

Supplementary Materials

S1. How do alternative models perform in which hope for success and fear of failure act as mediators for the effects of the narcissism facets on the forms of dispositional envy?**(Study 1)**

To investigate this question, we first specified a model in which we included the indirect effects from narcissistic admiration via hope for success to dispositional benign envy and from narcissistic rivalry via fear of failure to dispositional malicious envy. We allowed for covariances between narcissistic admiration and rivalry and between the error terms of hope for success and fear of failure as well as between the error terms of dispositional benign and malicious envy. This initial model did not fit the data well, $\chi^2(8) = 207.22$, $p < .001$, $CFI = .37$, and $RMSEA = .35$ CI 95% [.31; .392], and not better than the initial model in the manuscript, $AIC_{\text{original}} = 66.73$, $AIC_{\text{alternative}} = 233.22$. In parallel to the original analysis in the manuscript, we added four paths. First, we added direct effects of the narcissism facets on the respective dispositional envy forms as the mediation might just be partial. In addition, we added the theoretical meaningful paths from hope for success to dispositional malicious envy and from fear of failure to dispositional benign envy. The model fit was still unacceptable, $\chi^2(4) = 35.93$, $p < .001$, $CFI = .90$, and $RMSEA = .198$ CI 95% [.142; .26], and not better than the fit of the corresponding final model in the manuscript, $AIC_{\text{original}} = 41.73$, $AIC_{\text{alternative}} = 69.93$. As a last change, we tested another model in which we additionally included paths from narcissistic admiration to dispositional malicious envy and from narcissistic rivalry to dispositional benign envy, although we are not predicting such paths. Still, the model fit was unacceptable, $\chi^2(2) = 30.85$, $p < .001$, $CFI = .91$, and $RMSEA = .267$ CI 95% [.189; .353], and not better than the fit of the corresponding original model, $AIC_{\text{original}} = 40.65$, $AIC_{\text{alternative}} = 68.85$. Thus, the alternative model, in which motivational inclinations mediate the effect of

narcissism on envy, did never provide better fit to the data than the predicted model in which motivational inclinations precede the effect of narcissism on envy.

S2. How do alternative models perform in which the forms of envy are used to predict the facets of narcissism? (Studies 1, 4, and 5)

To investigate the question for Study 1, we defined an initial model with indirect effects of hope for success via dispositional benign envy to narcissistic admiration and from fear of failure via dispositional malicious envy to narcissistic rivalry. Again, hope for success and fear of failure were allowed to covary as were the error terms of dispositional benign and malicious envy as well as the error terms of narcissistic admiration and rivalry. The model fit was insufficient, $\chi^2(8) = 48.01, p < .001, CFI = .87,$ and $RMSEA = .157$ CI 95% [.116; .201], and not better than the model fit of the initial model with the predicted sequence in the manuscript, $AIC_{\text{original}} = 66.73, AIC_{\text{alternative}} = 74.01.$ We then added the direct effects of hope for success and fear of failure on narcissistic admiration and rivalry, respectively, as well as the paths from hope for success to dispositional malicious envy and fear of failure to dispositional benign envy similar to the actual analysis in the manuscript. The model fit was still insufficient, $\chi^2(4) = 26.23, p < .001, CFI = .93,$ and $RMSEA = .166$ CI 95% [.109; .229] and not better than the model fit for the corresponding model in the manuscript, $AIC_{\text{original}} = 41.73, AIC_{\text{alternative}} = 60.32.$ Finally, we tested a model in which we added paths from dispositional benign envy to narcissistic rivalry and from dispositional malicious envy to narcissistic admiration, equivalent to the logic of testing unpredicted cross paths from the narcissism facets to the envy forms (which produced a non-significant improvement in model fit for the main analysis). Still, the model fit was insufficient, $\chi^2(2) = 8.35, p = .02, CFI = .98,$ and $RMSEA = .125$ CI 95% [.047; .218], and not better than the fit of the corresponding model with the predicted sequence, $AIC_{\text{original}} = 40.65, AIC_{\text{alternative}} = 46.35.$

In Study 4, we defined an initial model with indirect effects of benign envy via personal control to narcissistic admiration and from malicious envy via deservingness to narcissistic rivalry. Again, benign and malicious envy were free to covary as were the error terms of personal control and deservingness as well as the error terms of narcissistic admiration and rivalry. The model fit was insufficient, $\chi^2(8) = 63.77$, $p < .001$, $CFI = .82$, and $RMSEA = .173$ CI 95% [.135; .214], and not better than the model fit of the initial model with the predicted sequence in the manuscript, $AIC_{\text{original}} = 85.22$, $AIC_{\text{alternative}} = 89.77$. We then added the direct effects of benign and malicious envy on narcissistic admiration and rivalry, respectively, as well as the paths from benign envy to deservingness and malicious envy to personal control similar to the actual analysis in the manuscript. This model showed good fit to the data, $\chi^2(4) = 4.89$, $p = .30$, $CFI = 1.00$, and $RMSEA = .031$ CI 95% [.000; .108], yet, the fit was not better than the fit of the model with the predicted sequence, $AIC_{\text{original}} = 35.59$, $AIC_{\text{alternative}} = 38.89$.

