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ARTICLE



Narcissism and social motives: Successful pursuit of egosystem goals boosts narcissism

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ABSTRACT

We investigated the links between grandiose narcissism (agentic and communal) and social motives (social egosystem vs. social ecosystem). In Study 1, agentic narcissism was positively associated with egosystem (self-serving) motives, and was negatively associated with ecosystem (prosocial) motives, as assessed by explicit and more behavioral means. The pattern for communal narcissism was more complex, depending on mode of assessment. Striving for egosystem (vs. ecosystem) goals interacted with longitudinal goal-attainment to predict increases in agentic narcissism over 30 days. Study 2 replicated this interaction pattern in a longitudinal experiment, which randomly assigned participants to pursue either ego-system or ecosystem goals during one semester. We conclude that grandiose narcissism is associated with social goals that can maintain or even further augment narcissism.



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Grandiose narcissism is a personality trait characterized by excessive self-concern, conceitedness, and callousness (Roberts, Woodman, & Sedikides, 2018; Thomaes, Brummelman, & Sedikides, 2018). People high on the narcissism continuum crave attention and admiration, seeking persistent validation of their belief that they are special and unique (Buffardi & Campbell, 2008). They fantasize about power, status, and social recognition (Jones, 2007), and choose relational partners who offer them admiration over partners who offer them intimacy (Campbell, 1999). They hold others in low regard, even their friends and confidants (Park & Colvin, 2015), and are poor mentors within organizational contexts (Allen et al., 2009). Also, they are low on the social emotions of empathy, shame, and guilt (Hart, Hepper, & Sedikides, 2018; Leunissen, Sedikides, & Wildschut, 2017; Sedikides, Ntoumanis, & Sheldon, 2019), and come across as argumentative and antagonistic (Sedikides & Campbell, 2017). Grandiose narcissism has typically been assessed with the Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988) or its variants (e.g. Gentile et al., 2013).

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 Supplemental data for this article can be accessed [here](#).

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Agentic narcissism, communal narcissism, and social motives

Recently, the agency-communion model of grandiose narcissism has postulated two forms of grandiose narcissism: agentic and communal (Gebauer & Sedikides, 2018a; Gebauer, Sedikides, Verplanken, & Maio, 2012). Agentic narcissists have exaggerated views of those characteristics that are relevant to agency, such as intelligence, aptitude, creativity, and achievements, which they use to rationalize their importance and entitlement. Communal narcissists have exalted views of those characteristics that are relevant to communion, such as nurturance, empathy, caring, and helpfulness, which they also use to rationalize their importance and entitlement (Giacomin & Jordan, 2015). It is as if communal narcissists realize that self-focused grandiosity is unattractive and perhaps immoral, and thus they satisfy their grandiosity needs by convincing themselves that they are more prosocial and other-centered than they really are (Gebauer & Sedikides, 2018b).

The above literature review makes clear that narcissistic propensities, of both the agentic and communal forms, involve particular patterns of social motivation. Specifically, narcissists' needs to believe that they are special and unique likely conduce them to pursue social goals which are different from, or more extreme than, the goals of their less narcissistic counterparts. The primary aim of the current research was to improve understanding of such social-motivational differences. What are agentic and communal narcissists actually striving to do in the social world?

Concurrent relations of narcissism, egosystem motivation, and ecosystem motivation

To answer this question, we studied two basic types of social motive systems: egosystem and ecosystem. Crocker and Canevello (2017) argued that all individuals can draw from both motivational systems, although individuals differ in the relative balance or activation level of the two systems. The egosystem motive prompts self-interested, self-centered, and egoistic goals or behaviors. In contrast, the ecosystem motive prompts other-interested, other-centered, and altruistic goals or behaviors (Crocker & Canevello, 2015). Egosystem motives reflect a zero-sum orientation, and the belief that satisfaction of one's own needs must typically come at the expense of others' needs. Such motives prompt the adoption of goals concerning social image, in which the person tries to get others to view them as having desirable qualities (and as not having undesirable qualities; Crocker, 2011). In contrast, ecosystem motives reflect a non-zero sum orientation, with a recognition that benefits given to others will flow back to the self. Such motives prompt the adoption of more compassionate goals, involving understanding and appreciating of others.

Our first hypothesis was that there would be positive associations between both forms of grandiose narcissism and egosystem motivation. We based this hypothesis on the thematic similarity between the two corresponding conceptual frameworks. Grandiose narcissism (of both agentic and communal forms) involves beliefs in the self's superiority and deservingness – beliefs that are consistent with and likely expressed by self, image, and non-compassionate egosystem goals (Crocker & Canevello, 2017). Also, narcissists' desire to receive continual admiration and validation from others mirrors closely the egosystem tendency to gain recognition and validation from relationship partners

(Crocker & Canevello, 2017). To the best of our knowledge, this is the first time the topics of narcissism in personality and of egosystem versus ecosystem focus in social motives have been combined within a single study.

Although there are important differences between agentic and communal narcissism, as discussed above, our first study hypothesis assumed that the same basic dynamics are at play in both. That is, the hypothesis applies to both forms of narcissism. Still, we were open to the possibility that the pattern might manifest somewhat differently for the two constructs, given communal narcissists' apparent greater sensitivity regarding how they are perceived. For this reason, we assessed egosystem and ecosystem motivations in several ways, ranging from direct self-report to more behavioral indices.

In addition to exploring the concurrent relations between narcissism and social goals, we were also interested in the prospective relationships between them. Might pursuing and achieving egocentric or ecocentric goals affect peoples' levels of narcissism? Hudson and Fraley (2015, 2016) found that short-term goals provoke changes in levels of related personality traits. Also, Sheldon, Ryan, Rawsthorne, and Ilardi (1997) showed that traits can fluctuate over short periods of time as a function of various motivational processes (see also Fleeson, 2001). Herein, we suggest that narcissism prompts adoption of short-term social motives that can function to bring about greater levels of narcissism, helping to explain how high levels of narcissism can persist or become even higher, despite narcissists being an irritant to others (Sedikides & Campbell, 2017).

