & Organizational Psychology, Hochschule für Internationales Management Heidelberg – International University, Germany

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Abstract: Burnout is associated with poor mental and physical functioning and high costs for societies. Personality attributes may critically increase the risk of personal burnout. We specifically examined whether narcissism associates with personal burnout in a working population. We studied n = 1,461 employees (mean age 41.3 ± 9.4 yr, 52% men) drawn from a random sample of a pharmaceutical company in Germany. All participants completed the personal burnout subscale of the Copenhagen Burnout Inventory and the Narcissistic Personality Inventory to assess maladaptive (entitlement/exploitativeness) and adaptive (leadership/authority) narcissism. In linear regression analysis, when mutually adjusting for the maladaptive and adaptive narcissism scales, higher adaptive narcissism was associated with lower burnout scores (ß = −0.04, $p < 0.05$), whereas higher maladaptive narcissism was associated with higher burnout scores (ß = 0.04, $p < 0.05$). Additionally, younger age (ß = −0.07), female gender (ß = 0.11), depressive symptoms (ß = 0.42), sleep problems (ß = 0.30), stress at work (ß = 0.23) and at home (ß = 0.09) were all independently associated with increased burnout scores (all *p*-values < 0.01). Narcissistic personality attributes may play an important role in personal burnout. While maladaptive narcissism was associated with increased levels of burnout symptoms, adaptive narcissism was associated with fewer burnout symptoms.

Key words: Burnout, Fatigue, Narcissism, Personality, Psychiatric disorders, Psychosocial stress, Work environments

Introduction

Narcissism can be conceptualized as an individual's capacity to maintain a positive self-image through a variety of cognitive, emotional, and behavioral regulatory processes which enable validation and affirmation as well as self-enhancement experiences from the social environment[1)]. Narcissism has been related to an array of personal and occupational outcomes[2)], including perceived stress[3, 4)], depression[4, 5)], sleep quality[4)], counterproductive work behavior[6)], workaholism[7)], and work stress[8)], although its relation to burnout in a non-clinical context

*To whom correspondence should be addressed.
E-mail: roland.vonkaenel@barmelweid.ch

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has not been scrutinized[4]. Based on clinical experience and theoretical grounds, narcissistic personality features might also increase the risk of burnout, although empirical evidence of any such relationship is only emerging[4].

Burnout appears multifactorial and has first been described as an "occupational hazard" for voluntary personnel of mental health clinics in the mid-1970s[9]. The most popular conceptualization in empirical research relies on the Maslach Burnout Inventory (MBI) covering a complex of symptoms referring to exhaustion, cynicism, and low professional efficacy[10, 11]. While the three-factor solution of the MBI has been confirmed[12], exhaustion is viewed as the core dimension of burnout[13]. Accordingly, more recently developed tools for the assessment of burnout have been emphasizing or focusing solely on exhaustion, e.g. the Copenhagen Burnout Inventory (CBI)[14–16]. Exhaustion refers to feelings of being overextended and depleted of one's emotional and physical resources[15], so reflects the stress component underlying the burnout construct[12].

Burnout is associated with multiple mental and physical health outcomes[17] and all-cause mortality[18]. For the primary and secondary prevention of burnout and related health problems, it is crucial to identify its determinants. Etiological factors for burnout can broadly be categorized into sociodemographic, internal (i.e., personality-related) and external (i.e., environmental and occupational) ones[19]. In addition to factors related to adverse work conditions[13] and stress outside work[20], unhealthy lifestyle behavior[21] and sleeping problems[22] may also contribute to burnout. Although much work has been done on burnout in the work context (so-called "job burnout"), personal burnout more pragmatically integrates different sources of energy depletion including work-related stress. Personal burnout is the degree of physical and psychological fatigue and exhaustion experienced by a person that allows a comparison of individuals regardless of occupational status[16]. In fact, personal and work-related burnout scores, when measured with the CBI, show high correlations, ranging between 0.72 and 0.81[16, 23, 24], suggesting work-related stress contributes to personal burnout, with, however, factors outside work also playing a relevant role in personal burnout.

