Mentalizing Mediates the Association between Narcissism and Psychotherapeutic Treatment Outcome in a Mixed Clinical Sample

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Keywords
Narcissism · Narcissistic grandiosity · Mentalizing · Mediation · Symptom outcome · Mental disorders

Abstract
Introduction: Pathological narcissism has been a challenge for the success of psychological treatment, whereas mentalizing has turned out to be an important mechanism of change in psychotherapy. This study focused on the classic narcissistic self (CNS) (i.e., narcissistic grandiosity) as predictor of the outcome. It further investigated whether mentalizing mediates this relation. Methods: A mixed clinical sample of 205 patients was investigated. The CNS scale of the Narcissism Inventory and the Mentalization Questionnaire was used to measure the features of narcissistic grandiosity and the capacity to mentalize, respectively. The symptom outcome was assessed with the Hamburg Modules for the Assessment of Psychosocial Health. Results: Contrary to our expectations, we did not find a direct association between narcissistic grandiosity and a decrease in symptoms. However, mentalizing was found to mediate the association between the CNS as well as between the narcissistic furor and outcome. Conclusion: Our results confirm the ambiguity concerning the clinical significance of narcissistic grandiosity. However, in order to improve the treatment outcome in patients with narcissistic features, especially narcissistic furor, individualized treatment plans might consider introducing interventions that enhance the capacity to mentalize.

Introduction
Narcissism, defined as the individual’s capacity to maintain a positive self-image, is a psychological construct that is discussed controversially in the scientific literature. It has been suggested that the personality psychological (i.e., adaptive) and clinical (i.e., maladaptive) forms of narcissism should be differentiated [1]. The term pathological narcissism was introduced to capture “significant regulatory deficits and maladaptive strategies” in cases where the positive self-image as a dimensional construct was threatened ([2], p. 426). Pathological narcissism is further discriminated in narcissistic grandiosity (e.g., a grandiose self-image, exploitative behaviors, maladaptive self-enhancement strategies) and narcissistic vulnerability (e.g., depleted self-image, shameful and de-
pressed affects, and interpersonal hypersensitivity). Narcissistic grandiosity reflects the major component of the defining ("classic") characteristics of narcissistic personality disorder (NPD) in the diagnostic description in the International Classification of Diseases (ICD-10) [3] and the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) [2, 4, 5]. This is consistent with the view of clinical experts who consider the grandiose trait as the core pathology in NPD [6].

Empirical studies have shown associations of pathological narcissism with functional impairments and psychopathology in mixed and specific clinical populations [7–9]. For instance, pathological narcissism is associated with aggression, interpersonal problems, depression, somatic symptoms, and borderline personality disorder [10–14]. Moreover, it has been shown that narcissistic vulnerability is specifically associated with various psychopathologic expressions, such as internalizing symptoms, negative affectivity, and rejection sensitivity, due to the dissatisfaction of narcissistic needs [11, 12, 15, 16]. On the other hand, multiple studies did not find a robust association between narcissistic grandiosity and the severity of psychopathology in clinical populations [9, 11, 17, 18].

The transdiagnostic significance of pathological narcissism for treatment success has repeatedly been emphasized [16, 19, 20]. However, only a few studies have empirically investigated the influence of pathological narcissism on the process and outcome of psychological treatment. For instance, the grandiose features of pathological narcissism were associated with less treatment utilization and premature termination [16, 21–23]. In contrast, narcissistic vulnerability had a positive impact on the development of the therapeutic alliance in patients with borderline personality disorder [24]. Further studies revealed that pathological narcissism was associated with aversive countertransference reactions and a less robust therapist response [20, 25, 26]. Taken together – even though evidence is slightly inconsistent – a negative impact of narcissistic features on the treatment outcome seems likely.

Mentalizing is the capacity to meaningfully interpret behavior by understanding what goes on in one’s own and in other’s minds [27]. Good mentalizing thus generates over time a nuanced understanding of internal life in both self and others, and is necessary for rewarding long-term relationships, effective emotion regulation, and a stable sense of self [28]. Mentalizing can be seen as an umbrella concept integrating intra- and interpersonal aspects [29]. Impairments in mentalizing are associated with several psychiatric disorders [30], such as borderline personality disorder [31–33], depression [34], and eating disorders [35–37]. Consequently, mentalizing is considered a transdiagnostic factor in its relation to psychopathology [38]. Furthermore, mentalizing has been described as a transtherapeutic mechanism throughout different psychotherapeutic methods [39], and its potential to elucidate psychotherapeutic processes has been emphasized [40]. In recent years, several empirical studies have been conducted to investigate the relationship between mentalization and the treatment outcome. Some studies find a significant association between reflective functioning (RF) (i.e., mentalizing) at the baseline and treatment outcomes [41–43], whereas other studies lack significant associations [44, 45].

