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**Does self-love or self-hate predict conspiracy beliefs?**

**Narcissism, self-esteem and the endorsement of conspiracy theories**

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### **Abstract**

Across three studies, we examined the role of self-evaluation in predicting conspiracy beliefs. Previous research linked the endorsement of conspiracy theories to low self-esteem. We propose that conspiracy theories should rather be appealing to individuals with exaggerated feelings of self-love, such as narcissists, due to their paranoid tendencies. In Study 1 general conspiracist beliefs were predicted by high individual narcissism but low self-esteem. Study 2 demonstrated that these effects were differentially mediated by paranoid thoughts, and independent of the effects of collective narcissism. Individual narcissism predicted generalized conspiracist beliefs, regardless of the conspiracy theories implicating in-group or out-group members, while collective narcissism predicted belief in out-group but not in-group conspiracies. Study 3 replicated the effects of individual narcissism and self-esteem on the endorsement of various specific conspiracy theories and demonstrated that the negative effect of self-esteem was largely accounted for by the general negativity towards humans associated with low self-esteem.

Keywords: conspiracy theories, self-esteem, narcissism, collective narcissism, paranoia

## **Does self-love or self-hate predict conspiracy beliefs?**

### **Narcissism, self-esteem and the endorsement of conspiracy theories**

Although conspiracy theories are often treated as harmless entertainment, they can have serious societal consequences (Douglas, Sutton, Jolley, & Wood, 2015). For example, exposure to conspiracy theories can decrease political engagement or pro-environmental behavior (Jolley & Douglas, 2014a; 2014b). If widespread conspiracy theories affect the society, then it seems important to understand psychological factors underlying conspiracy beliefs. One prevalent hypothesis in this line of inquiry has been that conspiracy theories are usually endorsed by individuals who show poor psychological adjustment or are in some way socially disadvantaged. Conspiracy beliefs have been linked to powerlessness (Abalakina-Paap, Stephan, Craig, & Gregory, 1999), feelings of relative deprivation (Bilewicz, Winiewski, Kofta, & Wójcik, 2013), anomie (Abalakina-Paap et al., 1999; Imhoff & Bruder, 2014), lack of personal control (Whitson & Galinsky, 2008; cf. Bruder, Haffke, Neave, Nouripanah, & Imhoff, 2013), uncertainty (van Prooijen & Jostmann, 2012; Whitson, Galinsky, & Kay, 2015), and being a member of a disadvantaged group (Abalkina-Paap et al., 1999; Crocker, Luhtanen, Broadnax, & Blaine, 1999; Goertzel, 1994). It has been theorized that belief in others' conspiratorial actions that unfairly undermine one's own efforts, can serve to protect feelings of self-worth (Robins & Post, 1997).

In line with this reasoning, Abalkina-Paap and colleagues (1999) proposed that conspiracy beliefs should be endorsed by people with low self-esteem "because this permits them to blame others for their problems" (p. 644). So far, however, evidence linking conspiracy beliefs to low self-esteem remains inconsistent. Low self-esteem was only a marginally significant predictor of various conspiracy beliefs in the study by Abalkina-Paap and colleagues (1999). In other studies, low self-esteem significantly predicted endorsement of some conspiracy theories (e.g., concerning the London bombings of July 7, 2005, Swami

et al., 2011; see also Swami & Furnham, 2012) but not others (e.g., concerning conspiratorial actions of Jews, Swami, 2012; see also Crocker et al., 1999; Stieger, Gumhalter, Tran, Voracek, & Swami, 2013). Similarly, general conspiracist ideation was negatively correlated with self-esteem in a study by Stieger and colleagues (2013; although the correlation was significant only in the first wave of measurement) but this relationship was weaker and non-significant in a study by Swami (2012).

We suggest that linking conspiracy beliefs to low self-esteem could have been premature. There are in fact reasons to believe that the endorsement of conspiracy theories might be more strongly associated with excessively positive view of the self. Convictions about others' malevolent intentions have been linked to individual narcissism, which is characterised by a pattern of grandiosity accompanied by the need for external validation (Freud, 1914/2012; Fromm, 1964/2010; Raskin & Terry, 1988; Robins & Post, 1997; Wulff, 1987). Narcissists tend to believe they are unique and special compared to other people (Reynolds & Lejuez, 2011) but, at the same time, they are excessively preoccupied with how others see them (Morf & Rhodewalt, 2001; Horvath & Morf, 2009). Research shows that such heightened self-reference and awareness of others' perceptions can foster paranoia—a tendency to perceive others' actions as intentionally malicious (Feningsten & Venable, 1992; see Cameron, 1959; Cicero & Kerns, 2011; Raskin & Terry, 1988). Paranoia has been identified as a robust predictor of conspiracy beliefs, which correspond to a more specific conviction that a major political or social event is intentionally caused by “a secret plot by a covert alliance of powerful individuals or organizations” (Douglas & Sutton, 2011, p. 3; e.g., Bruder et al., 2013; Darwin, Neale, & Holmes, 2011; Grzesiak-Feldman, 2015; Kramer & Schaffer, 2014; Wilson & Rose, 2014). Melley (2002) suggested that it is the intentionality bias that makes the paranoid prone to perceive significant events as being caused by conspiracies. By integrating these perspectives, we predict that narcissists should be

especially likely to endorse conspiracy theories, as due to their sensitivity to others' perceptions they show paranoid tendencies.