Personality characteristics are increasingly recognized as important predictors of how individuals perceive and respond to job demands, thereby contributing to burnout risk; especially when one considers personality is relatively stable compared to unstable situational predictors such as workload[25]. Therefore, the identification of personality factors that may predispose to burnout is important, because this knowledge may help tailoring specific person-centered approaches for prevention and treatment. Regarding specific personality traits, workers lower in extraversion, agreeableness, and conscientiousness, and higher in neuroticism reported more work-related burnout symptoms measured with the MBI[26] and the CBI[23, 24], and similar relations were observed for personal burnout measured with the CBI[23, 24]. However, aside from these so-called "Big Five" personality factors, little research has been done on other personality characteristics that might be associated with an increased risk of burnout[25], one of which is narcissism.

Yet in the 1990s, narcissistic personalities were proposed to run a special risk of burning out, as this personality type corresponds with the prototype of the assertive, dominating, and outgoing person[11]. Following up on earlier psychodynamic work[27], these authors argued that when facing disillusionment, the narcissistic burnout candidate cannot give up the "illusion of grandiosity" but has the only choice of exhausting his or her resources[11]. Moreover, narcissists' self-views are unstable and, therefore, vulnerable[28]. Narcissists experience negative events as a threat to their self-esteem; to protect their self-esteem, they show strong emotional responses[29, 30], which may exhaust their resources. This reasoning concurs with the conceptualization of narcissistic personality in terms of maladaptive (versus adaptive) attributes[31], which can be assessed with the widely used Narcissistic Personality Inventory (NPI)[32]. Exhibitionism and grandiosity, as well as entitled beliefs and exploitative interpersonal behaviors, are viewed as maladaptive attributes; they show reliable associations with socially toxic outcomes, pathological measures of narcissism, and emotional instability altogether[33]. In contrast, self-perceived leadership and authority are conceived of as adaptive narcissistic personality attributes[31, 33], suggesting that positive feelings toward the self may not pose interpersonal problems in working environments if they do not occur at the expense of others[34]. In a previous study on patients hospitalized with stress-related disorders, of whom 92% had an affective disorder, maladaptive narcissism was found to be associated with MBI total and exhaustion scores, after controlling for sociodemographic factors, perceived stress, depressive symptoms, and sleep problems[4]. However, due to the sample specifics and use of the MBI, limited conclusions could be drawn for personal burnout; moreover, the applied Narcissism Inventory did not allow for investigating the role of adaptive narcissism[4].

Given that narcissism has been related to different work outcomes, including work stress[6–8], the specific aim and

novelty of the present study was to investigate the association of maladaptive and adaptive narcissistic personality attributes with personal burnout in workers from a pharmaceutical company. In our primary analysis, we predicted these relationships to be independent of sociodemographic variables, lifestyle behaviors, stress at work and at home, sleep problems, and symptoms of depression. Stress at work and at home were considered, because the degree of personal burnout hinges on different sources depleting energy, both work-related and outside the work environment. Through facilitating maladaptive responses to stressors both at the workplace and at home, narcissism may provoke interpersonal distress[2], thereby increasing the risk for burnout.

Although depression and sleep are distinct concepts and differ in several health outcomes from burnout and exhaustion[35], they are also related with burnout. Particularly, burnout is associated with profound polysomnographic and subjective sleep disturbances, including fatigue[22, 36], and the prevalence of a major depressive disorder is about 50% in employees with severe burnout[37]. Moreover, as narcissism, depressive experiences and sleep disturbances are also related with each other[4], one might expect that depressive symptoms and sleep problems account for considerable variance in burnout symptoms. Therefore, we performed a secondary analysis to investigate the association of narcissism with burnout without depressive symptoms and sleep problems as covariates. This analytical approach will reveal whether the relationships between narcissism and burnout are due to a unique factor in individuals who are high in narcissism but are no more depressed and sleep disturbed than people low in narcissism. Moreover, narcissism has been associated with numerous wellbeing outcomes, including in the work context[2–8]; however, empirical data are lacking as to whether similarly strong relationships exist with burnout. Therefore, we put the size of the partial narcissism-burnout relationship into context with the effects of the partial relationships of narcissism with depressive symptoms, sleep problems, work stress and home stress. This allows a judgement regarding the role of narcissism in burnout in comparison with these other important outcomes of wellbeing.

