



Report

Narcissistic defensiveness: Hypervigilance and avoidance of worthlessness

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ABSTRACT

Clinical theories of narcissism postulate the paradoxical coexistence of explicit self-perceptions of grandiosity and covert fragility and worthlessness. To examine the operation and time course of the latter component at a very early stage of information processing, a sequential priming study was conducted. Consistent with predictions high narcissists appear to be hypervigilant for ego-threats; they initially activated worthlessness and then rapidly and automatically inhibited it. In contrast, low narcissists neither activated nor inhibited worthlessness after ego-threat. A second study showed that conscious suppression did not elicit parallel effects among narcissists, thus supporting the idea that the effects in the first study were the result of unconscious repression processes. Differences between intentional and automatic processes in self-regulation are discussed. The findings demonstrate the importance of worthlessness in narcissistic self-regulation and help clarify how narcissists protect and defend their grandiose self-views.

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Introduction

Narcissists not only think they are (nearly) perfect, but they also seem to be protected against worthlessness. Over the past few decades many empirical studies have shown that narcissistic self-concepts are inflated. For example, they overestimate their general intelligence (Gabriel, Critelli, & Ee, 1994), they think they are more attractive than their peers (Gabriel et al., 1994; Rhodewalt & Edings, 2002), and they also overestimate their personal accomplishments relative to those of others (e.g., in group tasks; John & Robins, 1994). This overestimation of the self also is represented in the definition of narcissism in the Diagnostic and Statistical Manual of Mental Disorders (4th ed. [DSM-IV]; American Psychiatric Association., 1994), which includes a grandiose sense of self-importance, and beliefs about one's specialness and uniqueness. By contrast, not well captured in the DSM, but clearly represented in clinical descriptions is another side of narcissism: covert fragility and vulnerability. It is assumed that underlying all the surface grandiosity, narcissists secretly harbor fears of inferiority and worthlessness (e.g., Akhtar & Thomson, 1982).

Narcissism and defensiveness

The empirical validation of worthlessness as a component of narcissism has represented a major challenge to scientific research (e.g., Zeigler-Hill, 2006). The problem for the assessment of worthlessness

is at least twofold: For one, we are anything but sure, that narcissists actually experience worthlessness after a failure event; and for another, if they do, they would not be expected to report feeling worthlessness. The latter may particularly be true when an evaluation takes place immediately after an ego-threatening event, in which case narcissists have been shown to employ an array of strategies to discount or undo the threatening feedback (e.g., Kernis & Sun, 1994; Morf & Rhodewalt, 1993). Through these mechanisms, narcissists may be self-presenting primarily to others in order to diffuse any potential negative self inferences from the social environment. In addition, they may be preventing worthlessness to surface within their own self-system and thus may successfully be deceiving even themselves. Whatever the case may be, it is obvious that explicit measures such as self-report questionnaires need to be complemented by implicit measures when assessing worthlessness. Recently, researchers have begun to explore the associations between narcissism and implicit self-esteem (as an indirect measure of worthlessness). So far the evidence for a relationship between implicit self-esteem and narcissism is scant and the findings are inconsistent. Narcissism sometimes has been found to be negatively correlated with implicit self-esteem, other times the two constructs were uncorrelated (for a review see Bosson et al., 2008).

Although inconclusive, these empirical findings indicate, that worthlessness—along with grandiosity—might be an important component of the narcissistic self. Moreover, the discrepancy between the assessment of worthlessness by means of self-report and implicit measures, as well as the inconsistent findings concerning implicit self-esteem, suggests that narcissists are likely defending against worthlessness. Perhaps typical narcissistic behaviors, such as derogating others (e.g., Kernis & Sun, 1994), or self-enhancing attribu-

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tions after failure (e.g., Rhodewalt & Morf, 1998) help deal with rising worthlessness. However, the most direct strategy to dampen the activated worthlessness would be to inhibit it immediately after the detection of a potential ego-threat before worthlessness even has a chance to surface. Accordingly, the main goal of the present research was to investigate whether narcissists use automatic avoidance as an efficient strategy to inhibit and thus protect themselves against worthlessness when confronted with an ego-threat.