To address this possibility, we included a longitudinal goal-pursuit element within both of our studies. Goals are an appropriate candidates for such an analysis, because they naturally occupy peoples' minds (Austin & Vancouver, 1996; Emmons, 1989; Sheldon, 2014), expressing and regulating their motivation, and precipitating life changes over time (Little, 2011; Ntoumanis et al., 2014). A typical outcome of successful goal pursuit is boosted well-being and mental health (Brunstein, 1993; Ntoumanis & Sedikides, 2018; Sheldon, 2014), in addition to the specific changes brought about by the attainment of specific goals. Our second Study 1 hypothesis was that participants who achieve egosystem goals will arrive at a different outcome, namely, elevated narcissism. Again, such a finding might help researchers understand how narcissism reinforces or even augments itself through the types of social goals that narcissists pursue. In Study 1 we also intended to examine potential differences in the patterns for agentic and communal narcissism, making no specific predictions.

Study 1

In Study 1 we tested our two hypotheses via a 30 day, two-wave study of narcissism and social goals. We examined the concurrent associations of agentic and communal narcissism with various measures of egosystem and ecosystem motivation, and then tested the effects of attaining goals of various types upon changes in narcissism.

Method

Participants and procedure

Participants were University of Missouri introductory psychology students (median age = 19 years, range = 18–24 years; 82% White, 7% African-American, 4% Asian-

American, 3% Hispanic, 4% other) fulfilling a course option. Using G*Power software, we targeted an effect size of .80 and discovered that we needed 115 participants at T2 to detect the critical longitudinal interaction, assuming a small to medium effect size f -squared of .07. One hundred and eighty two participants (131 women, 49 men, 2 “other”) supplied completed data for the T1 survey, and 123 of the T1 participants completed the T2 survey (94 women, 29 men). Attrition t -tests showed that drop-outs differed from retained participants on only one of the eight Study 1 variables, agentic narcissism at T1 ($M_s = 3.02$ vs. 2.85 , $t[180] = 2.047$, $p = .042$). However, this issue should not matter for the hierarchical longitudinal change analyses, which control for baseline. Although we tested T1 hypotheses with the full sample of 182, the pattern of results is the same if we restrict the sample to the T2 123 participants. We also explored gender differences. Despite a few interpretable main effects of gender upon some of the study variables, no consistent interaction patterns involving gender emerged. We present the relevant mean differences in Online Supplement.

Measures

Agentic narcissism

We measured agentic narcissism with the forced-choice NPI-13 (Gentile et al., 2013). The NPI-13 is modeled after the original 40-item Narcissistic Personality Inventory (Raskin & Terry, 1988). Each NPI-13 item invites participants to choose between two statements, a narcissistic one (e.g. “I like having authority over other people”) and a non-narcissistic one (e.g. “I don’t mind following orders”). The sum of narcissistic statements chosen constitutes the total score. Participants completed the NPI-13 both at T1 (Cronbach’s $\alpha = .79$) and T2 (Cronbach’s $\alpha = .81$).

Communal narcissism

We measured communal narcissism with the 16-item Communal Narcissism Inventory (CNI; Gebauer et al., 2012). Sample items include “I am the most helpful person I know” and “I am going to bring peace and justice to the world.” Participants completed the CNI both at T1 (Cronbach’s $\alpha = .88$) and T2 (Cronbach’s $\alpha = .90$).

Egosystem versus ecosystem motivation

We measured egosystem versus ecosystem motivation in three ways. First, we used the 13-item Compassionate and Self-Image Goals Scale (Crocker & Canevello, 2008), which is presumed to reflect the two primary types of goals associated with egosystem and ecosystem motivations. Participants read “in my life, I generally try to” and then rated the 13 items on a 1 (*strongly disagree*) to 3 (*neutral*) to 5 (*strongly agree*) scale. A sample egosystem item is “get others to recognize or acknowledge my positive qualities,” and a sample ecosystem goal is “make a positive difference in someone’s life.” Note that these items assess what participants already *typically* do, and do not assess what *they will strive to be doing* in the short-term future, as in the measures of six specific goals described below. Cronbach’s alphas for egosystem and ecosystem orientation were .65 and .71, respectively.

We also created a set of six specific goals, three ego-based and three eco-based, in order to represent directly the egosystem/ecosystem striving concept. We derived these

goals from the corresponding literature (Crocker & Canevello, 2008, 2015). The three egosystem goals were “make sure my needs are met in my relationships,” “demand more respect from others,” and “get my share from friends and loved ones.” The three ecosystem goals were “make sure everybody’s needs are met in relationships,” “be more compassionate with others,” and “give more to my friends and loved ones.” As can be seen, we strove for parallel content across the two 3-item sets, except for the critical egosystem/ecosystem differences.

We implemented these six goals in two types of assessment. To begin, participants read “below are six social goals, all of which can have benefits in certain circumstances. Please rate how much you are pursuing each goal in the upcoming semester.” Participants then rated each goal on a scale ranging from 1 (*not at all*) through 3 (*somewhat*) to 5 (*very much*). We term these ratings “strivings.” Cronbach’s alphas for the 3-item egosystem and ecosystem striving variables were .66 and .76, respectively.

Next in the survey, participants read “below are the same six social goals. Now, please drag three of them into the box on the right, as your specific goals for the semester. We will ask you, later in the semester, how things went with these 3 goals.” We provided the six goals at the left of the screen, asking participants to click and drag three of them into a box on the right. We then asked them to take out their phone or a sheet of paper in order to make note of the three selected goals, and informed them that they could not proceed until they reported they had done so. We regard this selection measure as the most behavioral of the three measures, because it entails writing down or typing out tangible choices that one concretely intends to enact over time. We also averaged the two assessments, given that they were moderately correlated ($r = .54$), thereby creating an aggregated egosystem versus ecosystem orientation measure.