Importantly, the propositions that conspiracy beliefs are related to low self-esteem and to high individual narcissism are not necessarily contradictory. In fact, one reason for the inconsistent link between self-esteem and conspiracy beliefs, revealed by previous studies, could be that typical measures of self-esteem do not distinguish between self-evaluation that is narcissistic versus secure (i.e., without the defensive component captured by narcissism; Horney, 1939; Kernis, 2003; Paulhus, Robins, Trzesniewski, & Tracy, 2004). Narcissistic and secure self-esteem overlap in favourable self-evaluation but when they are considered in the same regression analysis, we can observe their unique effects (Paulhus et al., 2004). For example, previous research demonstrated that low self-esteem becomes a predictor of antisocial behaviour only when the variance it shares with individual narcissism is accounted for. Moreover, when both variables are considered, the effects of narcissism on antisocial behaviour tend to significantly strengthen (Locke, 2009; Paulhus et al., 2004). Such a pattern of results indicates a suppression effect, in which inclusion of a suppressor variable in the analyses "increases the predictive validity of another variable" (Conger, 1974, pp. 36–37; MacKinnon, Krull, & Lockwood, 2000). Therefore, to fully examine the link between conspiracy beliefs and self-evaluation, both narcissism and self-esteem should be considered.

### **Overview**

The aim of the current research is to shed light on the role of individual narcissism and self-esteem in predicting conspiracy beliefs. In three studies we test the hypothesis that when the overlap between self-esteem and individual narcissism is controlled for, conspiracy beliefs will be predicted by high individual narcissism and low self-esteem. We also examine whether the effects of individual narcissism versus self-esteem on conspiracy beliefs are mediated by paranoid ideation (Study 2) or whether they can be accounted for by a general

negativity towards humans (Study 3). In addition, given that conspiracy theories often presume an intergroup dimension (Kofta & Sędek, 2005; van Prooijen & van Lange, 2014), in Study 2 we examine whether the effects differ depending on the conspiracy theories involving in-group or out-group members. In all studies, we report how we determined our sample size, all data exclusions, all manipulations, and all measures.

### Study 1

In Study 1 we tested the hypothesis that conspiracy beliefs would be predicted by high individual narcissism but low self-esteem. We expected self-esteem and individual narcissism to work as mutual suppressors in predicting conspiracy beliefs—considering both aspects of self-evaluation together should strengthen their initial relationships with conspiracy beliefs.

#### Method

**Participants and procedure.** We aimed to collect data from at least 200 Mturk workers. For consistency, we asked only for workers located in the US. The survey was completed by 202 participants<sup>1</sup>, 74 women, 128 men, aged 18-72 ( $M=31.27$ ,  $SD=10.46$ ). Most participants reported having a university degree ( $n=124$ ) and White (non-Hispanic) as their ethnicity ( $n=152$ )<sup>2</sup>. Participants filled out measures of self-esteem, individual narcissism and conspiracy beliefs presented (counterbalanced).

#### Measures.

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<sup>1</sup> In all studies, only completed surveys were analyzed. Study 1 included an attention check. Excluding data from 13 participants who failed it did not affect the results.

<sup>2</sup> None of the demographic variables was associated with conspiracy beliefs in Study 1. In Studies 2 and 3 ethnic minorities endorsed conspiracy theories more strongly than Whites. Unless stated otherwise, the pattern of results remained similar when we adjusted for demographics (age, gender, ethnicity, education in Studies 1 and 2; age, gender, ethnicity in Study 3) in the regression analyses.

**Conspiracy beliefs** were measured with the 15 item Generic Conspiracist Beliefs Scale (Brotherton, French, & Pickering, 2013). Participants were asked to what extent they agree with statements such as “New and advanced technology which would harm current industry is being suppressed.” on a scale from 1=definitely not true to 5=definitely true,  $\alpha=.93$ ,  $M=2.66$ ,  $SD=0.86$ .

**Self-esteem** was measured with Rosenberg’s (1965) self-esteem scale. Participants responded to 10 items on a scale from 1=strongly disagree to 5=strongly agree,  $\alpha=.93$ ,  $M=3.82$ ,  $SD=0.89$ .

**Individual narcissism** was measured with a simplified version (Ang & Yusof, 2006) of the 40-item Narcissistic Personality Inventory (Emmons, 1987; Raskin & Hall, 1979). Participants rated to what extent statements representing narcissistic traits described them on a scale from 1=not at all like me to 5=very much like me,  $\alpha=.96$ ,  $M=2.79$ ,  $SD=0.70$ .

## Results

**Zero-order correlations.** Individual narcissism was significantly positively correlated with self-esteem,  $r(200)=.41[.27, .53]^3$ ,  $p<.001$ , and conspiracy beliefs,  $r(200)=.24[.10, .38]$ ,  $p<.001$ . The correlation between conspiracy beliefs and self-esteem was non-significant,  $r(200)= -.08[-.22, .07]$ ,  $p=.29$ .