In accord with clinical theories that emphasize the self-deceptive nature of narcissistic self-regulation (e.g., Kohut, 1977) we assume that the relevant mechanism is repression. That is, we think that the avoidance strategy is applied automatically and that the person is not aware he or she is defending against threatening stimuli by avoiding them. This is in contrast to explicit suppression where the strategy is implemented intentionally (for a historical overview see Erdelyi, 2006). To describe the consequence of repression (or suppression) processes on the level of associative networks we use the terms “activation” and “inhibition”. Our premise is that narcissists are in a chronically vigilant state to detect potential threats in order to protect their grandiose selves, while at the same time they are focusing on opportunities to confirm their positive self-views to satisfy their addiction to self-esteem (Baumeister & Vohs, 2001). In the current investigation our aim was to provide support for both the hypervigilance toward ego-threats and for automatically implemented repression of worthlessness. We hypothesized that after a threat to a narcissists' sense of self-worth, this chronically vigilant state leads to an initial activation of worthlessness, followed by an inhibition thereof.

Assessment of vigilance and defensiveness in early information processing

To obtain evidence for each of these two phases of processing, in essence requires a comparison between conditions that either do or do not restrict processing resources in order to manipulate the opportunity for influence by controlled processes. For example Mikulincer, Birnbaum, Woddis, & Nachmias (2000) demonstrated that persons characterized by an avoidant attachment style repress proximity worries in stressful situations. Although avoidants showed no faster lexical decisions of proximity worries after a stressful relative to a neutral prime—indicating repression, when adding a cognitive load, this group then showed an activation of proximity worries through the stressful prime. The latter, thus, disclose the defensiveness of their avoidant strategy, which became undone when processing resources were restricted.

Similarly, Koster, Verschuere, Crombez, and Van Damme (2005) demonstrated hypervigilance and subsequent avoidance of mildly threatening stimuli in high anxiety individuals. They employed a visual dot probe task, in which a threatening and a neutral stimulus were presented simultaneously, followed by a cue replacing one of the stimuli. By manipulating the time interval between stimulus and cue presentation Koster and colleagues could confirm the expected time course for anxious participants. When the time interval was short (i.e., restricted resources), they responded faster when a cue replaced the threatening stimuli, thus showing vigilance. When the time interval was long, they were faster when the cue replaced the neutral stimulus, thus showing avoidance. This typical response pattern has also been found for high defensive individuals when processing sexual stimuli in a classification task (Kline, Schwartz, Allen, & Dikman, 1998).

The present research

In the first study, we examined both the presumed connection between ego-threat and worthlessness, and the expected vigilance

and avoidance of worthlessness after ego-threats. We employed a sequential subliminal priming paradigm in combination with a lexical decision task (LDT). In this task, after subliminal presentation of an ego-threatening or neutral prime word, a string of letters was presented and participants had to decide whether it was a word or non-word. Faster recognition of worthlessness words that follow an ego-threatening prime relative to a neutral prime indicates a connection between threat and worthlessness. We predicted that high narcissists would show this connection more than low narcissists. Besides target words related to worthlessness, neutral targets were used to demonstrate that the priming effects were specific to worthlessness.

To investigate both the hypervigilant, as well as the avoidance stage of the self-regulation process, we manipulated the time interval between prime and target; i.e., two different stimulus-onset asynchronies (SOA) were used. We hypothesized that for the short SOA condition, narcissists would show an activation of worthlessness after an ego-threatening prime indicating vigilance. In the long SOA condition on the other hand, narcissists were expected to repress worthlessness and thus show inhibition of worthlessness after an ego-threat. No effects were expected for the neutral target category (ego-threat should not generally increase target identification), nor for low narcissists, because failure and worthlessness are not central components of their self-regulation. In other words, they are neither expected to be hypervigilant for, nor to avoid worthlessness. In the second study, we used instructed thought suppression to examine whether narcissists' defensive strategy could also result from conscious suppression, rather than unconscious repression.

