

## **Brief Report: Physician Narcissism, Ego Threats, and Confidence in the Face of Uncertainty<sup>1</sup>**

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Although adequate self-esteem is essential for psychological health, people with high but fragile self-esteem have been shown to exhibit defensive, often aggressive behavior when their self-esteem is threatened. We measured physician narcissism (as a proxy for high but fragile self-esteem) and used a subtle manipulation to examine how physicians who varied in levels of narcissism responded to an ego threat. We found that physicians high in narcissism, as compared with those lower in narcissism, were more likely to respond to ego threat by attempting to bolster their self-image. Concerned about self-image, physicians in this situation may be insufficiently receptive to new information and instead attempt to justify initial opinions.

A healthy ego is an important part of overall psychological resilience. However, when faced with an ego threat, individuals with high but unstable self-esteem may be prone to maladaptive behaviors aimed at bolstering or safeguarding their self-image (Bushman & Baumeister, 1998; Kernis, 2003; Kernis, Grannemann, & Barclay, 1989). The medical field, which tends to select individuals who are high in self-confidence yet exposes them to

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situations characterized by great uncertainty and high stakes, might be fertile ground for behavior patterns of this type.

We conducted a preliminary investigation of this phenomenon by examining how physicians would respond to a set of queries about their own vulnerability to conflicts of interest after having had their confidence boosted or shaken. Based on research finding that instability of self-esteem is correlated with narcissism (Rhodewalt, Madrian, & Cheney, 1998), and other research showing that narcissism is predictive of aggressiveness and hostility under conditions of ego threat (see Bushman & Baumeister, 1998), we hypothesize that physicians characterized by high levels of narcissism will respond to a manipulation that induces self-doubt in a defensive, exaggeratedly self-confident fashion. We measured physician narcissism using an abbreviated form of a narcissistic personality inventory standard scale (Raskin & Terry, 1988), and we measured defensiveness by eliciting perceptions of (in)vulnerability to conflicts of interest.

### Method

To avoid participants' ability to discern the purpose of the study, we collected data in two stages. In the first, we administered a survey measuring seven narcissistic personality traits (Raskin & Terry, 1988), as well as more general features of mood and emotional well-being, to a convenience sample of approximately 1,000 general internists listed in a professional society roster. The original Narcissistic Personality Inventory contains 40 statements measuring seven principal components of narcissism (i.e., authority, exhibitionism, superiority, vanity, exploitativeness, entitlement, self-sufficiency). Our abbreviated version included the two highest loading principal components for each measure, for a total of 14 items. We imputed the narcissism score for the 14% of participants who answered some but not all of the 14 items by imputing the mean score of the items with missing responses.

In the second stage, approximately 2 weeks later, participants who had completed the first survey ( $n = 322$ ) were sent a survey that includes the experimental treatment (a manipulation of ego threat), as well as 10 items examining participants' attitudes and beliefs regarding their perceived vulnerability to conflicts of interest. As a subtle manipulation of ego threat, we asked all respondents to complete four standardized multiple-choice questions derived from a national board certification exam, and informed half of them (ego threat) that the standardized multiple-choice questions were straightforward, and informed the other half (no ego threat) that the questions were challenging.

We chose to measure physician defensiveness by eliciting self-confidence about perceived invulnerability to conflicts of interest because of the

importance of the topic for the medical profession (Thompson, 1993) and because the issue of conflict of interest seems, on its face, to be unrelated to the judgments that the respondents made in connection with the ego-threat manipulation. This minimized the chance that the respondents would draw any connection between the two tasks.