Our specific hypotheses were that maladaptive narcissism is associated with increased levels of personal burnout, whereas adaptive narcissism relates to fewer symptoms of personal burnout. Maladaptive narcissism will be directly associated with increased levels of burnout because maladaptive narcissists deplete their resources by pursuing the restoration of their self-esteem. The conservation of resources theory posits that stress occurs if an individual's key resources to survival and well-being (e.g. self-esteem), are threatened, lost or insufficiently replenished, with burnout being one stress outcome that typically follows from a process of slow bleed out of resources[38]. Indeed, a diminished self-esteem seems associated with emotional exhaustion[39]. Moreover, because maladaptive narcissists are vulnerable to perceived ego-threats[40], they may engage in maladaptive self-soothing[41]. Also, maladaptive narcissists are sensitive to perceived threats of achievement failure and interpersonal rejection which may induce a sense of inadequacy[42], a component of burnout. Adaptive narcissism, on the other hand, may decrease levels of burnout directly due to a positive self-image, an important personal resource known to be negatively associated with burnout[26].

Subjects and Methods

Study participants and design

We conducted a cross-sectional online survey covering psychosocial work factors and health among employees of a large pharmaceutical company in Germany in October 2013. A random sample of 4,027 individuals, representative of the workforce structure of this company, was drawn from the working population (n = 7,235). We invited the members of the sample by e-mail to participate in an online survey covering sociodemographic factors, psychosocial work conditions, lifestyle behaviors, as well as mental and general health. The e-mail informed about the study background, its content, and data protection. An anonymous link referred participants to the online survey of a trustee company. A total of 1,632 employees (response rate 40.5%) completed the questionnaire. Written informed consent was obtained from all individual participants included in the study. After excluding missing information, 1,461 participants were eligible for the study. The ethical committee of the Medical Faculty Mannheim of the University of Heidelberg approved the study protocol.

Assessment of narcissism

Based on the model and scales by Ackerman and colleagues[31, 33], we used validated German translations[43] of the two most prominent subscales for adaptive (leadership/authority) and maladaptive (entitlement/exploitativeness) narcissism from the NPI[31].

Adaptive narcissism was assessed with 5 items (Likert-scale from 1 = strongly disagree to 5 = strongly agree) asking for talents in influencing people, seeing oneself as a

good leader, willingness to make decisions, feeling insecure about actions (reversed) and recognition of one's authority (Cronbach's $\alpha=0.71$). Reliability analysis revealed a better fit to the data when excluding one item (Item 3 "Sometimes I am not sure of what I am doing.") from this scale (Cronbach's $\alpha=0.74$). For reference, the original NPI Cronbach's α for leadership authority was $\alpha=0.73$ and for exhibitionism $\alpha=0.63$/entitlement $\alpha=0.50$[32].

Maladaptive narcissism was measured with 4 items (same Likert-scale as for adaptive narcissism), assessing whether it is easy for participants to manipulate people, whether they get the respect that they feel entitled to, whether they expect a lot from other people, and whether they never feel satisfied until they get what they feel they deserve (Cronbach's $\alpha=0.53$). Better psychometric properties were achieved by excluding one item (Item 1 "I find it easy to manipulate people") from this scale (Cronbach's $\alpha=0.64$).

Both factor structures were tested by confirmatory factor analysis (CFA) for both subscales and all NPI items. Both identified items from reliability analysis showed poor loadings in the CFA (maladaptive Item 1=0.22; adaptive item 3=0.26) supporting their removal, while the other items showed acceptable factor loadings. In addition, the overall model fit improved in the shortened version (not shown in detail). Accordingly, the new factor structure was applied for our analysis. For both subscales and the total score, the mean scores were calculated.

Assessment of burnout

The six-item personal burnout subscale of the CBI was used to assess the degree of physical and psychological fatigue and exhaustion experienced by the person regardless of occupational status[16]. Cronbach α was 0.90 in our sample. Respondents are asked how often they feel tired, physically exhausted, emotionally exhausted, worn out, weak, and susceptible to illness, and how often they endorse the perception of "I can't take it anymore". Answers were rated on a 5-point Likert scale ranging from 1 (never) to 5 (always) with higher values indicating more burnout symptoms.