Study 1: Hypervigilance and avoidance of worthlessness

Method

Participants

A total of 64 participants (33 women and 31 men ranging in age from 17 to 39 years, median = 22) were recruited for a two-session study. The sample consisted of psychology students, students from high schools in their last year and persons recruited from around the campus of the University of Bern. All psychology students received partial course credit for their participation; all other participants received a cinema voucher (approximate value: \$14).

Instruments

Narcissism was assessed through the Narcissistic Personality Inventory (NPI; Raskin & Hall, 1979; German version: Schütz, Marcus, & Sellin, 2004) which contains 40 forced-choice items and is the most frequently used measure of narcissism in normal populations. In the current sample the internal consistency was $\alpha = .77$.

Self-esteem was measured via the 10-item Rosenberg Scale (RSE, Rosenberg, 1965; German version: von Collani & Herzberg, 2003). Internal consistency in the current sample was $\alpha = .79$.

Depression was assessed through the 21-item Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961; German version: Hautzinger, Bailer, Worall, & Keller, 1995). Internal consistency in the current sample was $\alpha = .64$.

Procedure

After participants had completed the three self-report questionnaires (NPI, RSE and BDI) online from home, they were contacted for the second part of the study. They were tested in our laboratory individually or in small groups (max. three persons), working in one of three cubicles, each containing a Computer with a 85 Hz Monitor. For the presentation of the stimuli in the lexical decision task (LDT), we used Media-Lab and DirectRT (Jarvis, 2004).

After short verbal instructions and 12 practice trials, 384 pseudo-randomized test trials of the LDT,¹ were presented divided into eight blocks. Each participant saw the stimuli in the same order. The targets consisted of 16 adjectives representing worthlessness (e.g., useless), 16 neutral adjectives (e.g., diagonal), and 16 negative filler adjectives (e.g., nasty) to distract from the worthlessness category (see Appendix A for all words from the two relevant categories). The selections of the adjectives representing the category “worthlessness” and the negative filler items were based on prior word piloting, in which twenty participants evaluated how well 120 adjectives represented each of four categories (worthlessness, grandiosity, general negativity, and general positivity).² Additionally, 48 non-words (e.g., leipised, sukimer, gnafan) were constructed by changing the order of the letters, resulting in an equal number of word and non-word targets. All targets were presented four times, once for each prime (ego-threat, neutral) by SOA (short, long) combination. Following Page, Locke, and Trio (2005) we chose 150 ms for the short SOA and 2000 ms for the long SOA.

Each trial started with a fixation cross presented for 505 ms, followed by a short flickering, containing a first mask (KQHYTPDQFP-BYL) for 153 ms; then one of two subliminal prime words (failure or note) was displayed for 35 ms, followed by a second mask (FYVDLTMHQWSPW) for 24 ms. This sandwich masking was used to prevent afterimages of the prime (cf. Draine & Greenwald, 1998). Participants were told to concentrate on the fixation cross to improve their reaction times and that the flickering was ostensibly designed to make the task more difficult. Subsequently, a blank screen was displayed for either 90 ms (resulting in an SOA of 150 ms), or for 1940 ms (resulting in an SOA of 2000 ms). Participants responded to target stimuli by pressing the right mouse button for a word and the left button for a non-word. Participants were provided a response window of 200–1500 ms and were instructed to react as accurately and rapidly as possible. RTs outside the response window were not recorded. When participants had finished the LDT, they were checked for suspicion about the purpose of the study and filled out a questionnaire including a surprise free recall task: they had to list—during three minutes—all the adjectives that had been presented in the LDT. Finally they were debriefed, and thanked for their participation.