Goal progress

At T2, we presented participants with the three goals they selected at T1, and asked them “how have things gone with this goal?” We then presented them with two phrases: “I have tried hard on this goal” and “I made progress in this goal.” Thus, participants made six ratings total, using a 1 (*not at all*) through 3 (*somewhat*) to 5 (*very much*) scale. We combined these ratings into a single goal progress variable (Cronbach’s alpha = .85; see Sheldon, 2014, for a review of similar studies of longitudinal goal progress, showing the effects of such attainment upon changes in personality).

Results

In Table 1, we provide descriptive statistics and correlations among the T1 variables. Agentic and communal narcissism were positively correlated, as is typical (Gebauer et al., 2012; Žemojtel-Piotrowska, Czarna, Piotrowski, Baran, & Maltby, 2016). Agentic narcissism was positively correlated with all three of the “ego” measures, and was uncorrelated with the three “eco” measures. Communal narcissism was positively correlated with five of the six social motive measures, excepting image goals.

To test our first hypothesis concerning the associations of agentic and communal narcissism with egosystem and ecosystem orientations, we conducted three simultaneous regression analyses, one for each way of assessing egosystem/ecosystem motivation. To simplify these analyses, we computed a relative egosystem orientation difference

Table 1. Study 1: descriptive statistics and correlations for time 1 variables.

		<i>M</i>	<i>SD</i>	1	2	3	4	5	6
1.	Agentic Narcissism	2.90	.55						
2.	Communal Narcissism	3.20	.56	.29					
3.	Image Goals	3.44	.54	.21	.00				
4.	Compassionate Goals	4.09	.47	-.05	.38	.04			
5.	Ego Striving	3.32	.84	.32	.26	.29	.09		
6.	Eco Striving	3.92	.77	-.10	.21	.07	.41	.44	
7.	Ego Selection	1.02	.77	.25	.19	.15	-.13	.43	-.13

Note 1. $r < .12 = p < .10$. $r < .14 = p < .05$. $r > .18 = p < .01$

Note 2. Eco selection is not presented because it is merely the reciprocal of ego selection.

score for the first (Crocker & Canevello, 2008) and second (goal rating) measures by subtracting the ecosystem score from the egosystem score (Grouzet et al., 2005; Sheldon, Osin, Gordeeva, Suchkov, & Sychev, 2017), in keeping with other dimensional models of values and motives (Grouzet et al., 2005; Kasser, 2002). According to such models, it is the relative balance of the two types of motives, rather than the absolute level of either type by itself, that affects outcomes (Grouzet et al., 2005; Sheldon et al., 2017). This practice was not necessary for the third count measure, because it was already reciprocal, in that choosing more egosystem goals among one’s three options perforce means choosing fewer ecosystem goals.

In the regressions, we entered communal narcissism and agentic narcissism together at a first step to examine their unique associations with the outcomes. At a second step, we also tested the interaction of the two forms of narcissism, making no predictions.

Table 2 presents the results of the three regressions. First, we consider the Crocker and Canevello (2008) measure of egosystem (vs. ecosystem) orientation, based on image versus compassionate goals. At step 1, communal narcissism was *negatively* associated with egosystem orientation, whereas agentic narcissism was *positively* associated with egosystem orientation. The interaction was not significant. Next, we turned to the newly developed measure of rated striving for egosystem (vs. ecosystem) goals. At step 1, communal narcissism was unassociated with relative egosystem striving, whereas agentic narcissism was positively associated with this construct. The interaction was not significant. Turning to the measure of egosystem versus ecosystem goal selection, at step 1, communal narcissism was positively associated with egosystem goal selection, but agentic narcissism was not significantly related to egosystem goal selection. Again, the interaction was not significant. Overall, these results are partially consistent with our hypotheses, in that agentic and communal narcissism were positively associated with

Table 2. Study 1: Predicting three measures of egosystem orientation from communal and agentic narcissism.

Dependent Measure	Image vs Compassionate Goal Orientation		Striving for Ego vs Eco Goals		Selection of Ego vs Eco Goals	
	β	ΔR^2	β	ΔR^2	β	ΔR^2
Step 1						
Communal Narcissism	-.30**	.113**	-.03	.157**	.20*	.087**
Agentic Narcissism	.27*		.40**		.17+	
Step 2						
Interaction Term	-.005	.000	-.02	.000	-.04	.001

Note. + $p < .10$. * $p < .05$. ** $p < .01$.

selection of egosystem goals. However, communal narcissism was not associated with egosystem striving, and was negatively associated with image versus compassionate goals. We consider these inconsistencies below.

Next, we tested hypothesis two, concerning the prediction of rank-order change in narcissism (agentic and communal). Specifically, we conducted hierarchical regressions focusing on T2 agentic narcissism, controlling for T1 agentic narcissism. We conducted three regressions, one for each of the two egosystem striving measures, and a third for the average of these two (standardized) variables, given that they were moderately correlated ($r = .54, p < .003$). We did not examine the Crocker and Canevello (2008) egosystem orientation measure, because it reflected a disposition rather than near-future striving. In the first analysis, we entered (centered) egosystem striving at the first step along with T1 agentic narcissism. At step 2, we entered (centered) goal progress. At step 3, we entered the product of progress and egosystem striving. The second analysis of this type used egosystem goal selection as the dependent variable, and the third used the aggregated striving measure.

We present the results of the three agentic narcissism regressions in Table 3. The 30 day test-retest coefficients for agentic narcissism were high ($> .80$). As main effects, the three social motivation variables and the goal progress variable did not predict rank-order change in agentic narcissism. As hypothesized, however, the Motivation \times Progress interaction was significant for the egosystem striving variable. We used the Hayes (2017) PROCESS macro to compute simple slopes, finding that those with high progress and high egosystem orientation increased in agentic narcissism ($b = .06, 95\% \text{ CI } [-.01, .12], t = 1.59, p = .11$), relative to those lower in goal progress ($b = -.07, 95\% \text{ CI } [-.17, .03], t = -1.41, p = .16$). Although the interaction was not significant for the egosystem goal selection variable ($p = .28$), the interaction was significant for the aggregate of the striving and selection variables such that those high in the aggregate variable and high in goal progress exhibited greater rank-order increases in agentic narcissism ($b = .05, 95\% \text{ CI } [-.03, .13], t = 1.24, p = .22$) compared to those low in goal progress ($b = -.07, 95\% \text{ CI } [-.17, .04], t = 1.24, p = .22$).