Confounding variables

Potential confounding variables measured in the study included sociodemographic factors, job position, lifestyle behaviors, sleep problems, depressive symptoms, and perceived stress at work and at home. Participants were asked to disclose their gender and age. Marital status was operationalized with two categories (married/single, divorced, widowed), education with three categories (low, intermediate, high), and job position with two categories (department head, team leader/employee). Lifestyle behaviors included smoking status (never smoker/ex-smoker, current smoker), alcohol consumption (no, occasional/regular alcohol consumption; the latter defined as more than 3 servings/wk), and physical exercise (no exercise, less 1 h/wk, 1–2 h/wk, more than 2 h/wk). The frequency of sleep problems in the previous month was assessed with a validated 4-item scale ranging from 1 (never) to 6 (22–31 d), summarized as the mean score of the scale[44].

We assessed the severity of depressive symptoms with the corresponding subscale of the German version of the Hospital Anxiety and Depression Scale (HADS-D)[45], which has shown its validity in general population samples[46]. The HADS depression subscale consists of seven items (Cronbach's α was 0.88), which are to be answered on a 4-point Likert scale ranging from 0 (mostly) to 3 (not at all). A sum depression score was computed (ranging from 0 to 21) with higher values indicating greater severity of depressive symptoms.

Two items of the INTERHEART-Stress scale were used to assess unspecific perceived stress at work or at home in the last year: i) "How often have you experienced stress because of problems at home?" and ii) "How often have you experienced stress because of problems at work?", both assessed by a Likert-scale from 1 (never) to 5 (permanent stress)[47].

Statistical analyses

All analyses were performed with SPSS (Version 21.0, SPSS Inc., Chicago, IL), with significance level at $p<0.05$ (two-tailed). Descriptive data are given as mean values with standard deviation or percentages. The present analysis followed two steps. First, Pearson correlations were used to estimate bivariate correlations between variables of interest. Second, linear regression models were conducted to investigate the association of adaptive and maladaptive narcissism with burnout, work stress, home stress, depressive symptoms and sleep problems. Partial relationships between narcissism scales and these outcome variables were expressed as standardized beta (ß) coefficients. For our primary analysis with burnout as the outcome variable, we controlled for all covariates as specified above. We selected these covariates a priori, because they were shown to be associated with burnout in previous studies[4, 19–22, 37]. Specifically, in a recent study, depressive symptoms, subjective sleep quality and perceived stress emerged as independent correlates of emotional exhaustion above and

Table 1. Correlations between burnout, narcissism scales, depressive symptoms, sleep problems, and perceived stress (n=1,461)

	1	2	3	4	5	6	7	8
1. Burnout	—							
2. NPI total	−0.10**	—						
3. Adaptive NA	−0.17**	0.84**	—					
4. Maladaptive NA	0.04	0.73**	0.24**	—				
5. Depression	0.67**	−0.15**	−0.17**	−0.05	—			
6. Sleep problems	0.60**	−0.11**	−0.13**	−0.03	0.50**	—		
7. Stress at home	0.28**	−0.08**	−0.11**	−0.00	0.17**	0.19**	—	
8. Stress at work	0.50**	0.09**	0.04	0.10**	0.40**	0.31**	0.12**	—

Data are given as Pearson correlation coefficients. Significance level: $^{**}p<0.01$
NPI: Narcissism Personality Inventory. NA: narcissism.

beyond narcissism[4]. Moreover, pathological narcissism in the form of grandiosity has been associated with depression[5]. However, we also performed a secondary analysis without controlling for depressive symptoms and sleep problems, as these are commonly understood as concepts that are distinct from burnout[35]. All independent variables were entered in one block. All variance inflation factors were <2.5, indicating no concern of multicollinearity.

Results

Participant characteristics and burnout severity

The sample (n=1,461) was on average 41.3 ± 9.1 yr old, 52% were men and 59.7% were married/in a partnership. High education was reported by 59.7% and 78.8% were working in a non-management position. Regarding lifestyle behaviors, there were 11.3% regular alcohol consumers and 57.6% nonsmokers, and 29.6% exercised more than 2 h/wk.

The mean values were 2.72 ± 0.80 for personal burnout, 5.23 ± 4.09 for depressive symptoms, 2.77 ± 1.10 for sleep problems, 2.25 ± 0.69 for stress at home and 2.81 ± 0.73 for stress at work. Values for the NPI total score, adaptive narcissism score and maladaptive narcissism score were 3.38 ± 0.55, 3.57 ± 0.68, and 3.13 ± 0.73, respectively.