Results and discussion

Preliminary analysis

In the open suspicion-check questions (modeled after Bargh & Chartrand, 2000) one participant guessed the purpose of the two different SOAs. Exclusion of this person’s data did not change the results; therefore all data were kept in the final analyses. Importantly, no participant mentioned that the flickering influenced their responses; and no one was aware of the presentation of prime words. These manipulation check data, and studies using comparable prime presentation times (e.g., Fishbach, Friedman, & Kruglanski, 2003), confirm that the presentation of the intruding primes did not allow intentional processes to intervene (see also Bargh, 2007; Bargh & Morsella, 2008).

Difference scores were calculated, after excluding wrong answers, by subtracting mean RTs on neutral-prime trials from mean RTs on threat-prime trials. Thus, negative scores indicate faster reactions (activation) as a result of the threat prime, whereas posi-

tive scores represent slower reactions (inhibition) initiated by the threat prime relative to the neutral prime. This difference score was separately computed for each target word category: worthlessness and neutral.

To assign participants to low or high narcissism, we used gender-specific median-split scores derived from a larger database of 1245 subjects (women: high NPI > 13; men: high NPI > 14). The final sample consisted of 32 low narcissists (16 women: $M = 8.81$, $SD = 2.66$; 16 men: $M = 9.13$, $SD = 2.78$) and 32 high narcissists (17 women: $M = 17.94$, $SD = 3.09$, 15 men: $M = 18.87$, $SD = 3.18$). Narcissism was correlated with self-esteem, $r = .41$, $p < .001$; but not with depression, $r = .04$, $p = .77$.

Main analysis: Narcissistic vigilance and avoidance of worthlessness

Unless otherwise noted, a 2 (narcissism) by 2 (SOA) ANCOVA was performed on all outcome measures with SOA as a within factor. Self-esteem and depression were included as covariates to control for any potential effects resulting from the relationship between (a) narcissism and self-esteem and (b) depression and sensitivity to worthlessness. Initial analyses also included gender as a factor, but as there were no gender effects on any of the outcomes, this factor was subsequently dropped from the analyses. Significant interactions were followed-up by pairwise multiple comparisons. Additionally, only scores significantly different from zero were labeled as activation or inhibition, respectively, (adapted from Joormann & Gotlib, 2007).

These analyses revealed the predicted interaction between narcissism and SOA, $F(1, 60) = 4.53$, $p < .05$, $\eta_p^2 = .07$. As can be seen from Fig. 1, in the high narcissistic group the SOA influenced participants’ response times, $F(1, 60) = 9.78$, $p < .01$, $\eta_p^2 = .14$. As expected, while for high narcissists the ego-threatening prime caused an activation of worthlessness in the short SOA condition, $t(60) = 2.03$, $p < .05$, $r = .25$, it triggered inhibition of worthlessness in the long SOA condition, $t(60) = 2.09$, $p < .05$, $r = .26$. On the other hand, for nonnarcissists the SOAs had no effects on their RTs, $F(1, 60) < 1$, $\eta_p^2 < .01$; that is, they showed neither activation nor inhibition following ego-threat, $t_s(60) < 1$. Importantly, using the same model to analyze the neutral target category revealed no significant main or interaction effects (all $F_s < 1.2$). Additionally, there were no comparable effects for either self-esteem or depression ($F_s < 1.3$), showing that the observed activation–inhibition effects