**Self-esteem and individual narcissism as predictors of conspiracy beliefs.** In order to test the suppression hypothesis, we included self-esteem and individual narcissism together as predictors of conspiracy beliefs in a regression model. When the overlap between individual narcissism and self-esteem was adjusted for, the effect of narcissism on conspiracy beliefs remained positive and significant,  $B=0.41[0.23, 0.57]$ ,  $SE=0.09$ ,  $\beta=.33$ ,  $p<.001$ , while

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<sup>3</sup> Across all manuscript, square brackets include 95% bootstrapped bias-corrected confidence intervals (10,000 resamples).



the effect of self-esteem became significantly negative,  $B = -0.20 [-0.34, -0.06]$ ,  $SE = 0.07$ ,  $\beta = -0.21$ ,  $p = .01$ ;  $F(2, 199) = 10.55$ ,  $p < .001$ ,  $R^2 = .10$ .

We then tested whether the inclusion of narcissism in the regression model increased the predictive validity of self-esteem resulting in a suppression effect. We used Mplus7 (Muthén & Muthén, 1998-2012). Program defaults were used for the estimator and treatment of missing data (the same settings were used for all path analyses). Bootstrapping analysis confirmed a significant suppressing effect of narcissism, standardized estimate = .13 [0.06, 0.21],  $p < .001$ , indicating that the effect of self-esteem strengthened when narcissism was included in the model. We also tested whether inclusion of self-esteem in the model increased the predictive validity of narcissism. Bootstrapping analysis confirmed a significant suppressing effect of self-esteem, standardized estimate =  $-.09 [-.15, -.02]$ ,  $p = .01$ , indicating that the positive effect of narcissism strengthened when self-esteem was included in the model (Figure 1).

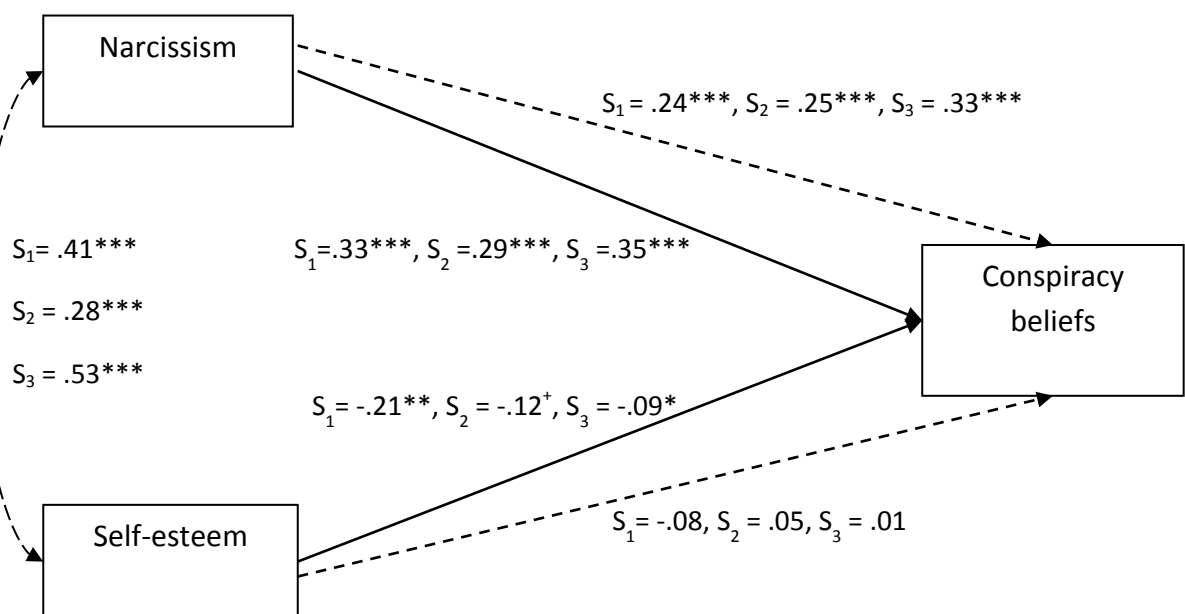


Figure 1. Individual narcissism and self-esteem predicting conspiracy beliefs across all studies. Solid lines indicate standardized regression coefficients. Dashed lines indicate bivariate correlations.  $S_1 =$  Study 1,  $S_2 =$  Study 2,  $S_3 =$  Study 3.

<sup>+</sup>  $p < .10$ . \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

## **Discussion**

The results of Study 1 provide initial support for our hypothesis that adjusting for the overlap between self-esteem and individual narcissism reveals the opposite relationships these variables have with belief in conspiracy theories. When the variance shared between these variables was accounted for, the negative relationship between self-esteem and conspiracy beliefs became significant, while the positive relationship between individual narcissism and conspiracy beliefs strengthened. Thus, only with individual narcissism partialled out did low self-esteem predict conspiracy beliefs.