The capacity to mentalize – as measured by the Reflective Function Questionnaire for Youths (RFQ-Y) [46] – was associated with both vulnerable and grandiose narcissisms in adolescents [47]. However – to the best of our knowledge – associations of narcissism and mentalizing have not yet been directly investigated in adults. Evidence suggests that NPD and pathological narcissism are associated with empathetic deficiencies [48–51] and alexithymia as well as impairments in metacognition and emotion recognition [18, 52, 53]. Additionally, critical aspects of mentalizing were integrated as defining characteristics of NPD in section III of the Diagnostic and Statistical Manual of Mental Disorders [4] (e.g., being often unaware of one’s own motivations and showing impaired ability to recognize or identify with the feelings and needs of others). In conclusion, a negative relation can be assumed between pathological narcissism and mentalizing.

In sum, the role of narcissistic grandiosity, constituting the "classic" features of NPD, in psychopathology remains ambiguous, whereas the association between narcissistic vulnerability and a broad variety of psychopathological and functional impairments is empirically well founded. It is broadly emphasized that pathological narcissism is crucial for psychological treatment, but studies investigating its influence on the outcome are scarce. Focusing on the significance of classic (i.e., grandiose) narcissistic features for the symptom outcome in a naturalistic treatment setting might thus be promising for enlightening the role of pathological narcissism in psychotherapy.

The aim of this study was to investigate how far the grandiose narcissistic features (i.e., self-grandiosity [SEG], longing for an idealized self-object [LIS], greed for praise and reassurance [GPR], and narcissistic furor [NAF]), as measured with the classic narcissistic self (CNS) scale of the narcissism inventory, predict the
symptom outcome of psychotherapeutic treatment in a mixed clinical population. Given the inverse relation between pathological narcissism and mentalizing, we were also interested in whether mentalizing mediates the association of the CNS with symptom outcome.

We hypothesized that the CNS is negatively associated with the treatment outcome. We further assumed that mentalizing mediates the association between the CNS and treatment outcome.

### Methods and Design

#### Design

We conducted a secondary analysis of data from Hausberg et al. [54]. The original study was approved by the Ethics Committee Hamburg (Germany). In the study, patients from two psychosomatic hospitals in Germany were recruited between December 2008 and December 2010. In both clinics, psychotherapeutic treatment is primarily based on psychodynamic concepts with the occasional inclusion of cognitive-behavioral methods. Additional treatment modules are art therapy, relaxation techniques, and social counseling. The treatment contains individual and group sessions. At admission and discharge, patients were asked to fill out the Mentalization Questionnaire (MZQ), the Narcissism Inventory-90 (NI-90), and the Hamburg Modules for the Assessment of Psychosocial Health (Health-49).

#### Sample

The sample consisted of $N = 337$ patients who gave written informed consent. Most of the participants were female (68%), with an average age of 40 years (SD = 13 years). The diagnoses were based on ICD-10 according to a clinical interview by senior clinicians. The most common diagnosis was the affective disorder (Table 1). Only patients who completed all the questionnaires at both time points were included. The resulting sample consisted of $N = 205$ patients. We conducted $\chi^2$ tests and independent sample $t$ tests to analyze whether there were differences between the included and excluded patients. We found no significant differences regarding the age, gender, treatment duration, main diagnosis or baseline total scores of narcissism, mentalizing, or the psychological symptom severity (Table 1).

#### Measurement

**Mentalization Questionnaire**

The MZQ comprises 15 items and is a self-report measurement for the assessment of RF [54]. RF is the operationalization of mentalizing. We will use the term RF for the MZQ overall score. The MZQ was developed as a screening instrument for individuals with mental health problems. It has been shown that the MZQ can distinguish between individuals with below average and at least average RF as measured by the gold standard, the Reflective Functioning Scale (RFS) [55] on either the Adult Attachment Interview [56] or Brief Reflective Functioning Interview [57, 58]. The internal consistency of the MZQ total score can be considered satisfactory (Cronbach $\alpha = 0.81$) [54] and is even slightly higher in this sample (Cronbach $\alpha = 0.83$). Additionally, the total score has good predictive validity [59]. Further psychometric properties have been evaluated by several studies [54, 60]. For our analysis, we recoded all MZQ items, with the higher scores indicating a better mentalizing ability.