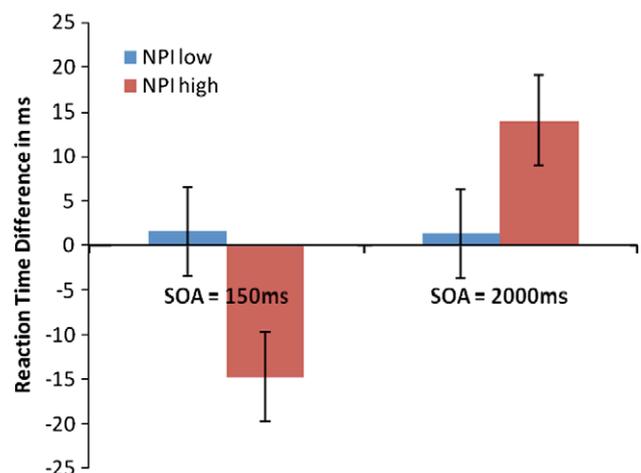


Fig. 1. Difference scores for lexical decision times for “worthlessness” targets as a function of narcissism and SOA (Study 1). Negative values represent faster reactions after the ego-threatening prime relative to the neutral prime (i.e., activation of worthlessness); positive values represent slower reaction after the ego-threatening prime relative to the neutral prime (i.e., inhibition of worthlessness). Error bars represent one standard error.

¹ A set of the 384 trials was generated in random order, with the restrictions that (a) not more than two consecutive targets came from the same word-category, (b) not more than three consecutive trials started with the same prime, (c) not more than three consecutive trials were from the same SOA condition, and (d) the second presentation of a word from a specific category did not occur until all other words had been presented for the first time.

² These four categories were originally piloted for use in another study (thus not all categories are relevant to the present study).

are unique to narcissism. These results support our hypothesis that after an ego-threat narcissists are vigilant for worthlessness, which is followed by subsequent avoidance of worthlessness.

To evaluate whether vigilance for or avoidance of worthlessness has lasting effects at the explicit level, we calculated the proportion of adjectives recalled from the category “worthlessness” relative to the total of correctly recalled words. Due to a very low number of correctly recalled words (<4 words), four participants were excluded from this analysis. Interestingly, the free recall scores were negatively correlated with the RT difference scores in the short SOA condition ($r = -.37, p < .01$). Thus, the higher the activation of worthlessness by failure (lower RTs) the more these words were also explicitly recalled. This indicates that the activation of worthlessness caused by vigilance increased the accessibility of the words at the explicit level as well. On the other hand, difference scores in the long SOA condition were uncorrelated with the free recall scores ($r = -.08, p = .52$), indicating that the repression of worthlessness had no beneficial effects at the explicit level, but also no negative consequences (e.g., no rebound effect).³

In sum, the results of this study are consistent with our hypothesis that narcissists scan for and then subsequently repress worthlessness after an ego-threat. In a first stage of processing (short SOA), narcissists were vigilant for worthlessness after an ego-threat; followed by the expected avoidance at a second stage (long SOA). Importantly, both narcissistic men and women seem to use repression as a strategy to absorb worthlessness and thereby protect their grandiose self. Furthermore, this strategy showed no negative spillover. Although initial vigilance for worthlessness seems to increase the concept’s accessibility at both implicit and explicit levels, with successful avoidance the increased accessibility disappeared. This study provides convincing evidence that narcissists are vigilant for worthlessness and are then quick and successful at avoiding it.

We propose that the mechanism responsible for the successful inhibition shown by narcissists is repression. This is consistent with theories of narcissism that postulate the self-deceptive nature of narcissistic self-regulation in which repression is assumed to take place without intention or awareness of the person (e.g., Kohut, 1977). Further, the repression interpretation is also consistent with the vigilance-avoidance model of repressive coping (Derakshan, Eysenck, & Myers, 2007) which assumes that initial vigilance is the first stage of successful avoidance. However, one nevertheless also could argue that the same results would be obtained if narcissists were intentionally suppressing feelings of worthlessness initiated by the negative target items. To investigate this alternative explanation we thus conducted a second study.

Study 2: Suppression as mechanism?