We focused on three outcome variables. First, we examined participants' beliefs regarding their own susceptibility to conflicts of interest using two brief vignettes, one that involved receiving a fee for referring a patient to a clinical trial and the other that involved allowing oneself to receive undeserved authorship credit on a paper. For each vignette, participants were asked to report their own vulnerability to a conflict of interest, and then to report the same for a typical colleague. Participants were then asked more general questions about their own vulnerability to conflicts of interest. The dependent measures were (a) the physician's own perceived vulnerability based on responses to the vignettes; (b) the difference between the physicians' perceptions of their own and their colleagues' vulnerability; and (c) their perceived ability to make decisions that put their patients' interests above their own interests. We conducted ordinary least squares (OLS) regression for each of these outcome variables separately, focusing specifically on the interactions between participants' baseline measured narcissism (evaluated as a continuous measure ranging from 28 to 70) and confidence (boosted vs. shaken).

## Results

There were 322 respondents who returned their surveys, which elicited demographics and personality traits, including narcissism (Table 1). Of these, 185 physicians subsequently completed and returned all items of interest in the second survey. However, we dropped 7 respondents who reported never putting patients' interests above their own financial interests, or who reported not trying to ignore their own financial interests when facing a conflict of interest, as these responses lacked face validity. This left us with a final sample size of 178.

Overall, many physicians acknowledged vulnerability to conflicts of interest (Table 2). For example, more than half (56%) reported that it was *somewhat likely* or *very likely* that they might be influenced by potential financial gain when enrolling a patient in a clinical trial. Similarly, nearly one fourth of respondents (24%) reported that it was *not at all likely* or *a little bit likely* that they would decline authorship if offered such when they had not fulfilled the standard criteria for authorship.

The main analyses examined whether or not physician narcissism would moderate how they responded to questions about conflicts of interest when

Table 1

*Participant Characteristics*

Variable	<i>M</i>	%	Range
Age	45		31–72
Sex (male)		58	
Time spent seeing patients		39	0–100%
Score on ego components			2–12
Authority	9.57		
Self-sufficiency	9.71		
Superiority	7.38		
Exhibitionism	4.88		
Exploitativeness	4.61		
Vanity	6.02		
Entitlement	6.41		

Note. *N* = 178.

their confidence was shaken (first column of Table 3). For the first outcome examined (vignette-based own vulnerability to conflicts of interest), such an effect was found. The regression results show that the impact of the ego-threat manipulation differed significantly for physicians who were high versus low in measured narcissism ( $p < .05$ ). Figure 1 illustrates this by showing predicted vulnerability scores for physicians with low and high narcissism scores, by randomization status. Physicians high in measured narcissism were less likely to report being influenced by personal gain after having had their confidence shaken, whereas the reverse pattern was observed for those low in narcissism.

The same pattern was observed for the second outcome measure: the difference between a colleague's and one's own vulnerability to conflicts of interest (second column of Table 3). That is, physicians high in measured narcissism were more likely to report that a colleague would be more likely than themselves to be vulnerable to conflicts of interest after having had their confidence shaken (Figure 2). However, the key interaction term between narcissism and the randomization was only marginally statistically significant ( $p < .10$ ).

The same directional pattern was also observed for the third outcome measure: self-reported ability to put one's patients' interests above one's own

Table 2

*Respondents' Views on Own Susceptibility to Conflicts of Interest*

Belief	Percentage
Personal vulnerability to conflicts of interest	
I would be influenced by my potential financial gain when enrolling a patient in a clinical trial.	
<i>Somewhat likely or Very likely</i>	56
<i>Not at all likely or A little bit likely</i>	44
I would decline authorship when I do not fulfill standard criteria for authorship.	
<i>Somewhat likely or Very likely</i>	76
<i>Not at all likely or A little bit likely</i>	24
Colleagues' vulnerability to conflicts of interest	
My colleague would be influenced by potential financial gain when enrolling a patient in a clinical trial.	
<i>Somewhat certain or Very certain</i>	57
<i>Not at all certain or A little bit certain</i>	43
A colleague would decline authorship when he/she does not fulfill standard criteria for authorship.	
<i>Somewhat certain or Very certain</i>	47
<i>Not at all certain or A little bit certain</i>	53
Putting patients' interests above one's own	
I feel I always put my patients' interests above my own financial interest.	
<i>Always</i>	58
<i>Sometimes or Usually</i>	42
I can completely ignore my own financial interest when I am uncertain on what is best for my patient and I am facing conflicts of interest.	
<i>Yes, completely</i>	43
<i>I try, but am not sure I'm successful or I try, but doubt I'm successful</i>	57
Personal financial interest would impact my behavior when what is best for the patient conflicts with my economic interest.	
<i>No impact on my behavior</i>	48
<i>Small, Moderate, or Large impact on my behavior</i>	52