## **Study 2**

In Study 2 we examined whether the effects of high individual narcissism and low self-esteem on conspiracy beliefs are mediated by paranoid thought. We expected high individual narcissism and low self-esteem to be associated with paranoia which should further foster conspiracist ideation. Moreover, because conspiracy theories often refer to malevolent actions of groups (e.g., Kofta & Sędek, 2005), we wanted to distinguish whether it is a narcissistic image of the self or the group that predicts the endorsement of conspiracy theories. Previous research has linked conspiracy beliefs to collective narcissism—belief in-group's greatness associated with a conviction that others do not appreciate the in-group enough (Golec de Zavala, Cichocka, Eidelson, & Jayawickreme, 2009).

Collective narcissism seems to foster beliefs in conspiratorial intentions of out-group members. For example, Polish national collective narcissism predicted the endorsement of conspiracy stereotypes of Jews (Golec de Zavala & Cichocka, 2012). Similarly, American collective narcissism predicted the endorsement of conspiracy theories involving foreign governments but not the American government (Cichocka, Golec de Zavala, Marchlewska, &

Olechowski, 2015). Presumably, due to their high concern with the in-group image, collective narcissists are less likely to endorse conspiracy theories involving members of their in-group.

Because individual and collective narcissism tend to be positively correlated (Golec de Zavala et al., 2009; Golec de Zavala, Cichocka, & Iskra-Golec, 2013), in Study 2 we sought to demonstrate the unique effect of individual narcissism on conspiracy beliefs over and above collective narcissism. Moreover, because individual narcissists should be less concerned with the in-group image, we expected individual narcissism to predict endorsement of conspiracy theories regardless of these theories implicating members of in-groups or out-groups.

## Method

**Participants and procedure.** We aimed to collect data from at least 275 Mturk workers located in the US. The survey was completed by 276 participants. Because Study 2 examined effects for beliefs of intergroup conspiracies, we excluded data from participants who reported the nationality they most identify with as other than American or mixed American ( $n=7$ ). The final sample included 269 participants, 144 women, 124 men (1 unknown), aged 18-79 ( $M=32.81$ ,  $SD=12.54$ ), 161 with a university degree, 196 White (non-Hispanic).

First, participants completed measures of individual and collective narcissism and self-esteem (counterbalanced)<sup>4</sup>. Afterwards, they completed a paranoid thought scale. Finally, they were randomly assigned to complete one of two versions of the conspiracy beliefs scale. In the in-group version ( $n=140$ ) they were asked to think about the American government and answer questions about belief in the government's conspiratorial actions. In the out-group

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<sup>4</sup> Study 2 included a single item measure of inclusion of the in-group in the self (Tropp & Wright, 2001). When we included this measure as a covariate in the regression analyses, the pattern of results remained similar.

version (n=129) they were asked to think about foreign governments and answer a similar set of questions but in relation to conspiratorial actions of foreign governments (see Supplement).

### **Measures.**

**Conspiracy beliefs** were measured with 11 items based on the Generic Conspiracist Beliefs Scale (Brotherton et al., 2013) used in Study 1. Participants first read instructions indicating that they will rate statements in relation to the American government or foreign governments on a scale from 1=definitely not true to 5=definitely true. Items were chosen based on whether they could apply to own versus foreign governments, e.g., “Foreign governments [the American government] use[s] people as patsies to hide involvement in criminal activity”,  $\alpha=.91$ ,  $M=2.95$ ,  $SD=0.85$ .

**Self-esteem** was measured with the single-item self-esteem measure (Robins, Hendin, & Trzesniewski, 2001). Participants indicated whether the statement “I have high self-esteem” applies to them on a scale from 1=not very true of me to 7=very true of me,  $M=4.50$ ,  $SD=1.78$ .

**Individual narcissism** was measured as in Study 1,  $\alpha=.95$ ,  $M=2.77$ ,  $SD=0.69$ .

**Collective narcissism** was measured with the 5-item Collective Narcissism Scale (Golec de Zavala, Cichocka, & Bilewicz, 2013). Participants responded to items measuring their sentiments towards their national group (e.g., “Americans deserve special treatment”) on a scale from 1=definitely disagree to 6=definitely agree,  $\alpha=.88$ ,  $M=2.58$ ,  $SD=1.17$ .

**Paranoid thought** was measured with the 20-item Paranoia Scale (Fenigstein & Vanable, 1992). Participants were asked to respond to each item (e.g., “Someone has it in for

me”) on a scale from 1=not at all applicable to me to 5=extremely applicable to me,  $\alpha=.92$ ,  $M=2.35$ ,  $SD=0.76$ .

**Results**

**Zero-order correlations.** Self-esteem and the two forms of narcissism were all significantly positively correlated (Table 1). Conspiracy beliefs were significantly positively correlated with individual and collective narcissism ( $p=.04$ ) and paranoid thought, and positively although not-significantly ( $p=.47$ ) correlated with self-esteem. Paranoid thought was significantly positively correlated with individual narcissism ( $p=.004$ ), significantly negatively with self-esteem, and marginally positively with collective narcissism ( $p=.08$ ).