**Narcissism Inventory-90**

The NI-90 [61], the short version of the narcissism inventory [62], is a self-rating instrument for the assessment of narcissism. It consists of 4 second-order dimensions, including the threatened self, CNS, idealistic self, and hypochondriac self, with 18 subscales. Based on our research questions, we used the CNS scale, which reflects narcissistic grandiosity, as defining NPD in the DSM [63]. The CNS scale consists of 20 items on the following four subscales:
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SEG (e.g., “People would be surprised if they knew how talented I really am.”), LIS (e.g., “I wish I were friends with someone important.”), GPR (e.g., “I think I might well enjoy being the center of attention for once.”), and NAF (e.g., “I have often caught myself wanting to seek revenge when someone has put me down.”). These four subscales have shown moderate to good internal consistencies (Cronbach α = 0.64 to α = 0.80) [61]. In this sample, a good internal consistency for the total score was found (Cronbach α = 0.85). A higher total score indicates more narcissistic features.

Hamburg Modules for the Assessment of Psychosocial Health
The Health-49 self-assessment questionnaire is a license-free instrument that measures the general aspects of psychosocial health with six modules [64]. Module A covers psychological and somatoform complaints with 18 items. It includes the three subscales somatoform complaints, depression, and phobic anxiety, which correlate very highly (r > 0.80) with the corresponding scales of the Symptom Checklist-14 [64, 65]. Only Module A was used for outcome determination in this study. The psychometric properties of all modules are satisfactory [64]. In our sample, Module A showed good reliability (Cronbach α = 0.88). A higher total score indicates more severe psychological symptoms. Treatment outcome was defined as the difference in severity of the symptom at admission and discharge. A better outcome is reflected by higher scores.

**Analysis**
All analyses were carried out using IBM SPSS Statistics version 25. First, Pearson correlations between the variables of interest were calculated. Cohen’s [66] recommendation of small (r ≥ 0.10), medium (r ≥ 0.30), and large (r ≥ 0.50) effect sizes was used to describe the correlation coefficients. Then, we used mediation analyses using the PROCESS macro for SPSS and SAS (version 3.4) [67] to check whether RF mediates the relationship between the CNS and outcome. This corresponds to model 4 within PROCESS [67]. A mediation was assumed if the confidence interval of the completely standardized indirect effect did not include the value zero. A 95% percentile bootstrap confidence interval was used with 10,000 bootstraps. In the first model, the admission score of the CNS [61] was included as an independent variable, the admission score of RF (MZQ total score) [54] was included as a mediator, and the difference in the psychological symptom severity (Health-49 Module A) [64] at admission and discharge was included as an outcome controlled by the psychological symptom severity (Health-49 Module A) at admission. For the further investigation of the narcissistic features, the CNS score was replaced in additional mediation models by the admission scores of the four CNS subscales (SEG, LIS, GPR, and NAF) [61].

**Results**

**Correlations between CNS, RF, and Outcome**
We found no significant correlation between CNS and the outcome (Table 2). However, CNS was negatively correlated with RF (r = −0.24, p < 0.001). This association was also significant for the LIS (r = −0.14, p < 0.05) and NAF (r = −0.39, p < 0.001) subscales. The RF and outcome were not significantly correlated. A post hoc analysis showed a significant partial correlation of RF and the outcome controlled by the psychological symptom severity at admis-

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**Table 2. Pearson correlations (n = 205)**

|                  | Outcome (Health-49 Module A) | RF (MZQ total score) | Health-49 Module A (admission) |
|------------------|-----------------------------|---------------------|-------------------------------|
| CNS (total score)| 0.03                        | −0.24***            | 0.08                          |
| SEG              | −0.03                       | −0.08               | −0.02                         |
| LIS              | 0.02                        | −0.14*              | 0.09                          |
| GPR              | 0.03                        | −0.11               | −0.02                         |
| NAF              | 0.06                        | −0.39***            | 0.18**                        |
| Outcome (Health-49 Module A) | − | −0.10 | 0.48*** |
| RF (MZQ total score) | − | − | −0.47*** |

CNS, classic narcissistic self; SEG, self-grandiosity; LIS, longing for an idealized self-object; GPR, greed for praise and reassurance; NAF, narcissistic furor; RF, reflective functioning; MZQ, Mentalization Questionnaire. * p < 0.05. ** p < 0.01. *** p < 0.001.