We next conducted the same three analyses to predict changes in communal narcissism. We obtained no significant effects besides the test-retest coefficients for communal narcissism (Table 4). In summary, agentic narcissism, but not communal narcissism, was boosted by the combination of egosystem motivation and longitudinal goal progress.

Table 3. Study 1: Predicting changes in agentic narcissism from social motivation, goal progress, and their interaction.

Predictor	Striving for Ego vs Eco Goals		Selection of Ego vs Eco Goals		Combined Ego vs Eco Goals	
	β	ΔR^2	β	ΔR^2	β	ΔR^2
Step 1		.652**		.650**		.651**
T1 Agentic Narcissism	.79**		.81**		.80**	
T1 Motivation Variable	.05		-.01		.02	
Step 2		.000		.001		.000
Goal Progress	.00		-.01		-.01	
Step 3		.015*		.003		.012
Motivation X Progress	.14*		.06		.11*	

Note. * $p < .05$. ** $p < .01$.

Table 4. Study 1: Predicting changes in communal narcissism from social motivation, goal progress, and their interaction.

Predictor	Striving for Ego vs Eco Goals		Selection of Ego vs Eco Goals		Combined Ego v Eco Goals	
	β	ΔR^2	β	ΔR^2	β	ΔR^2
Step 1		.588**		.592**		.590**
T1 Communal Narcissism	.79**		.78**		.80**	
T1 Motivation Variable	.05		-.07		.02	
Step 2		.011		.009		.010
Goal Progress	.00		.10		-.01	
Step 3		.000		.001		.000
Motivation X Progress	-.01		-.02		-.011	

Note. + $p < .10$. * $p < .05$. ** $p < .01$.

Discussion

Consistent with our first hypothesis, agentic narcissism was positively associated with egosystem motivation and negatively associated with ecosystem motivation. However, the pattern for communal narcissism was more complex, in that T1 communal narcissism was negatively related to egosystem orientation as assessed by a dispositional measure (Crocker & Canevello, 2008), but positively related to egosystem motivation as assessed by a behavioral goal selection task.

Although these results are initially puzzling, recent findings provide some clues. Nehrlich, Gebauer, Sedikides, and Schoel (2019; see also Barry, Lui, Lee-Rowland, & Moran, 2016; Yang et al., 2018) showed that communal narcissism was positively associated with subjective prosociality, as measured by self-reported altruism, civic engagement, and moral quandaries. Ironically, however, communal narcissism was unrelated to objective (i.e. behavioral) prosociality. Specifically, communal narcissists did not behave more prosocially within a dictator game or an ultimatum game, two behavioral measures of prosocial orientations, nor did they donate more of their research earnings toward humanitarian organizations. Nehrlich et al. (2019) suggested that the subjective prosociality findings reflect a self-enhancing or self-presentational strategy, which is not at play when communal narcissists make behavioral choices, presumably because the behavioral choice context is less clearly or directly tied to the prosociality self-concept. Communal narcissists may care for other people in their words, but not in their deeds. Future research will be required to follow up on this lead.

Supporting our second hypothesis, participants who successfully strove for egosystem (vs. ecosystem) goals during the period of the study increased in their levels of agentic narcissism, but not their communal narcissism. This Goal-Type x Goal-Progress interaction effect is not readily explainable as a demand or lay theory effect, because it is unlikely that participants remembered their T1 egosystem/ecosystem responses well enough to infer that their narcissism scores should have increased as a function of claiming, at T2, so that they could progress in goals of the relevant type.

Study 2

In Study 1 we assessed social motivation via self-report, finding that those who claim to be striving for egosystem goals at T1 are prone to elevated agentic narcissism at T2, but only

to the extent that they report (at T2) doing well in those goals. In Study 2, we conducted a longer-term experimental test of this effect to evaluate its robustness. Specifically, we randomly assigned participants to pursue either egosystem or ecosystem goals during an entire semester. Analogous to Study 1, we expected that condition assignment would interact with goal progress to predict increases in agentic narcissism (hypothesis 1).

In conjunction with the experimental assignments, we assessed several theoretically relevant goal variables at T1 in order to examine differences in how participants perceive egosystem versus ecosystem goals. We hypothesized that participants would (a) feel less intrinsic and more extrinsic motivation in pursuing egosystem goals (i.e. they would feel less self-concordant; Sheldon, 2014), (b) have lower effort intentions and lower expectancies concerning such goals, and (c) perform worse at egosystem goals over time, because such goals appear to be less rewarding and inspirational to pursue (as we explain below). We also hypothesized that these patterns would be moderated by participant's initial narcissism, as explained below.

As a second additional feature of Study 2, we conducted repeated assessments of participants' propensities to support or thwart others' psychological needs, using a measure developed by Rocchi, Pelletier, Cheung, Baxter, and Beaudry (2017). According to Self-Determination Theory (SDT), humans have basic psychological needs for experiences of autonomy, competence, and relatedness (Ryan & Deci, 2017). Typically, research focuses on the extent to which participants report *having* these three experiences, within their life or within targeted contexts or areas of their lives. These need-satisfaction scores are often treated as mediators of distal effects (e.g. type of goal pursued) upon proximal outcomes (e.g. changes in well-being; Smith, Ntoumanis, Duda, & Vansteenkiste, 2011).