To examine whether the mechanism employed by narcissists to decrease the activation of worthlessness may be suppression instead of repression, we explicitly instructed participants to suppress worthlessness. A replication of the activation-inhibition pattern narcissists found in Study 1 would be supportive of the suppression explanation, as spontaneous suppression and instructed suppression should lead to the same effects (see Wenzlaff & Wegner, 2000). On the contrary however, we expected the underlying mechanism for high narcissists to be repression. As a result, we anticipated that instructing them to employ a strategy

they otherwise use automatically and spontaneously would disrupt the efficacy of the avoidance mechanism, as has been shown for other mechanisms (e.g., for intellectual performance, Langer & Weinman, 1981). Therefore, in the short SOA, we still predicted activation, because narcissists vigilantly scan the environment for potential worthlessness cues (whether instructed to avoid or not). In the long SOA, on the other hand, we expected inhibition to become undone (or at least be harder to attain).

Method

Participants and measures

A total of 62 persons (25 women and 39 men ranging in age from 18 to 43 years, median = 22) were tested. All persons were recruited and compensated in the same manner as in Study 1. Three additional subjects who also took part in the study were excluded from the analyses because their difference scores were classified as outliers (score more than 2.5 standard deviations above the mean). Participants completed the same online personality questionnaires: NPI ($\alpha = .65$), RSE ($\alpha = .89$), and BDI ($\alpha = .84$).

Procedure

For this second study we made two important changes. First, participants were told that the study consisted of two independent experiments: a memory task, followed by a reaction task. They were guided through both entirely via instructions displayed on the computer screen. For the first experiment, participants were instructed to think about and re-experience an important and recent personal failure situation focusing especially on the emotional component. Participants were given five minutes to record the event, including their thoughts and feelings about it as vividly as possible.

The second change was that participants were given suppression instructions. Before starting with the ostensible second experiment, participants read the instruction that they were to suppress the feelings and failure thoughts they had activated in the memory task. They were told that suppression would allow them to perform the reaction task as well as participants who started with this task first. During the LDT participants were repeatedly reminded by a short written instruction on the computer screen to suppress negative thoughts and feelings (at the beginning of each of the eight trial blocks). The LDT was identical to the one used in Study 1, as were the suspicion and manipulations checks at the end of the experiment.

Results and discussion

Difference scores and low and high NPI groups were calculated the same as in Study 1. The final sample included 41 low narcissists (15 women: $M = 9.80, SD = 3.38$; 26 men: $M = 9.81, SD = 2.53$) and 21 high narcissists (10 women: $M = 17.30, SD = 4.40$; 11 men: $M = 16.10, SD = 1.22$). Again, narcissism was correlated with self-esteem, $r = .35, p < .01$; but not with depression, $r = -.11, p = .40$. And as in Study 1, no participant was aware of the prime presentation.

The two-way ANCOVA on the differences scores for worthlessness targets revealed a significant main effect for narcissism, $F(1, 58) = 6.39, p < .05, \eta_p^2 = .10$. The narcissistic group showed a statistically significant activation of worthlessness, $t(58) = 3.20, p < .01, r = .39$, whereas for low narcissists the prime as expected was irrelevant, $t(58) < 1$. As expected, in contrast to Study 1, no differential effects were obtained for the two SOAs: high narcissists showed significant activation in the short SOA, $t(58) = 1.87, p < .05$ (one-tailed), $r = .24$, and the long SOA, $t(58) = 2.65, p < .01, r = .33$. The same analyses conducted for the neutral targets revealed no significant effects (all $F_s < 1$); additionally, as in Study

³ It is worth noting that for high narcissists the latter correlation was in the expected direction ($r = -.24, p = .22$); i.e., narcissists recalled proportionally less worthlessness words the more they were repressing them in the long SOA. Not surprisingly, considering the non-threatening context, there were no overall differences between low and high narcissists in the proportion of recalled worthlessness words.

1 there were no comparable effects for self-esteem or depression ($F_s < 1.7$).