Bivariate associations between narcissism, burnout, and additional outcomes

Table 1 shows the correlations among the study variables. The adaptive and maladaptive narcissism scores correlated only moderately with each other (shared variance=5.8%). Whereas lower adaptive narcissism scores were significantly related to higher burnout scores, maladaptive narcissism scores showed no association with burnout. In addition, higher levels of adaptive narcissism were associated with fewer depressive symptoms, sleep problems and stress at home, whereas higher levels of maladaptive narcissism were associated with greater stress at work.

There also emerged significant associations of higher burnout scores with greater depressive symptom severity, more sleep problems, and greater levels of perceived stress both at work and at home. Expectedly, greater levels of depressive symptoms were associated with more sleep problems and also with more stress at work and at home. In turn, greater levels of stress at home and at work were both associated with more sleep problems. Those having more stress at work also perceived significantly more stress at home.

Independent association between narcissism, burnout, and additional outcomes

The results of the multivariable linear regression analyses are shown in Table 2. When mutually adjusting for both narcissism subscales, along with all other covariates (Model 1), adaptive narcissism was associated with lower burnout scores (ß=−0.04, $p<0.05$), whereas maladaptive narcissism was associated with higher burnout scores (ß=0.04, $p<0.05$). In the fully adjusted Model 1, and similar to the results of the bivariate analysis, greater levels of depressive symptoms, sleep problems, and stress at work and at home were all significantly associated with higher burnout scores. In addition, age was negatively associated with burnout scores and burnout was higher among women than men. In contrast, marital status, education, job position, alcohol consumption, smoking, and physical activity were all not significantly associated with burnout.

In Model 2, which did not control for depressive symptoms and sleep problems, adaptive narcissism was also significantly associated with lower burnout scores (ß=−0.15, $p<0.001$), whereas maladaptive narcissism was not (ß=0.02; $p=0.32$). In addition, being married, higher

Table 2. Multivariate regression analysis (standardized ß) of mutually adjusted adaptive and maladaptive narcissism with personal burnout and additional outcomes (n=1,461)

Predicting variables	Burnout (Model 1) ß	Burnout (Model 2) ß	Depressive symptoms ß	Sleep problems ß	Work stress ß	Home stress ß
Adaptive narcissism	−0.04*	−0.15**	−0.19**	−0.11**	−0.01	−0.09*
Maladaptive narcissism	0.04*	0.02	−0.03	−0.02	0.09**	0.01
Age	−0.07**	−0.00	0.10**	0.09**	0.01	−0.11**
Female gender	0.11**	0.05*	−0.15**	−0.02	−0.03	0.12**
Married	−0.02	−0.05*	−0.06*	−0.05	−0.07*	0.12**
Higher education	−0.02	−0.05*	−0.05	−0.06*	0.02	0.00
Management position	0.00	0.02	0.03	0.01	0.12**	−0.00
Moderate alcohol	0.00	0.02	0.00	0.06*	−0.05	−0.04
Never smoker	0.00	−0.01	−0.00	−0.04	0.04	−0.02
Physical exercise	−0.02	−0.06*	−0.09**	−0.03	−0.09**	−0.06
Stress at home	0.09**	0.19**	0.13**	0.16**		
Stress at work	0.23**	0.48**	0.38**	0.30**		
Depressive symptoms	0.42**					
Sleep problems	0.30**					

All predicting variables were entered in one block. Significance level: *$p<0.05$; **$p<0.01$

education and physical exercise were associated with lower burnout scores, whereas female gender, stress at home and stress at work continued to show positive associations with burnout. The size of the partial relationship between adaptive narcissism and burnout (ß=−0.15) was similar to those for the partial relationships between narcissism scales and depressive symptoms, sleep problems, work stress and home stress as outcomes. Specifically, and as was also found in the bivariate analysis, greater levels of adaptive narcissism were independently associated with fewer depressive symptoms (ß=−0.19, $p<0.001$), less sleep problems (ß=−0.11, $p<0.001$) and lower stress at home (ß=−0.09, $p=0.002$), whereas more maladaptive narcissism was associated with greater stress at work (ß=0.09, $p<0.001$).

Discussion

To our knowledge, this is the first study to show a significant and independent association between narcissistic personality attributes and personal burnout. Specifically, when controlling for important variables that were found to be associated with burnout, we found maladaptive narcissism in the form of exhibitionism and grandiosity, as well as entitled beliefs and exploitative interpersonal behaviors, to be significantly and independently associated with increased levels of personal burnout. Conversely, adaptive narcissism referring to self-perceived leadership and authority was significantly and independently associated with lower levels of personal burnout.