Table 1

Zero-order Correlations [and 95% Confidence Intervals] between Continuous Variables (Study 2)

Measure	1	2	3	4
1. Self-esteem	-			
2. Individual narcissism	.53*** [.42, .63]	-		
3. Collective narcissism	.22*** [.08, .35]	.35*** [.24, .46]		
4. Paranoid thought	-.30** [-.41, -.18]	.18*** [.05, .30]	.11 <sup>+</sup> [-.02, .23]	-
5. Conspiracy beliefs	.05 [-.08, .17]	.25*** [.12, .37]	.13* [-.003, .25]	.37*** [.27, .47]

<sup>+</sup>  $p < .10$ . \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

**Self-esteem and individual narcissism as predictors of conspiracy beliefs.** We examined self-esteem and individual narcissism as predictors of conspiracy beliefs by including both of them in the regression analysis as predictors, adjusting for the content of conspiracies (coded -1=own, 1=foreign government[s]). The model was significant,  $F(3, 263)=7.48$ ,  $p<.001$ ,  $R^2=.08$ . When the overlap between individual narcissism and self-esteem was adjusted for, individual narcissism remained a positive predictor of conspiracy beliefs,  $B=0.35[0.18, 0.53]$ ,  $SE=0.09$ ,  $\beta=.29$ ,  $p<.001$ , while self-esteem became a negative, marginally significant, predictor of conspiracy beliefs,  $B= -0.06[-0.12, 0.01]$ ,  $SE=0.03$ ,  $\beta= -.12$ ,  $p=.09$ <sup>5</sup>. Bootstrapping analysis in MPlus7 confirmed a significant suppression effects via individual narcissism, standardized estimate=.16[.08, .24],  $p<.001$ , indicating that the effect of self-esteem strengthened when individual narcissism was included in the model. The indirect effect via self-esteem was marginally significant, standardized estimate= -.06[-0.14, 0.01],  $p=.08$ , indicating that although the positive effect of individual narcissism on conspiracy beliefs remained significant it did not strengthen significantly when self-esteem was included in the model. The pattern of results remained similar when we adjusted for collective narcissism.

We then examined whether these opposing relationships would be differentially mediated via paranoid thought. In MPlus7 we tested a path model with self-esteem and individual narcissism as predictors (both included in the model command), conspiracy beliefs as the outcome, paranoid thought as a mediator, and condition as a covariate (Figure 2).

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<sup>5</sup> When we included demographics as covariates the negative effect for self-esteem became significant,  $B= -0.07$ ,  $SE=0.04$ ,  $\beta= -.16$ ,  $p=.04$ .

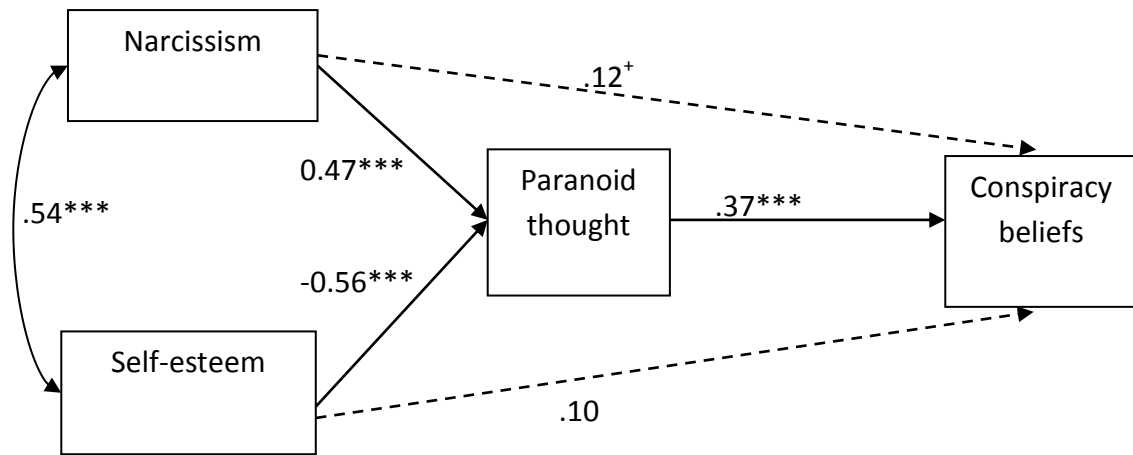


Figure 2. Indirect effect of individual narcissism and self-esteem on conspiracy beliefs via paranoid thought (Study 2). Entries are standardized coefficients. Dotted lines indicate direct effects. Paths for the covariate (scale version) are not presented in the model for simplicity.

<sup>+</sup>  $p < .10$ . \*\*\*  $p < .001$ .

Individual narcissism was a significant positive predictor of paranoia,  $B=0.51[0.38, 0.65]$ ,  $SE=0.07$ ,  $\beta=.47$ ,  $p<.001$ , which was in turn a positive predictor of conspiracy beliefs,  $B=0.42[0.28, 0.56]$ ,  $SE=0.07$ ,  $\beta=.37$ ,  $p<.001$ . Moreover, when paranoia was included as a mediator, the positive effect of individual narcissism on conspiracy beliefs became weaker and marginally significant,  $B=0.15[-0.03, 0.33]$ ,  $SE=0.09$ ,  $\beta=.12$ ,  $p=.09$ . The indirect effect of individual narcissism on conspiracy beliefs via paranoia was significant, with the standardized estimate  $=.17[.10, .25]$ ,  $p<.001$ .