In short, these findings argue against suppression as the responsible mechanism. When instructed to suppress a previously activated failure experience, high narcissists did not show the activation–inhibition pattern of worthlessness we observed in Study 1. Instead of showing inhibition in the long SOA high narcissists remained vigilant for worthlessness, as activation was maintained. If narcissists generally use suppression of worthlessness, then instructed suppression should have resulted in similar effects as in Study 1 (Wenzlaff & Wegner, 2000). In contrast, instructions to consciously suppress appear to have disrupted the effectiveness of the avoidance strategy. Narcissists were no longer able to inhibit worthlessness. We assume that conscious suppression attempts disturbed unconscious automated repression processes. This kind of interference between unconscious and conscious strategies has been demonstrated across a variety of domains (e.g., Dijksterhuis & Nordgren, 2006; Hassin, 2005; Langer & Weinman, 1981). We cannot, however, rule out that the re-experience task intensified the ego-threat and thereby impeded narcissists' ability to avoid worthlessness. Assuming that repression works best for relatively mild ego-threats, most likely both of these mechanisms were in play.

General discussion

The present findings provide important information about the automatic operation of narcissists' defensiveness. Our results showed that narcissists initially activate and subsequently inhibit worthlessness in response to failure priming. Thus, when confronted with ego-threatening information, narcissists were shown to be hypervigilant for worthlessness. This then allows them to quickly and successfully avoid worthlessness and thereby protect their sense of grandiosity. Importantly, these processes are automatic – they were initiated and ran outside of participant's awareness – and they take place at very early stages of information processing. Further, consistent with theories of narcissism, the results of the second study provide preliminary evidence that the mechanism narcissists employ to subdue worthlessness after ego-threats is not suppression, but more likely implicit repression. The explicit instructions to suppress worthlessness appear to have impaired the automated repression processes observed in Study 1. However, further research should separate the disruptive effect of conscious processes and the influence of increased ego-threat.

How narcissists deal with worthlessness

Clinical theories include not only the empirically well documented grandiose self-view but also fear of inferiority and worthlessness as main components of narcissism (Akhtar & Thomson, 1982). The present research supplements the as of yet scarce empirical findings demonstrating the relevance of worthlessness for narcissistic self-regulation. Although narcissists tend to focus predominantly on their grandiosity, and this is what is primarily observed when explicit measurements are utilized, our results show that at an implicit level, they are also hypersensitive for information that might threaten their exceedingly positive self-views. What makes this component difficult to examine is that it might be rather fleeting. Our results underscore this by showing that ego-threats (at least mild ones) are quickly absorbed. The initially activated worthlessness is automatically inhibited, probably through a repression mechanism. Thus, the present findings indicate that the inconsistent findings concerning narcissists' implicit worthlessness (Bosson et al., 2008) might be due to the time course the different measures are tapping.

Importantly, the present findings complement what is known about narcissists' more explicit self-regulation strategies (Morf &

Rhodewalt, 2001), showing that repression may be an effective narcissistic strategy to immediately and automatically protect one's self-goals, in situations of mild ego-threat. As a result, narcissists may never genuinely experience worthlessness at explicit levels. This is similar to research on repressive coping showing that repressors in fact feel less anxious on explicit levels (e.g., Derakshan & Eysenck, 1998). However, these strategies may be weak and may have to be supplemented by more direct strategies especially as ego-threats increase (Langens & Morth, 2003). These may be the situations in which narcissistic hostility and aggression come into play (e.g., Kernis & Sun, 1994; Stucke & Sporer, 2002). Moreover, it is possible that effective repression is implemented primarily by the grandiose subtype of narcissism, but not by the more vulnerable subtype (Cain, Pincus, & Ansell, 2008). Future research will need to resolve this question. We assume that nonnarcissists showed no comparable effects because they do not possess a similar kind of warning and intervention system for worthlessness on the basal level. Ego-threat and worthlessness are not primary components of their self-goals and therefore of little personal relevance. The latter has been shown to be a precondition for repression (e.g., Newman & McKinney, 2002).