However, research in the SDT tradition also considers the extent to which people try to support actively *others'* needs. Typically, such research focuses on whether authorities (e.g. teachers, parents, or coaches) support subordinates' *autonomy* needs, as assessed from the point of view of the subordinate (Reeve, 2012; Weinstein, Legate, Ryan, Sedikides, & Cozzolino, 2017). This practice is commensurate with SDT's primary emphasis on autonomy needs. However, the Rocchi et al. (2017) measure provides scales for assessing active support of all three of SDT needs, not just autonomy. As another innovation, the Rocchi et al. (2017) scales assess behavior from the point of view of the actor, not the perceiver. Finally, these scales assess behaviors that both support others' needs, and thwart others' needs. Rocchi et al. (2017) argued that supporting and thwarting should often be examined separately rather than combined after reverse coding (see also Bartholomew, Ntoumanis, Ryan, Bosch, & Thøgersen-Ntøumani, 2011; Sheldon & Gunz, 2009). Taken together, the IBQ contains six subscales in all (three Needs x Support/Thwart), and it may be reduced to two aggregate measures of "supporting others" and "thwarting others," a strategy we used in testing our longitudinal hypotheses. We expected that adopting a set of ecosystem goals would increase focus over time on satisfying others' needs, whereas adopting narcissistic or egosystem goals would increase focus on thwarting others' needs.

Below we summarize the four specific hypotheses that we tested in Study 2.

Hypothesis 1: There will be an interaction between egosystem goal assignment and goal-attainment to predict increases in agentic narcissism. This would provide a replication of

the key longitudinal finding of Study 1, using an experimental manipulation of egosystem motivation instead of a self-report measure of such motivation. We also sought to evaluate whether this interaction only applies to agentic narcissism, as in Study 1.

Hypothesis 2: Participants assigned to pursue egosystem goals (compared to ecosystem goals) will feel less self-concordant (i.e. will have less internalized motivation for those goals), have lower expectancies regarding those goals, and intend to devote less effort to those goals. According to the goal contents mini-theory of SDT (Ryan & Deci, 2017), some types of goal contents better promote well-being than other types. SDT primarily focuses on the distinction between extrinsic (material, image, status) and intrinsic (growth, connection, service) goal contents, finding that people give greater endorsement to intrinsic goals, and also receive greater benefits from pursuing and attaining them (Kasser, 2002). We expected to obtain a similar empirical pattern, because the distinction between egosystem and ecosystem goals parallels conceptually the distinction between intrinsic (prosocial) and extrinsic (self-serving) goals. Consistent with this reasoning, a literature review concluded that egosystem (relative to ecosystem) motivation is typically associated with lower well-being, mental health, and relationship quality (Crocker & Canevello, 2017).

Hypothesis 3: Condition assignment (egosystem vs. ecosystem goals) will interact with grandiose narcissism (both agentic and communal), such that narcissists will feel more self-concordant regarding egosystem goals, and will have greater expectations and effort intentions for such goals. People feel greater self-concordance (i.e. more interest and identification, less pressure and guilt) for randomly assigned goals that match their personality dispositions and value systems (Sheldon, 2014). For example, people high in need for achievement report more self-concordance for assigned achievement goals (Sheldon & Schuler, 2011), and those high in extrinsic value orientation report more self-concordance for assigned extrinsic goals (Sheldon, Prentice, & Osin, *in press*). Thus, we expected that grandiose narcissism, of both agentic and communal forms, would influence the perceived self-concordance of assigned egosystem versus ecosystem goals. By a similar matching-type argument, we expected grandiose narcissists to have higher effort intentions and greater expectancies for egosystem versus ecosystem goals, compared to non-narcissists. Such goals would appear more attractive and energizing to them.

Hypothesis 4: Both the two forms of grandiose narcissism and the experimental factor of egosystem versus ecosystem goal assignment will predict increased thwarting of other's needs, and reduced satisfaction of others' needs, over time. As explained above, both forms of grandiose narcissism involve social motivational orientations that should work to degrade interpersonal behavior over time, rendering grandiose narcissists progressively selfish and insensitive in their treatment of others.

Method

Participants and procedure

We tested students within a single large social psychology class (median age = 20 years, range = 17–24 years; 77% White, 14% African-American, 4% Asian-American, 3% Hispanic,

2% other) taught at the University of Missouri. Students took part in exchange for extra credit. We administered the T1 survey via a paper-and-pencil questionnaire, made available near the beginning of the semester. Using G*Power software, we again targeted an effect size of .80. We needed 115 participants at T2 to detect the critical longitudinal interaction, assuming a small to medium effect size f -squared of .07. One hundred ninety eight participants supplied complete T1 data (119 women, 74 men, 5 missing or other). We administered the T2 survey via an on-line questionnaire, made available near the end of the semester. One hundred thirty eight participants supplied complete data. Attrition t -tests indicated that the 60 drop-outs did not differ from the retained participants on any of the T1 variables. As in Study 1, we explored gender differences. Although we found a few interpretable main effects of gender upon some of the egosystem versus ecosystem variables and need-thwarting/supporting variables, no consistent interaction patterns involving gender emerged. We provide gender main effects in the Online Supplement.

Experimental manipulation

Given the goal-manipulation, we did not measure social goals as individual differences in Study 2, as we had done in Study 1. Midway through the T1 survey, participants read: "This is the main part of the study! In this section we describe six particular goals that a person might pursue in life, or over some period of time. All six of the goals have been shown to be beneficial for at least some people, in some situations. We will be asking you to pursue three of these goals during the semester." Below this, we listed the same six goals as in Study 1. On the next survey page, participants read "this study is an experiment. That means it must randomly assign participants to particular conditions. You have been randomly assigned to pursue three of the prior six goals, during the semester. Your assigned three goals are"

We presented one condition with the list of three egosystem goals, and the other condition with the three ecosystem goals, of Study 1. We again asked participants to make a note of their three assigned goals. We also supplied them with a rationale for "why this may help you." For example, in the egosystem goal condition, they read "often in our friendships or relationships we are distracted by the other person's problems, and forget to take care of our own needs. When this happens, we can feel taken advantage of, or even exploited by others. The three goals above are designed to help you combat these tendencies, by making sure you thrive and have warm positive feelings!" In the ecosystem goal condition, we offered a similar rationale focusing on the tendency to be distracted by our own problems, forgetting to take care of the needs of others. This rationale also ended with "making sure you thrive and have warm positive feelings!". We assigned 96 participants to the ecosystem goal condition and 102 to the egosystem goal condition.