Note.  $N = 178$ .

Table 3  
*Ordinary Least Squares Analyses of Impact of Experimental Condition and Narcissism Score on Main Dependent Measures*

Variable	Perceived vulnerability to COIs		Colleagues would be more influenced than self by COIs		Perceived ability to put patients' interests above own interests	
	Coefficient	SE	Coefficient	SE	Coefficient	SE
Experimental condition	-3.54*	1.54	2.37 <sup>†a</sup>	1.31	1.24	1.48
Narcissism score	-0.03	0.02	0.02	0.02	0.03 <sup>b</sup>	0.02
Condition × Narcissism	0.06 <sup>*c</sup>	0.03	-0.05 <sup>a</sup>	0.03	-0.02	0.03
Constant	6.35**	1.08	-0.36	0.92	5.87**	1.04

*Note.* COI = conflict of interest. Experimental condition: 0 = confidence shaken; 1 = confidence boosted.  
<sup>a</sup>Including the 7 dropped respondents did not affect the qualitative pattern of results, but reduced the significance of the experimental condition and interaction from  $p < .10$  to no longer significant. <sup>b</sup>Including the 7 dropped participants did not affect the qualitative pattern of results, but increased the significance of the narcissism score from not statistically significant to  $p < .10$ .  
<sup>c</sup>Including the 7 dropped participants (see Results, paragraph 1) did not affect the qualitative pattern of results, but reduced the significance of the interaction term from  $p < .05$  to  $p < .10$ .  
<sup>†</sup> $p < .10$ . \* $p < .05$ . \*\* $p < .01$ .

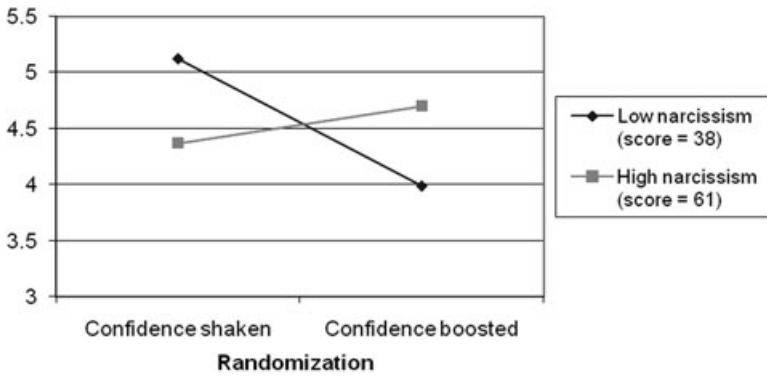


Figure 1. Predicted vulnerability to conflicts of interest by randomization and narcissism score (higher scores indicate greater perceived vulnerability to conflicts of interest). Predicted scores obtained by calculating linear predictions for respondents with the highest and lowest narcissism scores observed in both randomization groups.