Repression vs. suppression

In our view, and supported by our findings, repression and suppression are different processes. Although their theoretical conceptions have some similarities, there are also important distinctions. According to Wegner (1994), monitoring and intervening operating processes are the two stages of suppression; Derakshan and colleagues (2007) propose vigilance and avoidance as two consecutive stages of repression. Both theories assume that the first stage runs automatically, while the second stage depends on cognitive resources. As a consequence, operating as well as automatic avoidance processes can be affected, if cognitive resources are impaired. In the suppression model, such impairment leads to ironically increased activation, in the vigilance-avoidance framework, the consequence is failed repression. Thus in both cases, the outcome at the level of mental representations involves increased activation of the "to-be-avoided" material.

The primary difference between suppression and repression is that the former process is instigated by a conscious intention to avoid unwanted mental content, whereas the latter operates outside of conscious awareness (cf. Wegner & Zanakos, 1994). Additionally, there also may be differences between the two in terms of the consequences, and the costs and benefits. Repression can have beneficial and adaptive consequences, if the avoidance stage can be successfully completed. For example, in a study by Derakshan and Eysenck (1998), impeding anxiety regulation decreased reasoning performance of high anxious-participants, but not of repressors. This indicates that the latter genuinely do not feel anxious, and thus have no need to regulate. Similarly, in our first study narcissists showed no spillover (i.e., rebound effect) after the successful avoidance of worthlessness. However, because repression is automatic and unconscious it seems to be out of one's control, which poses problems, when the repression of information is not constructive. Whereas repression of worthlessness might be beneficial for narcissists' self-esteem, by repressing negative feedback, they also cannot learn from mistakes (e.g., Lakey, Rose, Campbell, & Goodie, 2008).

Suppression on the other hand, although it can have short-term benefits (e.g., Wegner, 1994), it also has the disadvantage that it requires more explicit cognitive resources (because more deliberative) and that it must be permanently explicitly maintained. Further, once suppression is stopped, the suppressed information often reappears, i.e., rebound effects (Wenzlaff & Wegner, 2000).

In conclusion, repression appears to be part of a narcissists' repertoire of self-defensive strategies, when confronted with ego-threats. However a remaining question is whether narcissists after ego-threats also activate grandiosity to affirm their self at an automatic level. Spontaneous self-affirmation has repeatedly been shown to have positive effects (for a review see Sherman & Cohen, 2006). Thus, future studies on narcissistic self-regulation should focus on a more detailed analysis of the temporal course of activation and inhibition of both worthlessness and grandiosity. It is quite possible that narcissists (at least of the grandiose subtype) are immunized against ego-threatening effects not only because they inhibit worthlessness, but also (or perhaps even more so), because in parallel they simultaneously also activate grandiosity.

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Appendix A

Words

| Primes | | Neutral | | |
|---------------|--------------|--------------|--|--------------|
| Ego-threat | | | | |
| VERSAGEN | Failure | NOTIEREN | | Note |
| Targets | | Neutral | | |
| Worthless | | | | |
| ABSTOSSEND | Repugnant | BEDECKT | | Covered |
| AUSTAUSCHBAR | Exchangeable | BETONT | | Accentuated |
| BEDEUTUNGSLOS | Meaningless | GLÄSERN | | Glass |
| BLÖD | Stupid | HAUCHDÜNN | | Wafer-thin |
| DUMM | Dumb | INNERLICH | | Internal |
| FEHLERHAFT | Deficient | KATEGORISCH | | Categorical |
| HÄSSLICH | Ugly | METHODISCH | | Methodical |
| LANGWEILIG | Boring | ORGANISCH | | Organic |
| LÄSTIG | Bothersome | OVAL | | Oval |
| MISERABEL | Miserable | PLATZSPAREND | | Space-Saving |
| NUTZLOS | Useless | PROGRAMMIERT | | Programmed |
| SCHWACH | Weak | QUER | | Diagonal |
| UNGENÜGEND | Insufficient | TEMPORÄR | | Temporary |
| UNNÜTZ | Futile | VIOLETT | | Violet |
| UNTAUGLICH | Incompetent | WACH | | Awake |
| WERTLOS | Worthless | ZUGEORDNET | | Assigned to |

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