Measures

Narcissism

We assessed agentic and communal narcissism as in Study 1. We administered the respective scales (NPI-13, CNI) both at T1 and at T2 (for NPI-13, Cronbach's alphas = .79 and .80, respectively; for CNI, Cronbach's alphas = .88 and .93, respectively).

Goal self-concordance, expectancy, and intended effort

At T1, we asked participants several questions about the three goals they had been assigned. First, we asked them “why or for what reasons(s) will you be pursuing Goal X, _____?” (X was either 1, 2, or 3, and the blank was occupied by the actual text of goal X). Participants responded on a 1 (*not at all for this reason*) through 3 (*somewhat*) to 5 (*very much for this reason*) scale (Sheldon, 2014). The reasons were “because of external pressures coming from other people,” “because of internal pressures like shame and guilt,” “because I identify with the goal and feel it is important and meaningful,” and “because pursuing this goal will be interesting and enjoyable.” Following typical research practice (Sheldon et al., 2017), we subtracted the former two reasons from the latter two reasons (across all three goals) to create a self-concordance index (Cronbach’s alpha = .78). Participants also rated “how hard will you try on this goal?” on a 1 (*not at all*) through 3 (*somewhat*) to 5 (*very much*) scale. We averaged the three ratings to create an “intended effort” variable (Cronbach’s alpha = .77). Lastly, participants rated their agreement with the phrase “pursuing this goal will make me more successful in my relationships” using the 5-point scale above. We averaged the three ratings to create an “expected relationship success” variable (Cronbach’s alpha = .79).

Longitudinal goal attainment

At the end of the semester, we presented participants with each of their three assigned goals (be they egosystem or ecosystem), and, for each, we asked them whether they agreed with the statement: “I achieved this goal! I have changed the way I relate to people.” We operationalized goal attainment as the number of “yes” responses to these three questions (range = 0–3; Cronbach’s alpha = .74).

Thwarting versus supporting the needs of others

We used the 24 item IBQ, as discussed above (Rocchi et al., 2017). Eight items address each of the three needs specified by SDT (Ryan & Deci, 2017), namely, autonomy, competence, and relatedness. Four of the eight items refer to supporting others’ needs, and four items refer to thwarting others’ needs. All items were preceded with “When I am with other people who are important to me ...”, and participants responded to them on a 1 (*strongly disagree*) through 3 (*neutral*) to 5 (*strongly agree*) scale. Sample support items are “I give them the freedom to make their own choices” (autonomy), “I encourage them to improve their skills” (competence), and “I take the time to get to know them” (relatedness). Sample thwarting items are “I impose my opinions on them” (autonomy), “I point out that they will likely fail” (competence) and “I do not care about them” (relatedness). We formed six subscale scores, and also computed support and thwarting composites by averaging across the three needs. We administered the IBQ twice, at the beginning and end of the semester. Cronbach’s alphas ranged from .73 to .93 across the 12 subscales at the two time-points.

Results

In Table 5, we display descriptive statistics and correlations for the T1 variables. Again, as expected, agentic and communal narcissism were positively correlated. Agentic narcissism was positively associated with self-reports of thwarting others’ autonomy and

Table 5. Study 2: Descriptive statistics and correlations for time 1 non-experimental variables.

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1. Agentic Narcissism	2.96	.58							
2. Communal Narcissism	3.20	.61	.27						
3. Supporting Autonomy	4.11	.56	-.04	.26					
4. Thwarting Autonomy	2.11	.71	.34	-.04	-.42				
5. Supporting Relatedness	4.12	.59	-.07	.36	.47	-.32			
6. Thwarting Relatedness	1.68	.59	.07	-.13	-.29	.39	-.53		
7. Supporting Competence	4.20	.56	.17	.42	.38	-.17	.55	-.37	
8. Thwarting Competence	1.51	.58	.22	-.04	-.30	.46	-.35	.46	-.24

Note. $r < .12 = p < .10$. $r < .14 = p < .05$. $r > .18 = p < .01$

competence, but was unrelated to thwarting others' relatedness; unexpectedly, agentic narcissism was also positively associated with supporting others' competence. In contrast, communal narcissism was positively associated with self-reported support of others' autonomy, relatedness, and competence needs, but was unrelated to the reported thwarting of others' needs. Thus, with one exception, it appears that agentic narcissists are "thwarters" and communal narcissists are "satisfiers." Recall, however, that the explicit claims of communal narcissists might be suspect. We hoped that the pattern of longitudinal changes would help us clarify this issue.

Our first Study 2 hypothesis concerned the synergistic combination of experimental assignment (egosystem vs. ecosystem goals) and longitudinal goal-attainment to predict rank-order increases in narcissism. This was the attempted experimental replication of the primary Study 1 findings. We conducted two regression analyses, one for agentic narcissism and one for communal narcissism. The T2 versions of the narcissism measures were the dependent variables, as predicted from the T1 versions of the narcissism measures (to focus the analysis on change in narcissism), from condition assignment (egosystem vs. ecosystem), from goal attainment, and from a product term representing the interaction of condition and goal attainment.

In the agentic narcissism analysis, the test-retest coefficient was $\beta = .63$ ($p < .001$), and there was no significant main effect of egosystem versus ecosystem condition ($\beta = -.10$, $p = .122$). Also, there was no significant main effect of goal attainment ($\beta = .08$, $p = .276$). However, the interaction between the two variables was significant at $\beta = .17$, $p = .012$. In the communal narcissism analysis, the test-retest coefficient was $\beta = .60$ ($p < .001$), and again there were no main effects of condition ($\beta = -.11$, $p = .109$) or of goal attainment ($\beta = .06$, $p = .406$). However, the interaction effect was significant at $\beta = .19$, $p = .008$. Thus, both agentic and communal narcissism were boosted at T2 to the extent that the participant attained egosystem goals. To illustrate the data patterns in the two conditions we computed two difference scores, for agentic and one for communal narcissism, by subtracting the T1 from the T2 variables. In the egosystem goal condition ($N = 67$), goal attainment correlated $r = .20$ ($p = .097$) with rank-order increases in agentic narcissism and $r = .20$ ($p = .100$) with increases in communal narcissism. In the ecosystem goal condition ($N = 68$), goal attainment correlated $r = -.13$ ($p = .31$) with rank-order increases in agentic narcissism and $r = -.34$ ($p = .004$) with increases in communal narcissism.