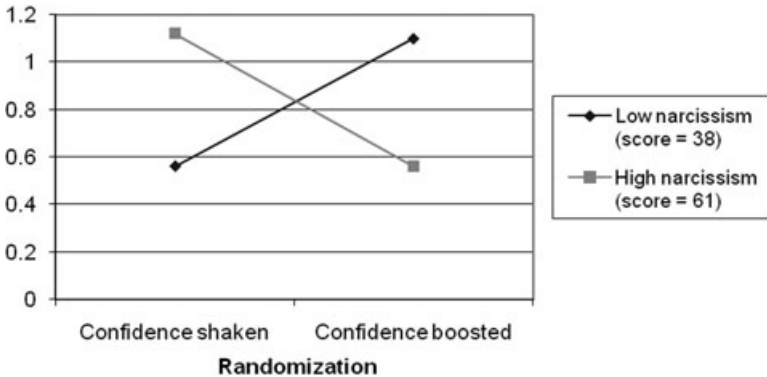
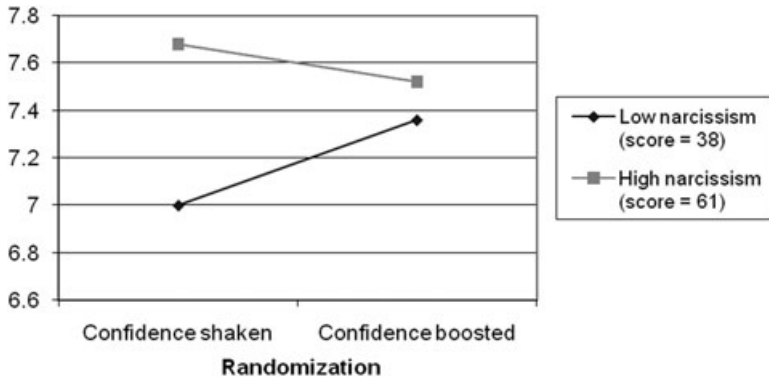


Figure 2. Predicted difference between colleague's and own vulnerability to conflicts of interest by randomization and narcissism score (higher score indicates colleague has greater vulnerability than self to conflicts of interest). Predicted scores obtained by calculating linear predictions for respondents with the highest and lowest narcissism scores observed in both randomization groups.

(third column of Table 3). That is, physicians high in measured narcissism were more likely to report that they were able to put their patients' interests above their own after having their confidence shaken (Figure 3). However, the interaction was not statistically significant.



*Figure 3.* Predicted ability to put patients' interests above own by randomization and narcissism score (higher score indicates ability to put patients' interests above own). Predicted scores obtained by calculating linear predictions for respondents with the highest and lowest narcissism scores observed in both randomization groups.

## Discussion

The medical profession attracts individuals who are confident, and this is an important characteristic of most physicians that helps them to reassure patients and to engage in work that is often characterized by considerable uncertainty and high stakes. However, high levels of confidence can also have a downside. In this study, we found support for the hypothesis that physicians with high but fragile self-esteem (as measured by their degree of narcissism) would respond to an ego threat by stating greater self-perceived invulnerability to conflicts of interest, relative to their peers.

These results are exploratory in nature, but raise the issue of how motivational factors might, in some cases, interfere with the soundness of physicians' clinical judgments. Prior research has uncovered some, albeit mixed, evidence of physician overconfidence, although this does not appear to be a characteristic that is unique to physicians (Christiansen-Szalanski & Bushyhead, 1981; Davis, Campbell, Poste, & Ma, 2005; Mayhue, Rust, Aldag, Jenkins, & Ruthman, 1989; Shynkaruk & Thompson, 2006).

Our findings describe a different, but potentially related phenomenon: the ways that subtle events that shake a physician's confidence (e.g., a new piece of evidence in a complex diagnostic dilemma) may fail to be appropriately incorporated because of the threat that they may pose to a physician's ego. Numerous clinical instances abound in which physicians must navigate uncertainty, such as when to refer a patient for a second opinion, when to pursue an additional test, or when to change the course of treatment,



implicitly or explicitly acknowledging a prior decision. In each case, physicians must manage potential threats to their own self-esteem and common pitfalls of clinical reasoning (Redelmeier, 2005) while serving the interests of their patients. Our findings raise the question of whether, in these settings, some physicians manage threats to their self-esteem by reacting with greater confidence than is appropriate, given the available clinical evidence.

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