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**Fig. 1.** Mediation model with RF as mediator between the CNS and Health-49. CNS, classic narcissistic self; RF, reflective functioning. *p < 0.05, **p < 0.01, ***p < 0.001; completely standardized regression coefficients.
sion \((r = 0.16, p < 0.5)\). The psychological symptom severity at admission as a covariate showed a correlation with NAF and a medium correlation with RF and the outcome.

RF as a Mediator between the CNS and Outcome

The mediation model with the CNS as an independent variable is presented in Figure 1. The standardized direct effect and the standardized total effect of CNS on the outcome holding the covariate constant were not significant. The 95% CI of the standardized indirect effect did not include the value zero; therefore, there was a significant effect (CI lower level: \(-0.075\); CI upper level: \(-0.001\)). The outcome decreased by 0.03 standard deviations (SDs) for each SD that CNS increased indirectly via RF.

In the mediation model with NAF as an independent variable, the standardized indirect effect was \(-0.05\), and the 95% CI of the indirect effect did not include the value zero (CI lower level: \(-0.109\); CI upper level: \(-0.003\)) (Table 3). The mediation analyses with SEG, LIS, and GPR as independent variables did not reveal significant results.

Discussion

The aim of this study was to investigate whether narcissistic grandiosity, in particular the CNS and its subscales of SEG, LIS, GPR, and NAF, is associated with the psychotherapy outcome and whether mentalizing mediates this association. Contrary to our expectations, we did not find a significant association between the CNS, including its subscales, and outcome. The CNS and its subscales NAF and LIS were negatively correlated with RF, with the NAF appearing most strongly linked to impaired mentalizing. NAF was further the only subscale of the CNS, which was correlated with the psychological symptom severity at admission. RF did not correlate with the outcome, but there was a negative association between RF and the psychological symptom severity at admission. However, the mediation analysis revealed that RF was a significant predictor of the outcome and mediated the relationship between the CNS and outcome. This means that patients with a higher CNS tended to have a lower capacity to mentalize and displayed poorer outcomes at the end of therapy. In turn, patients with a lower CNS tended to have a higher capacity to mentalize and showed better outcomes. Again, this mediation could also be shown for NAF as the only subscale.

Thus, our first hypothesis that the CNS predicts outcome could not be confirmed. This finding is in line with one of the few studies investigating the association between pathological narcissism and the symptom outcome [22]. Similar to our results, pathological narcissism, including narcissistic grandiosity and narcissistic vulnerability, was not associated with early symptom change in this study, whereas there was an association of pathological narcissism with the symptom load at the onset of the treatment. In contrast, [68] found that high scores on the threatened self scale of the narcissism inventory predicted less improvement in symptoms such as anger and anxious-depressed mood throughout an inpatient setting.

**Table 3.** Mediation model (RF as mediator between NAF and outcome)

| Criterion: RF (MZQ total score) | \(b\) (95% CI) | SE | \(\beta\) | \(p\) value |
|-------------------------------|----------------|-----|--------|------|
| CNS (NAF)                     | \(-0.23\) (\(-0.31, -0.14\)) | 0.04 | \(-0.32\) | 0.000 |
| Health-49 Module A (admission) | \(-0.36\) (\(-0.46, -0.26\)) | 0.05 | \(-0.41\) | 0.000 |
| Constant                      | 4.11 (3.83, 4.40) | 0.15 | –      | 0.000 |

| Criterion: outcome (Health-49 Module A) | \(b\) (95% CI) | SE | \(\beta\) | \(p\) value |
|-----------------------------------------|----------------|-----|--------|------|
| CNS (NAF)                               | 0.02 (\(-0.08, 0.11\)) | 0.05 | 0.02 | 0.732 |
| RF (MZQ total score)                     | 0.16 (0.02, 0.31) | 0.07 | 0.17 | 0.025 |
| Health-49 Module A (admission)           | 0.49 (0.37, 0.60) | 0.06 | 0.56 | 0.000 |
| Constant                                 | \(-0.74\) (\(-1.40, -0.08\)) | 0.34 | –     | 0.028 |