Self-esteem was a significant negative predictor of paranoia,  $B= -0.24[-0.29, -0.19]$ ,  $SE=0.03$ ,  $\beta= -.56$ ,  $p<.001$ . When paranoia was included as a mediator, the effect of self-esteem on conspiracy beliefs became positive and non-significant,  $B=0.05[-0.02, 0.12]$ ,  $SE=0.04$ ,  $\beta=.10$ ,  $p=.20$ . The indirect effect of self-esteem on conspiracy beliefs via paranoia was significant and negative, with the standardized estimate  $= -0.21[-0.29, -0.13]$ ,  $p<.001$ . The

indirect effects were not conditional on the content of conspiracy theories and remained significant when we adjusted for collective narcissism.

Tests of alternative models revealed a significant, yet smaller, indirect effect of individual narcissism on paranoia via conspiracy beliefs, standardized estimate=.09[.04, .14],  $p=.001$ , and a non-significant effect of self-esteem on paranoia via conspiracy beliefs= -.03[-.07, .01],  $p=.10$ . Both the effects of paranoia on conspiracy beliefs via narcissism=.02[-.01, .05],  $p=.17$ , and via self-esteem= -.03[-.08, .02],  $p=.22$ , were non-significant.

**Individual and collective narcissism as predictors of in-group versus out-group conspiracy beliefs.** Finally, we checked whether the effects of collective and individual narcissism, as well as self-esteem on conspiracy beliefs were dependent on the conspiracy content. In a regression analysis we included the conspiracy content, collective narcissism, individual narcissism and self-esteem, and three two-way interactions of conspiracy content with the continuous predictors. The whole model was significant,  $F(7, 259)=4.31$ ,  $p<.001$ ,  $R^2=.10$ . Conspiracy content moderated only the effects of collective narcissism on conspiracy beliefs,  $B=0.11[0.01, 0.20]$ ,  $SE=0.05$ ,  $\beta=.15$ ,  $p=.02$ . Simple slopes analysis indicated that collective narcissism was positively associated with conspiracy beliefs in the out-group conspiracies condition,  $B=0.16[0.01, 0.30]$ ,  $SE=0.07$ ,  $\beta=.22$ ,  $p=.03$ , and negatively, but not significantly, in the in-group conspiracies condition,  $B= -0.06[-0.19, 0.07]$ ,  $SE=0.06$ ,  $\beta= -0.09$ ,  $p=.30$ . The interactions between individual narcissism and conspiracy content,  $B= -0.11[-0.30, 0.09]$ ,  $SE=0.09$ ,  $\beta= -.09$ ,  $p=.23$ , and between self-esteem and conspiracy content,  $B= -0.02[-0.08, 0.04]$ ,  $SE=0.03$ ,  $\beta= -.04$ ,  $p=.54$ , were non-significant<sup>6</sup>. When we adjusted for paranoid thought, the pattern of results remained the same. We also tested whether the effect

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<sup>6</sup> When individual interactions are included in the model, the interaction of collective narcissism and content is marginally significant,  $B=0.08$ ,  $SE=0.04$ ,  $\beta=.11$ ,  $p=.07$ , while the other two interactions remain non-significant, both  $\beta_s= -.06$ ,  $ps>.33$ .



of collective narcissism on conspiracy beliefs was mediated by paranoid thought but this effect was non-significant and was not conditional on the content of conspiracies.

## **Discussion**

Study 2 corroborated the results of Study 1 by demonstrating that individual narcissism suppresses the link between self-esteem and conspiracy beliefs. Self-esteem alone was not significantly correlated with conspiracy beliefs, but it became a marginally significant negative predictor of conspiracy beliefs when its overlap with individual narcissism was adjusted for. Individual narcissism was significantly positively correlated with conspiracy beliefs and this effect remained significant when we adjusted for self-esteem. Study 2 also demonstrated that paranoid thought was associated with high individual narcissism but low self-esteem. Moreover, paranoid thought differentially mediated the relationship between conspiracy beliefs and these two types of self-evaluation and these effects were larger than those of competing indirect effects models.

Finally, Study 2 revealed that individual narcissism predicted conspiracy beliefs even when adjusting for its overlap with collective narcissism. The effect of individual narcissism on the endorsement of conspiracy theories was not moderated by whether these theories involved own versus foreign governments, while collective narcissism significantly predicted only the endorsement of conspiracy theories about foreign governments (replicating previous research; Cichocka et al., 2015).