There also emerged significant bivariate associations of the total narcissism score with personal burnout and further variables measured in our sample. However, we are hesitant to speculate on the meaning of these observations, because the NPI total score conflates adaptive and maladaptive aspects of personality[33]. In our study, maladaptive and adaptive narcissism showed a direct relation and have previously been shown to relate differently to psychological and social outcomes[31, 33]. Similarly, we found that greater adaptive narcissism was associated with fewer depressive symptoms, sleep problems and stress at home, whereas greater maladaptive narcissism was associated with higher work stress, both in the bivariate and adjusted analysis. These observations concur with previous studies further supporting the notion that narcissism is related to a range of health-related outcomes[2–8]. Nonetheless, the investigation of and observed link between narcissism and personal burnout was a novelty and primary focus of our study.

The findings from our study suggests a role for narcissism, a hitherto in burnout research largely ignored personality-related factor, independent of sociodemographic, environmental and occupational factors, and lifestyle behaviors. We were able to control for important covariates. Expectedly, in the fully adjusted multivariable model, personal burnout scores were higher in younger individuals, in women, and in those with more sleep problems and with greater stress both at work and at home. Moreover, depressive symptoms, burnout symptoms, and sleep problems correlated considerably with each other, a well-known observation[32, 35]. Therefore, adjustment for

depressive symptoms and also sleep problems was justified to postulate significant independent associations of maladaptive and adaptive narcissism with personal burnout. When depressive symptoms and sleep problems were not covaried, we found adaptive narcissism, but not maladaptive narcissism to be significantly linked with burnout. We interpret that the level of burnout symptoms is similar in individuals with high and low maladaptive narcissism if those with higher levels of maladaptive narcissism are not becoming more depressed or sleep disturbed. In contrast, higher adaptive narcissism related to fewer burnout symptoms irrespective of depressive symptoms and sleep problems. However, when depressive symptoms and sleep problems were not accounted for, the size of the association between adaptive narcissism and burnout was similar to that seen for the other significant outcomes of narcissism. In hospitalized patients maladaptive narcissistic regulatory mechanisms were associated with increased MBI total and exhaustion scores even when controlling for depressive symptoms, sleep problems and perceived stress[4]. Another study found narcissistic personality to be prevalent among a sample of dentists with burnout, using the MBI[48]. These findings together with those of our present study suggest that maladaptive narcissism might play a role in both job-related and personal burnout and in clinical as well as in population-based samples.

Based on the Conservation of Resources theory[38], we argued that maladaptive narcissists are vulnerable to perceived ego-threats[40] and feelings of inadequacy[42]. They may therefore pursue the restoration of their self-esteem and engage in maladaptive self-soothing[41], both of which will deplete their resources. In contrast, adaptive narcissists have a positive self-image, which is an important personal resource that reduces the incidence of a burnout[26]. Future research could further disentangle these and other processes through which adaptive and maladaptive narcissism directly relate to burnout.

It is worth mentioning that the conceptualization and measurement of narcissism in terms of narcissistic personality disorder, pathological and normal narcissism has been complex and efforts are being undertaken to capture inconsistent definitions of narcissism across clinical psychology, psychiatry and social/personality psychology with broader constructs[2]. Specifically, the NPI, used in our study, may not fully cover pathological narcissism with its two clinically relevant phenotypes of narcissistic grandiosity and narcissistic vulnerability[2]. This might help to explain why maladaptive narcissism showed fewer significant associations with outcomes compared with adaptive narcissism, and why the effect of the relation between maladaptive narcissism turned out to be small, and was only revealed to be significant after controlling for covariates. In other words, in our sample, the expression of maladaptive narcissism measured by the NPI might have been too weak to provoke dysfunction in regulatory processes with clinical implications. To underscore this, a clearly larger effect between maladaptive narcissism and burnout emerged in a clinical sample, even when controlling for depressive symptoms, sleep problems and perceived stress[4]. Therefore, although statistically significant owing to a large sample size, maladaptive narcissistic personality attributes may be less relevant for personal burnout than adaptive ones in population-based non-clinical samples. Furthermore, the NPI does not consider narcissistic vulnerability[2], whereas the maladaptive narcissism subscale of the NPI shares commonalities with the phenotypic expression of narcissistic grandiosity. Persons with narcissistic vulnerability are characterized by a depleted and enfeebled self-image, angry, shameful and depressed affects and interpersonal hypersensitivity; social avoidance and withdrawal occur in situations where their self-presentation is not possible or the approval they expect is not achieved[1, 2]. There is some work on the role of pathological narcissism, and of narcissistic vulnerability in particular for occupational adjustment[49]. Therefore, it could be expected that maladaptive narcissism was related to increased work stress in our study, even after controlling for the effects of several other relevant predictor variables. It should be noted, however, that we applied a crude measure of work stress. As maladaptive narcissists show exploitative interpersonal behaviors resulting in socially toxic outcomes, while being concerned with threats to their ego, they are particularly prone to experiencing stress at work. Therefore, considering vulnerable themes of clinically relevant narcissistic dysfunction in future studies might further enlighten the role of narcissism for personal and job burnout.