Completely standardized total effect: \(-0.03\), 95% CI: [\(-0.108, 0.066\)]
Completely standardized direct effect: 0.02, 95% CI: [\(-0.076, 0.108\)]
Completely standardized indirect effect: \(-0.05\), 95% CI: [\(-0.109, -0.003\)]

\(R^2_{MZO} = 0.32; R^2_{Outcome} = 0.25\). RF, reflective functioning; MZQ, Mentalization Questionnaire; CNS, classic narcissistic self; NAF, narcissistic furor.
Notably, the threatened self scale covers aspects of narcissistic vulnerability [63]. Thus, the discrepancy to our results further supports the idea that narcissistic vulnerability and narcissistic grandiosity might have different impacts on the treatment outcome.

Interestingly, in our study, only the NAF subscale was associated with symptom load and impaired mentalizing at admission. This finding emphasizes the clinically observed significance of narcissistic rage for psychopathological conditions [69, 70]. However, to the best of our knowledge, no other empirical study has found this specific association. Previous studies have mainly reported on the associations between the total score or the grandiose and the vulnerable subscales of pathological narcissism and symptom severity [71–73]. Furthermore, the majority of these studies have been conducted on student and not clinical populations.

Given the design of our study, it is nevertheless important to note that the conceptual discussion on the two facets of pathological narcissism revealed that – in contrast to previous suggestions – NAF is currently seen as a part of narcissistic vulnerability and not narcissistic grandiosity [70]. Notably, the Pathological Narcissistic Inventory (PNI), which was explicitly constructed to investigate the grandiose and vulnerable narcissism in clinical populations [10], shifted the Entitlement Rage lower order subscale from the narcissistic grandiosity subscale to the narcissistic vulnerability subscale in 2010 [74], whereas it is still part of the grandiose scale in the German version of the PNI [75]. Furthermore, reactive anger is located in the vulnerable subscale of the Five-Factor Narcissism Inventory (FFNI) [76]. Consequently, despite being part of the (grandiose) CNS scale, we must reconsider NAF as a vulnerable aspect of narcissism. As such, its association with symptom severity and low levels of mentalizing is in line with many empirical studies, which reveal that the vulnerable aspects of narcissism are associated with various indicators of psychopathology [12, 15, 16]. Confirming previous research, our study also revealed that indicators of narcissistic grandiosity (e.g., SEG) are not related to psychopathologic conditions [9, 17]. Given this evidence, it has previously been proposed that narcissistic grandiosity could even play a protective role with respect to psychopathology [77, 78].

Our results further show that pathological narcissism, in particular the CNS, is associated with a low mentalizing capacity in an adult clinical population. This finding is in line with previous studies, which show that pathological narcissism is related to low levels of empathy, emotion recognition, and metacognition [18, 49, 52, 53]. Recently, in a carefully conducted review [79], impairments in appropriately considering one’s own state of mind [80, 81] and other state of mind [82] (i.e., emotions, cognitions, and intentions) were highlighted as critical for pathological narcissism. However, to the best of our knowledge, our study is the first to empirically reveal a direct relation between pathological narcissism and mentalizing in adults.

Mentalizing is a neurobiologically supported multidimensional construct [29]. For instance, good mentalizing requires a continuous balance between reflections about the self and others [83]. In contrast, impaired mentalizing in pathological narcissism is characterized by a constant focus on the self, only giving relevance to others as it is (positively or negatively) relevant for the narcissistic self-enhancement [4, 84, 85]. Correspondent to this theoretical view, both subscales, which show associations with impaired mentalizing (i.e., NAF and LIS), refer to the other pole; NAF is a result of the perceived threats by others to one’s self-coherence, and LIS is the result of utilizing others as a vehicle for one’s own feelings of grandiosity. Thus, our study empirically contributes to the view that impairments in mentalizing in pathological narcissism are to a large extent due to imbalances in the self-other pole [86].

In our sample, consisting mainly of patients with depression and anxiety disorders, impairments in mentalizing were associated with symptom severity at onset. This result is in accordance with the empirical results of previous studies that used the MZQ on comparable samples [87–89].