In Study 5, we tested an initial actor partner interdependence model including the indirect effects of dispositional benign envy via narcissistic admiration to social potency and dispositional malicious envy via narcissistic rivalry to social conflict. As discussed in the manuscript, we also added paths from dispositional benign envy to social conflict and from narcissistic rivalry to social potency. The covariances were added for the respective indicators. We specified the model for indistinguishable partners by setting each mean, intercept, (co)variance, and path of partner 1 equal to the corresponding mean, intercept, (co)variance, and path of partner 2. The initial model for self-rated social outcomes had an acceptable fit, $\chi^2(54) = 110.42$, $p < .001$, $CFI = .92$, and $RMSEA = .07$ CI 95% [.051; .089.] that was better than the initial model tested in the manuscript, $AIC_{\text{original}} = 337.06$, $AIC_{\text{alternative}} = 182.42$. As the model fit was still not optimal, we added the direct effects of dispositional benign and malicious envy on self-rated social potency and conflict, respectively, as well as the corresponding partner effects. This corresponds to the logic of the final model in the

manuscript for self-rated social outcomes. This model showed good fit to the data, $\chi^2(50) = 71.39$, $p = .03$, $CFI = .97$, and $RMSEA = .045$ CI 95% [.017; .067], yet, the fit was not better than the fit of the original model with the predicted sequence, $AIC_{\text{original}} = 150.20$, $AIC_{\text{alternative}} = 151.39$. For the model with peer-rated social outcomes we added the partner effects from dispositional benign and malicious envy to social potency and conflict, respectively, for the same reasons as for the main analysis in the manuscript. The model for peer-rated social outcomes showed good fit to the data, $\chi^2(52) = 78.75$, $p = .01$, $CFI = .94$, and $RMSEA = .049$ CI 95% [.025; .071], yet, the fit was not better than the fit of the original model with the predicted sequence, $AIC_{\text{original}} = 151.04$, $AIC_{\text{alternative}} = 154.75$.

In summary, reversing the order of narcissism and envy in the models did never produce better fit for the final models.

S3. Are some of the results based on semantic item overlap between scale components or contestable items?

As theorized in the introduction, the facets of grandiose narcissism and the forms of envy are systematically related as they can—on a theoretical level—be tied to the same broad pathways to social status. Nevertheless, these theoretical commonalities also results in a potential criticism because the measures that have been developed independently in the two research areas partly contain semantic overlap. Thus, relationships between those measures might be attributed, more trivially, to high semantic correspondence of the measures. In the present work, this criticism is most plausible for the overlap between the malicious envy measures and the items of the supremacy facet of narcissistic rivalry as measured by the NARC. Indeed, supremacy items such as “I want my rivals to fail” are very close to how malicious envy has been conceptualized and operationalized in this and previous research.

To address this question, we repeated the analyses contained in the manuscript excluding the supremacy facet from the narcissistic rivalry scale. Specifically, in Study 1, the

zero-order correlation between narcissistic rivalry and dispositional malicious envy was slightly smaller, $r(204) = .63, p < .001$, yet, not significantly so, $z = 1.46, p = .14$. The model fit of the final model we tested was good, $\chi^2(4) = 4.58, p = .33, CFI = 1.00$, and $RMSEA = .027$ CI 95% [.000; .112]. All paths and indirect effects had the same level of significance. In Study 2, the zero-order correlation between narcissistic rivalry and malicious envy was $r(155) = .25, p < .002$, which was too, not significantly smaller than the correlation reported in the manuscript, $z = 0.38, p = .70$. In a regression of benign envy on narcissistic admiration and rivalry, the latter was still not a significant predictor, $p = .97$, whereas in a regression of malicious envy on both narcissism facets, narcissistic rivalry continued to relate to malicious envy, $B = 0.43, SE = 0.15, p = .01$. In Study 3, the zero-order correlation between narcissistic rivalry and malicious envy was entirely unchanged, $r(208) = .52, p < .002$. In a regression of benign envy on narcissistic admiration and rivalry, the latter became a significant *negative* predictor, $B = -0.28, SE = 0.11, p = .01$, whereas in a regression of malicious envy on both narcissism facets, narcissistic rivalry correlated only with malicious envy, $B = 0.65, SE = 0.08, p < .001$. In Study 4, the zero-order correlation between narcissistic rivalry and malicious envy was $r(234) = .39, p < .001$, which is slightly weaker, yet, not significantly so, $z = 0.65, p = .52$. The model fit of the final model we tested was good, $\chi^2(4) = 1.81, p = .77, CFI = 1.00$, and $RMSEA = .000$ CI 95% [.000; .067]. All paths and indirect effects had the same level of significance. In Study 5, the zero-order correlation between narcissistic rivalry and dispositional malicious envy for partner 1 was $r(212) = .64, p < .001$, and for partner 2 $r(212) = .59, p < .001$, not significantly lower, $z_1 = 0.54, p = .59$, and $z_2 = 0.16, p = .87$. The model fit of the final model we tested for self-rated social outcomes was $\chi^2(50) = 70.81, p = .03, CFI = .97$, and $RMSEA = .044$ CI 95% [.015; .067]. All paths and indirect effects had the same level of significance. The model fit of the final model we tested for peer-rated social outcomes was $\chi^2(52) = 69.37, p = .05, CFI = .96$, and $RMSEA = .04$ CI 95% [.000; .063]. All paths and indirect effects had the same level of significance. In summary, excluding the