To test our second Study 2 hypothesis, concerning the effects of assigned goal-type (egosystem vs. ecosystem) on the goal ratings, we conducted four independent t-tests. Self-concordance scores were higher in the ecosystem goal condition than the egosystem condition ($M_s = 3.13$ vs. 1.74 , $t[196] = 3.84$, $p < .001$). Intended effort was also higher in the

ecosystem condition ($M_s = 3.95$ vs. 3.38 , $t[196] = 4.65$, $p < .001$). Additionally, expected relationship success was higher in the ecosystem condition ($M_s = 4.36$ vs. 3.40 , $t[196] = 7.85$, $p < .001$). Finally, at the second time point in the study, participants in the ecosystem condition claimed to have better attained their goals ($M_s = 1.72$ goals attained vs. 1.47 attained, $t[135] = 3.88$, $p < .001$). These findings support the idea that people in general find ecosystem goals to be more attractive and motivating (Crocker & Canevello, 2017).

To test our third Study 2 hypothesis, concerning the interactive effects of measured narcissism and assigned goal-type upon the goal ratings, we conducted six regressions. The three dependent measures (self-concordance, intended effort, and relationship expectancy) were predicted from either agentic narcissism or from communal narcissism, from experimental condition (coded 0 or 1), and from the cross-product of these.

In the two analyses predicting felt self-concordance, significant interactions emerged for both agentic narcissism ($\beta = 1.01$, $p < .006$) and communal narcissism ($\beta = .91$, $p < .032$) in addition to the significant negative main effects of experimental condition (ecosystem vs. egosystem; there were no main effects of the two narcissism variables). To illustrate, in the egosystem goal condition ($N = 102$), agentic narcissism correlated with self-concordance ($r = .21$, $p = .034$) and so did communal narcissism ($r = .28$, $p = .005$). By contrast, in the ecosystem goal condition ($N = 96$), agentic narcissism correlated negatively with self-concordance ($r = -.18$, $p = .083$), whereas communal narcissism was uncorrelated with it ($r = -.05$, $p = .64$). Thus, narcissists of both forms felt relatively more self-concordance regarding randomly assigned egosystem goals.

Contrary to hypotheses, neither interaction was significant for the intended effort variable, suggesting that narcissists do not intend to try any harder on egosystem versus ecosystem goals, compared to non-narcissists. However, both interactions were again significant for the expected relationship success variable ($\beta = .91$, $p = .011$ for agentic narcissism, and $\beta = .72$, $p = .050$ for communal narcissism), indicating that narcissists believe that egosystem goals will bring positive relationship results, more so than non-narcissists. To illustrate, in the egosystem goal condition ($N = 102$), agentic narcissism correlated with expected relationship success ($r = .19$, $p = .059$) and communal narcissism correlated with expected relationship success ($r = .25$, $p = .009$). In contrast, in the ecosystem goal condition ($N = 96$), agentic narcissism correlated with expected relationship success ($r = -.18$, $p = .087$) and communal narcissism was uncorrelated with expected relationship success ($r = .06$, $p = .56$).

We proceeded to evaluate our fourth Study 2 hypothesis, that initial grandiose narcissism, and also egosystem versus ecosystem goal assignment, would both coarsen interpersonal behavior over time. To test the experimental condition effects, we conducted two mixed MANOVAs, one for the aggregate support variable and one for the aggregate thwarting variable, with goal assignment (egosystem vs. ecosystem) as a between-subjects factor and time of assessment (beginning vs. end of semester) as a repeated measures factor. Support for the hypothesis would be evinced by significant Condition x Time of Assessment interactions. However, neither interaction was significant ($F[1,134] = 1.00$, $p = .32$ for support of others, and $F[1,134] = 1.38$, $p = .24$ for thwarting of others). Thus, merely being assigned to the egosystem versus ecosystem goal condition does not alter self-reported interpersonal behavior. Agentic and communal narcissism

were similarly unaffected over time by mere condition assignment (for both interactions, $p \geq .14$).

Next, we asked whether goal attainment interacted with goal assignment condition to predict changes in the thwarting or satisfying of others' needs. That is, and in keeping with hypothesis 1, we tested the idea that, although merely pursuing or being assigned to a goal is not sufficient to bring changes, being successful at the goal has dynamic impact (Sheldon, 2014). We conducted two regressions, one for changes in supporting others and one for changes in thwarting others. In the first analysis, T2 support of others' needs was the dependent measure. We entered T1 support of others' needs at the first step, so the analysis would focus on changes in supporting others' needs. Also entered at the first step was assigned goal condition (coded ecosystem = 0, egosystem = 1) and rated goal attainment. At step 2 we entered a Condition \times Attainment product interaction term. In this analysis the test-retest coefficient for supporting was $\beta = .43$ ($p < .001$), and the condition factor was not significant ($\beta = -.13$, $p = .133$), as above; goal attainment was also not significant ($\beta = -.03$, $p = .746$). However, at step 2 the interaction was significant at $\beta = -.17$, $p = .03$. In the second analysis, predicting changes in the thwarting of others' needs, the thwarting test-retest coefficient was $\beta = .35$ ($p < .001$), and the condition ($\beta = .10$, $p = .231$) and goal attainment ($\beta = -.02$, $p = .796$) effects were again not significant. However, at step 2 the interaction between condition and goal attainment was significant at $\beta = .20$, $p = .016$. To illustrate concretely these effects, we computed T2 – T1 difference scores for the thwarting and satisfaction variables. In the egosystem goals condition, goal attainment was correlated with boosted thwarting at $N = 68$, $r = .22$, $p = .069$, and with reduced satisfaction at $r = -.24$, $p = .053$. In the ecosystem goals condition, goal attainment was associated with reduced thwarting at $r = -.21$, $p = .081$, but was unrelated to increased satisfaction ($r = -.004$).