## **Study 3**

As in Study 1, in Study 2 individual narcissism was a significant predictor of conspiracy belief. However, in Study 2 the negative effect of self-esteem on conspiracy beliefs was weaker than in Study 1 and only marginally significant. We therefore sought to

replicate the suppression effect with the use of a larger sample of at least 500 participants, which should allow for detecting even small indirect effects with the use of bias-corrected bootstrapping (assuming power of .80; Fritz & MacKinnon, 2007). Moreover, we tested the robustness of our findings by implementing a different measure of conspiracy beliefs. While in Studies 1 and 2 we measured generic conspiracist ideation (Brotherton et al., 2013), in Study 3 we asked participants about specific conspiracy theories (Douglas, Sutton, Callan, Dawtry, & Harvey, in press). Finally, we examined whether the effects of narcissism and self-esteem on conspiracy beliefs can be accounted for by generalized negative opinions about people (see Abalkina-Paap et al., 1999; Douglas & Stutton, 2011)<sup>7</sup>. Hence, we included a measure of humanity esteem (Luke & Maio, 2009), which captures “a general favorable or unfavorable evaluation of humanity” (p. 592).

## Method

**Participants and procedure.** We aimed to collect data from 510 Mturk workers located in the US. The survey was completed by 516 participants, 310 women, 206 men, aged 18-75 ( $M=35.32$ ,  $SD=13.10$ ), 387 White (non-Hispanic). Participants filled out measures of self-esteem, individual narcissism, conspiracy beliefs and humanity esteem (counterbalanced).<sup>8</sup>

### Measures.

**Conspiracy beliefs** were measured with a 7-item Conspiracist Beliefs Scale (Douglas et al., in press). Participants were asked to what extent they agree with a series of statements about well-known conspiracy theories, e.g., “The American moon landings were faked.” on a scale from 1=strongly disagree to 7=strongly agree,  $\alpha=.82$ ,  $M=2.47$ ,  $SD=1.20$ .

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<sup>7</sup> We are grateful to an anonymous Reviewer for this suggestion.

<sup>8</sup> Study 3 also included measures of ideology and prejudice for purposes of a different project.

**Self-esteem** was measured as in Study 1,  $\alpha=.93$ ,  $M= 3.79$ ,  $SD=0.92$ .

**Individual narcissism** was measured with the Narcissistic Personality Inventory (Raskin & Hall, 1979). Participants were presented with 40 pairs of diagnostic and non-diagnostic items and were asked to choose the ones that describe them best,  $\alpha=.88$ ,  $M=.30$ ,  $SD=.19$ .

**Humanity esteem** was measured with the 10-item Humanity-Esteem Scale (e.g., “I take a positive attitude toward humanity”; Luke & Maio, 2009). Participants indicated to what extent they agree with the statements on a scale from 1=strongly disagree to 7=strongly agree,  $\alpha=.88$ ,  $M=5.17$ ,  $SD=1.07$ .

**Results**

**Zero-order correlations.** Self-esteem was significantly positively correlated with individual narcissism and humanity esteem. Humanity esteem was unrelated to narcissism,  $p=.68$ . Conspiracy beliefs were significantly positively correlated with individual narcissism and not significantly with self-esteem,  $p=.78$ . Conspiracy beliefs were significantly negatively correlated with humanity esteem (Table 2).

Table 2

Zero-order Correlations [and 95% Confidence Intervals] between Continuous Variables (Study 3)

	1	2	3
1. Self-esteem	-		
2. Individual narcissism	.28***	-	

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		[.20, .36]	
3. Humanity esteem	.47***	-.02	-
	[.39, .54]	[-.11, .08]	
4. Conspiracy beliefs	.01	.33***	-.18***
	[-.07, .09]	[.25, .40]	[-.26, -.10]

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\*\*\* p < .001.

**Self-esteem and individual narcissism as predictors of conspiracy beliefs.** We first tested for a suppression effect. When the overlap between individual narcissism and self-esteem was adjusted for, the effect of individual narcissism on conspiracy beliefs remained positive and significant,  $B=2.24[1.68, 2.84]$ ,  $SE=0.28$ ,  $\beta=.35$ ,  $p<.001$ , while the effect of self-esteem became significantly negative,  $B= -0.11[-0.22, -0.01]$ ,  $SE=0.06$ ,  $\beta= -.09$ ,  $p=.049$ ;  $F(2, 513)=32.78$ ,  $p<.001$ ,  $R^2=.11$ . Bootstrapping analysis confirmed a significant suppressing effect of individual narcissism, standardized estimate=.10[0.06, 0.13],  $p<.001$ , indicating that the effect of self-esteem strengthened when narcissism was included in the model. Bootstrapping analysis also confirmed a significant suppressing effect of self-esteem, standardized estimate= -.02[-0.05, -0.001],  $p=.045$ , indicating that the positive effect of narcissism strengthened when self-esteem was included in the model.

We then examined whether these opposing relationships are accounted for by humanity esteem by testing a path model in Mplus7 with self-esteem and individual narcissism as predictors (included in the model command), conspiracy beliefs as the outcome, and examining the indirect effect of humanity esteem. Individual narcissism was a significant negative predictor of humanity esteem,  $B= -0.92[-1.41, -0.46]$ ,  $SE=0.24$ ,  $\beta= -.16$ ,  $p<.001$ , which was a negative predictor of conspiracy beliefs,  $B= -0.20[-0.31, -0.09]$ ,  $SE=0.06$ ,  $\beta= -$

.18,  $p < .001$ . When humanity esteem was included in the model, the effect of individual narcissism on conspiracy beliefs remained significant,  $B = 2.06[1.47, 2.63]$ ,  $SE = 0.30$ ,  $\beta = .32$ ,  $p < .001$  and the indirect effect of individual narcissism on conspiracy beliefs via humanity esteem was significant, standardized estimate =  $.03[.01, .05]$ ,  $p = .01$ .