Of therapeutic relevance is the question as to whether narcissism particularly relates to the exhaustion component of burnout. The CBI used in our study has been criticized, as it taps solely into different dimensions of exhaustion (comparable to the MBI emotional exhaustion subscale), either generic (i.e., personal burnout measured here) or work-related, whereby excluding other facets of burnout measured by the MBI[50]. However, in a previous study, maladaptive narcissism showed the strongest correlation with exhaustion[4]. Cognitive behavioral therapy and relaxation are both means to alleviate exhaustion in stressed workers[51] and personality generally affects therapy out-

comes[52]. As this seems to also be the case for pathological narcissism[53], maladaptive narcissism might hamper successful treatment of burnout, particularly its exhaustion component.

Narcissistic personality disorder spans a spectrum, ranging from high-functioning to malignant subtypes, is difficult to treat and requires longer-term treatment such as transference- or schema-focused psychotherapy and dialectical behavioral therapy[54]. It is unknown whether this also applies to the burned out person with maladaptive narcissism (not narcissistic personality disorder). Nonetheless, these persons will probably benefit most from any such oriented therapies if an exhaustive life engagement is discussed as a consequence of trying to maintain a self-perception of being exceptional (in fantasy or behavior) because of a fragile sense of self[54]. Moreover, therapists may try to uncover maladaptive narcissism as a dysfunctional strategy for keeping up with an illusory self-image as a grandiose person, so to eventually turn maladaptive into adaptive behaviors[4]. It is possible that such strategy may decrease workaholism[7] and perceived job stress[8] so to also prevent and/or alleviate burnout.

The large sample size and use of established and validated psychometric measures of narcissism and burnout are notable strengths of our study, which, however, also had its limitations. These include a relatively low response rate, data obtained from only one company in one particular field (i.e., pharmaceutical industry), assessment of home- and work-related stress with only two single items, and the cross-sectional design, precluding causal inferences. Although personality traits are usually thought to be stable attributes, we cannot exclude the possibility that personal burnout contributed to narcissism. There might be persons who may exhibit maladaptive narcissism only at critically high burnout levels. In that case, exploitativeness and feelings of grandiosity might reflect a narrowed behavioral repertoire under stress with an attempt to compensate for a devaluated self-esteem. In contrast, there may be a greater chance for executing high leadership quality only when a person does not feel burned out, but has the emotional, cognitive, and physical capacities at her full disposal. Longitudinal studies are needed to unravel the temporal relationship between maladaptive and adaptive narcissism and personal burnout and the degree to which environmental and work-related stressors influence the directionality of such a link. Although personal burnout and work-related burnout share substantial variance, future studies may also want to include the work-related subscale of the CBI to specifically address the work domain.

To sum up, the findings from our study suggest that maladaptive narcissism is associated with increased levels of personal burnout, characterized by physical and psychological fatigue and exhaustion. The established role of narcissism in the occupational context was further supported by the direct relation of maladaptive narcissism with work stress. In contrast, adaptive narcissism was associated with lower levels of burnout symptoms and a range of other beneficial outcomes. The latter suggests adaptive narcissism may be somewhat protective against burnout. As this link was independent of other important correlates of burnout, our results may suggest a role for narcissistic personality characteristics in personal burnout. Whether treatment of maladaptive narcissism and increasing adaptive narcissistic regulatory processes may improve exhaustion in burned-out persons seems a fruitful question to be addressed in future studies.

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