supremacy facet from narcissistic rivalry had no substantial effects on the relationship between narcissistic rivalry and malicious envy.

Another set of potential criticisms concerns items of the state benign envy scales we used in Studies 2, 3 and 4. A first criticism might be that these scales included items that refer to admiration and positive regard toward the envied person. These items are based on previous research which has suggested that benign envy (relative to malicious envy) entails a certain element of admiration and the view that the envied person is a role model (Crusius & Lange, 2014; Lange & Crusius, 2015; Van de Ven, Zeelenberg, & Pieters, 2009). Nevertheless, pure (envy-free) admiration is a distinct emotion, for example in that it has positive valence (Schindler, Zink, Windrich, & Menninghaus, 2013; Van de Ven et al., 2009; Van de Ven, Zeelenberg, & Pieters, 2011a), which is why the inclusion of these items might be contested. Another criticism concerns the item “I desired X” in Studies 2 and 4. The item is based on previous research showing that benign envy is associated with increased desire and motivation to achieve the better outcome of the other person (Crusius & Lange, 2014; Crusius & Mussweiler, 2012; Van de Ven et al., 2009; Van de Ven, Zeelenberg, & Pieters, 2011b). Nevertheless, desire might also be seen as a precondition for envy.

Thus, in another set of analyses we excluded items from state benign envy measures that refer to a positive regard toward the other person or may also be interpreted as reflecting a precondition for envy. In Study 2, this led to the exclusion of five items, namely “I admired the person”, “I liked the person”, and “I want to be like the person” for overlap with admiration and “I wished to also have X” and “I desired X” for general preconditions of envy. The zero-order correlation between narcissistic admiration and benign envy was almost unchanged and even slightly higher, $r(155) = .21$, $p = .01$, yet, not significantly so, $z = -0.36$, $p = .72$. Similarly, in a regression of benign envy on narcissistic admiration and rivalry, the relationship between narcissistic admiration and benign envy was still significant, $B = 0.29$,

$SE = 0.13, p = .02$, while the correlation with narcissistic rivalry was negligible, $B = 0.09, SE = 0.13, p = .49$. In Study 3, this led to the exclusion of one item, namely “I want to be like Alex”. The zero-order correlation between narcissistic admiration and benign envy was almost unchanged and still significant, $r(208) = .25, p < .001, z = -0.11, p = .91$. Similarly, in a regression of benign envy on narcissistic admiration and rivalry, the relationship between narcissistic admiration and benign envy became even stronger in size, $B = 0.41, SE = 0.10, p < .001$, while the correlation with narcissistic rivalry was not significant and, if anything, negative, $B = -0.18, SE = 0.11, p = .12$. In Study 4, this led to the exclusion of the same items as in Study 2. Although the zero-order correlation between narcissistic admiration and benign envy was not significant with all items included, as reported in the manuscript, the correlation without the critical items was significant, $r(234) = .20, p = .003$, which was, however, not a significant increase in size, $z = -1.32, p = .19$. In the structural equation model, the model fit of the final model was still excellent, $\chi^2(4) = 1.07, p = .90, CFI = 1.00$, and $RMSEA = .000$ CI 95% [.000; .043] and the indirect effect of narcissistic admiration via personal control to benign envy had the same level of significance. The direct effect of narcissistic admiration on benign envy was not significant, $B = -0.01, SE = 0.09, p = .89$, as it was in the main analysis in the manuscript. Overall, eliminating the items that might have overlap with admiration or refer to preconditions for envy from the state benign envy scales did not have any effect on the conclusions that can be drawn from the analyses.