Self-esteem was a significant positive predictor of humanity esteem,  $B = 0.60[0.50, 0.69]$ ,  $SE = 0.05$ ,  $\beta = .51$ ,  $p < .001$ . When humanity esteem was included in the model, the effect of self-esteem on conspiracy beliefs became non-significant,  $B = 0.01[-0.12, 0.13]$ ,  $SE = 0.06$ ,  $\beta = .004$ ,  $p = .93$ . The indirect effect of self-esteem on conspiracy beliefs via paranoid thought was significant and negative, standardized estimate =  $-0.09[-0.14, -0.04]$ ,  $p < .001$ .

Tests of alternative models revealed a significant indirect effect of individual narcissism on humanity esteem via conspiracy beliefs =  $-.05[-.09, -.02]$ ,  $p = .001$  and a marginally significant effect of self-esteem on humanity esteem via conspiracy beliefs =  $.01[-.001, .03]$ ,  $p = .07$ . Both the effects of humanity esteem on conspiracy beliefs via narcissism =  $-.01[-.04, .02]$ ,  $p = .71$ , and via self-esteem =  $.002[-.04, .05]$ ,  $p = .93$ , were non-significant.

## **Discussion**

In Study 3 self-esteem and individual narcissism acted as mutual suppressors in predicting conspiracy beliefs. When we adjusted for their overlap, the positive effect of narcissism strengthened, and the non-significant effect of self-esteem became significantly negative. Moreover, when we accounted for the effects of humanity esteem, the effect of narcissism on conspiracy decreased slightly but remained significant, while the effect of self-esteem became non-significant and close to zero. This suggests that the effect of low self-esteem on conspiracy beliefs can be largely attributed to the fact that low self-esteem predicts negative perceptions of humanity more broadly.

### General Discussion

Results of three studies demonstrated that the endorsement of conspiracy theories is positively associated with individual narcissism. Individual narcissism was a robust predictor of general conspiracy ideation (Studies 1 and 2) as well as of beliefs in several specific conspiracy theories (Study 3). In Study 2 individual narcissism predicted the endorsement of conspiracy theories regardless of these theories implicating in-group or out-group members. This effect remained significant even when we accounted for collective narcissism—another variable frequently linked to the endorsement of conspiracy theories (Cichocka et al., 2015). Moreover, Study 3 demonstrated that individual narcissism remained a significant predictor of conspiracy beliefs when we accounted for general negativity towards humanity. We suggest that individual narcissists might be especially prone to believe in conspiracy theories due to their elevated self-consciousness connected with exaggerated feelings of being in the centre of others' attention (Emmons, 1987; Tracy & Robins, 2004) and perceiving others' behaviour as intentionally targeted against them (Fenigstein & Venable, 1992). Such perceptions are linked to higher degrees of paranoid thoughts which, in turn, foster proneness for conspiracy beliefs (Grzesiak-Feldman, 2015; Kramer, 1998). Indeed, Study 2 demonstrated that the effect of individual narcissism on conspiracy beliefs was driven by paranoid thought.

In all studies self-esteem alone was not significantly correlated with belief in conspiracy theories. Nevertheless, when the overlap between individual narcissism and self-esteem was accounted for, self-esteem became a significant or marginally significant negative predictor of conspiracy beliefs. This suggests that conspiracy beliefs are negatively associated with secure self-esteem (i.e., self-evaluation without the narcissistic component; Paulhus et al., 2004). However, across all studies this effect was weaker than that of narcissism and became close to zero once we accounted for the relationship between low self-esteem and

negativity towards humanity (Study 3). Overall, these results shed light on why previous research might have yielded inconsistent results pertaining to the link between self-evaluation and conspiracy beliefs (Abalkina-Paap et al., 1999; Crocker et al., 1999; Stieger et al., 2013; Swami, 2012). The current findings challenge the assumption that conspiracy theories are endorsed only by those who lack confidence (Abalakina-Paap et al., 1999; Goertzel, 1994). Rather, our results suggest that conspiracy beliefs might be associated with self-promotional personality characteristics, such as individual narcissism.

Of course, as our studies were correlational, they do not allow us to establish causal relationships between the variables. There are reasons to believe that narcissism and self-esteem are basic personality predispositions predicting the more malleable conspiracy beliefs and we hope that the current research offers at least preliminary indication of the psychological mechanism that drives these connections. Nevertheless, it is also possible that these predispositions affect each other in a dynamic system (Cunningham, Nezlek, & Banaji, 2004). Further research would do well to examine the causal pathways of the proposed mediation model as well as to investigate the consequences exposure to conspiracy theories might have for the individual self-concept.

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