In contrast to our first hypothesis, the second hypothesis – that the association of the CNS with the outcome is mediated by RF – could be confirmed, albeit with a marginal effect. Again, this effect was mainly based on the NAF subscale. It is tempting to conclude that narcissistic rage impairs the symptom outcome via deficiencies in mentalizing and not directly. Improvement in mentalizing throughout the treatment might thus buffer the negative impact of narcissistic rage on the treatment success. As a consequence, it might be recommended to improve the mentalizing capacity in patients with pathological narcissism to prevent a potential negative impact on the symptom improvement. Recent publications have made suggestions regarding how far mentalizing can be specifically improved in patients with pathological narcissism [84–86]. According to these authors, one important strategy in the treatment of narcissistic patients in mentalization-based treatment involves the skillful shifts between the poles of mentalizing the self to mentalizing others, alongside a careful attentiveness to the ego-centeredness of the narcissistic patient. In mentalization-based treatment, individual case formulations serve to personalize the treatment goals [90].
According to our results, patients with high scores of pathological narcissism might benefit from focusing on their mentalizing capacity, specifically by focusing on the self-other dimension throughout treatment.

We have to consider that – given the statistical values – the indirect effect is marginal. An explanation for this could be related to the sample, which did not contain patients with a diagnosis of a personality disorder. The absence of patients with an NPD should have an impact on the distribution of the NI. In addition, the absence of patients with a borderline personality disorder, which is particularly associated with a limited ability to mentalize [30–32, 91], may have possibly led to the higher MZQ scores. Thus, the required variance might be reduced to find higher effects. On the other hand, empirical studies have also shown impaired mentalizing abilities in depressed patients [42, 92].

There are also some further limitations in the current study. First, the use of the CNS scale of the NI-90 provides certain limitations. As one of the first self-report measurements to comprehensively assess narcissism, the NI-90 does not cover the most recent theoretical and empirical developments in assessing narcissism. For instance, the CNS scale does not precisely correspond to narcissistic grandiosity. Nevertheless, at the time of the study, the NI-90 was the only tool available in Germany. However, from the current view, the NAF has to be attributed to narcissistic vulnerability. We considered this in the interpretation of our results. Future studies should utilize assessments of narcissism that are timelier in their distinction of narcissistic grandiosity and narcissistic vulnerability (e.g., PNI). Furthermore, it should be noted that the comparability of the study population from Germany might not be directly comparable to other populations since Germans seem to score lower in narcissism than individuals from America and the UK [93]. Another limitation is the cross-sectional study design, which does not allow causal conclusions, for example, on the relation of narcissism and mentalizing. It would be interesting to investigate whether narcissism has an influence on the degree to which mentalizing can be improved by, for instance, mentalization-based interventions and whether this is related to the therapy outcome. According to Baron and Kenny’s [94] mediation approach, a relationship between the independent and dependent variables must first be established before mediation can be calculated. However, there is much criticism of this approach, and some authors argue that this is not a necessary condition [67, 95, 96].

Moreover, the self-report assessment can be seen as a limitation. However, there is current evidence that narcissism does not negatively affect the response validity [97]. With respect to mentalizing, we cannot rule out that patients with high scores of pathological narcissism overestimate their capacity to understand mental states [98]. This might have biased the assessment of mentalizing in the study population. To prevent this possibility in future studies, mentalizing could also be assessed by observer-based instruments, such as the RFS, which can be applied to psychotherapy sessions [99].

In conclusion, our study reveals that NAF is significant for the symptom severity and impairments in mentalizing at the admission of a mixed clinical population to psychotherapeutic treatment. Furthermore, the association between the NAF and symptom outcome at discharge might be mediated by impairments in mentalizing. Enhancing the capacity to mentalize might thus be a promising endeavor in the treatment of patients with pathological narcissism. Our study also provides further evidence that vulnerable narcissistic features and not grandiose narcissistic features have a more critical clinical impact.

Statement of Ethics

The original study was approved by the Ethics Committee Hamburg (Germany). The reference number is PV3104. Written informed consent was obtained from all participants in this study.

Conflict of Interest Statement

The authors have no conflicts of interest to declare.

Funding Sources

The authors did not receive any funding.

Author Contributions

S.E., S.A., L.H., T.C.G., and H.S. designed the study, provided the research question, analyzed the data, and wrote the manuscript. M.D. and A.L.B. collected the data, conducted the literature search, and added to the manuscript. The initial conception and first draft were provided by S.E., S.A., and L.H. Subsequent rewriting of the text was done by T.C.G., M.D., H.S., and A.L.B.

Data Availability Statement

The data that support the findings of this study are not publicly available due to containing information that could compromise the privacy of research participants.
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