Table S1

Items measuring benign envy, malicious envy, intensity of negative affect, and deservingness in Study 2

Scale	Items
Benign Envy	<p>Ich wollte mich mehr anstrengen, um X auch zu erreichen. (I tried harder to also obtain X.)</p> <p>Ich fühlte mich inspiriert, X auch zu erreichen. (I felt inspired to also obtain X.)</p> <p>Ich habe mir gewünscht, X auch zu haben. (I wished to also have X.)</p> <p>Ich habe X begehrt. (I desired X.)</p> <p>Ich habe die Person bewundert. (I admired the person.)</p> <p>Ich fand die Person sympathisch. (I liked the person.)</p> <p>Ich wollte wie die Person sein. (I wanted to be like the person.)</p> <p>Ich habe die Person um X beneidet. (I felt [benign] envy towards the person because of X.)</p>
Malicious Envy	<p>Ich habe Kälte gegenüber der Person gefühlt. (I felt cold towards the person.)</p> <p>Ich habe mir gewünscht, dass die Person bei einer anderen Sache scheitert. (I wished that the person would fail at something.)</p> <p>Ich hätte X am liebsten beschädigt. (I would have liked to damage X.)</p> <p>Ich hätte der Person am liebsten weh getan. (I would have liked to hurt the person.)</p> <p>Ich habe der Person X missgönnt. (I felt [malicious] envy towards the person because of X.)</p> <p>Ich habe mir gewünscht, dass die Person X nicht mehr hat. (I wished that the person would no longer have X.)</p> <p>Ich hätte der Person gern X weggenommen. (I would have liked to take X away from the person.)</p> <p>Ich hatte negative Gedanken gegenüber der Person. (I had negative thoughts about the person.)</p>
Intensity of Negative Affect	<p>Es hat weh getan, X nicht zu haben. (It hurt not to have X.)</p> <p>Dass die Person X hatte und ich nicht, hat eine intensive negative Emotion bei mir ausgelöst. (That the person had X and I lacked it, elicited strong negative feelings in me.)</p> <p>Es war frustrierend, dass ich X nicht hatte. (It felt frustrating that I did not have X.)</p>
Deservingness	<p>Die Person hatte X nicht verdient. (The person didn't deserve X.) (r)</p> <p>Es fühlte sich ungerecht an, dass die Person über X verfügte, und ich nicht. (It felt undeserved that the person had X and I hadn't.) (r)</p> <p>Dass sich die Person im Besitz von X befand, fühlte sich unfair an. (That the person was in possession of X felt unfair.) (r)</p>

Note. Answers were given on scales from 1 (*does not apply at all*) to 7 (*applies very much*). Items marked with an r are reversed coded.

Table S2

Items measuring benign envy, malicious envy, intensity of negative affect, and deservingness, in Study 3

Scale	Items
Benign Envy	Alex's success inspires me to put more effort in earning a higher wage on mTurk. I feel more motivated to be as successful as Alex. Alex's success encourages me. I want to be like Alex.
Malicious Envy	I wish that Alex would fail at something. I would like to take the success away from Alex. I have negative thoughts about Alex. I do not find Alex likable.
Intensity of Negative Affect	I am dissatisfied because I make less money than Alex. It feels bad to be less successful than Alex. It frustrates me that I don't earn as much as Alex.
Deservingness	Alex does not deserve to be so successful. (r) It feels unfair that Alex earns that much money. (r) It feels undeserved that Alex earns that much money and I do not. (r)

Note. Answers were given on scales from 1 (*does not apply at all*) to 7 (*applies very much*). Items marked with an r are reversed coded.

Table S3

Items measuring benign envy, malicious envy, intensity of negative affect, deservingness, and personal control in Study 4

Scale	Items
Benign Envy	I tried harder to also obtain X. I felt inspired to also obtain X. I wished to also have X. I desired X. I admired the Person. I liked the Person. I wanted to be like the Person.
Malicious Envy	I felt cold towards the Person. I wished that the Person would fail at something. I would have liked to damage X. I would have liked to hurt the Person. I wished that the Person would no longer have X. I would have liked to take X away from the Person. I had negative thoughts about the Person.
Intensity of Negative Affect	It hurt not to have X. That the Person had X and I lacked it elicited strong negative feelings in me. It felt frustrating that I did not have X.
Deservingness	The Person didn't deserve X. (r) It felt undeserved that the Person had X and I hadn't. (r) That the Person was in possession of X felt unfair.
Personal Control	I experienced control over my possible actions to improve my own outcome. I felt a sense of control about attaining X in the future. I felt that I was able to attain X.

Note. Answers were given on scales from 1 (*does not apply at all*) to 7 (*applies very much*). Items marked with an r are reversed coded.

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