To test the effects of initial trait narcissism upon changes in interpersonal behavior, the other aspect of hypothesis 4, we conducted two regressions, one for changes in supporting others and one for changes in thwarting others. In the first analysis, T2 support of others' needs was the dependent measure. We entered T1 support of others at the first step, so the analysis would focus on changes in supporting others' needs. Also entered at the first step was communal narcissism, paralleling the order of entry in Study 1. At this step, the test-retest coefficient was $.57$ ($p < .001$), and the effect of T1 communal narcissism was $\beta = -.29$, $p = .001$. Thus, the higher the participants' initial communal narcissism, the greater the (relative) reduction in support of others' needs, during the semester. This belies the correlational results in Table 4, in which communal narcissists claim to be more supportive of others' needs. At the second step, agentic narcissism was not significant.

In the second analysis, T2 thwarting of others' needs was the dependent measure. We entered T1 thwarting of others at the first step, with a test-retest coefficient of $.35$, $p < .001$. Communal narcissism was not significant at this step. At the second step, however, agentic narcissism was a significant predictor of change in thwarting ($\beta = .24$, $p = .005$). To summarize: initial agentic narcissism was associated with increased thwarting of others over time, whereas initial communal narcissism was associated with reduced support of others over time. That is, agentic narcissists report that they thwart others now, and become more thwarting over time. In contrast, communal narcissists report that they

satisfy others' needs now, but become less supportive over time. We consider this intriguing pattern in the General Discussion.

General discussion

The current research yielded a complex but informative pattern of results, shedding light on the interpersonal motivations of narcissists, and also on the effects of such motivations upon both narcissists' treatment of others and upon their own changing narcissism scores. Below we summarize and comment on the pattern of results.

Study 1, the first to link the concepts of narcissism (Thomaes et al., 2018) and of egosystem/ecosystem social motivation (Crocker & Canevello, 2008, 2015), showed that agentic narcissism was positively associated with egosystem motivation and negatively associated with ecosystem motivation (hypothesis 1). This preliminary hypothesis was straightforward, given the clear thematic similarity between the two personality assessment systems. Agentic narcissists are egoists.

However, the Study 1 findings regarding the second form of agentic narcissism, communal narcissism, were more nuanced. Similar to agentic narcissists, communal narcissists are also characterized by beliefs that they are superior to other people, but more so in their *social* functioning, not so much in their achievement functioning (Gebauer et al., 2012). Thus, communal narcissism was negatively associated with a self-report measure of egosystem versus ecosystem motivation ("what I am like"), but was positively associated with a quasi-behavioral measure of egosystem functioning, namely, the choice of which goal-set (egosystem or ecosystem) the participant would be willing to pursue and be responsible during the semester. Again, the pattern is interpretable in terms of findings that communal narcissism is positively associated with self-reported prosociality but unassociated or negatively associated with behavioral prosociality (Nehrlich et al., 2019; Yang et al., 2018). That is, communal narcissists are sensitive in their self-presentations, knowing which types of social behaviors and attitudes to endorse in order to look good and demonstrate concern for others. However, communal narcissists may not actually take action regarding such concerns. The current findings contribute to a growing body of literature supporting the recent distinction between agentic and communal narcissism (Gebauer & Sedikides, 2018a, 2018b). Given that agency and communion are perhaps the two most important domains of human functioning (Abele & Wojciszke, 2018; Bakan, 1966; McClelland, 1987), it is crucial to understand the differences between these two forms of manifested narcissism.

Study 1's second hypothesis concerned the longitudinal effects of successfully pursuing egosystem goals, specifically upon the trait of narcissism itself. Peoples' goals and motives impact their personality traits and dispositions (Hudson & Fraley, 2015; Sheldon, 2014) by prompting behaviors that reinforce or strengthen particular dispositions (Hudson & Fraley, 2015; Sedikides & Alicke, 2019; Sheldon, Corcoran, & Prentice, 2019). Study 1 illustrated a new such pattern by finding significant positively-signed interactions between goal-type (egosystem vs. ecosystem) and longitudinal goal progress (low vs. high). Specifically, to the extent that the participants reported successfully pursuing egosystem (vs. ecosystem) goals, they increased in their levels of agentic (but not communal) narcissism over a month-long period.

To address causal processes, Study 2 introduced an experimental manipulation of egosystem versus ecosystem goals. Consistent with the Study 1 findings, we reasoned that people randomly assigned to pursue egosystem goals during the semester would become more narcissistic to the extent they did well at such goals. Successful self-enhancement might produce a “rush” of positive feelings about the self (Alicke & Sedikides, 2009; Sedikides, 2018), which reinforce and augment the underlying behavioral strategy. Study 2 also introduced yet a third relevant assessment system, derived from SDT (Ryan & Deci, 2017). Specifically, we examined the effects of measured narcissism and assigned egosystem versus ecosystem goal pursuit upon interpersonal behavior: the tendencies to thwart or support the psychological needs of others. Given that goals shape the behaviors that people choose and pursue (Hudson & Fraley, 2015), pursuing narcissistic or egosystem goals might boost peoples’ tendency to thwart others’ needs, and reduce the tendency to satisfy others’ needs.

In Study 2’s preliminary correlational analysis, agentic narcissism was positively associated with thwarting others’ autonomy and competence. This is consistent with narcissists’ apparent belief that agency is a zero sum game (Campbell, Bush, Brunell, & Shelton, 2005); in order to meet their own needs, agentic narcissists may feel they must thwart the agency of others. By contrast, communal narcissism was positively associated with supporting all three SDT needs, and was unrelated to need-thwarting. The latter result is aligned with the Study 1 finding that communal narcissists are high in self-reported ecosystem motivation.

Study 2’s hypothesis 1 was an attempt to replicate the Study 1 finding that making good progress in in egosystem goals brings about increased agentic narcissism. Again, in Study 2 egosystem versus ecosystem orientation was operationalized as an experimental manipulation, not as an individual difference measure as in Study 1. In Study 2, we obtained significant interactions replicating and extending the main findings of Study 1, such that both agentic and communal narcissism increased as a function of attaining assigned egosystem (compared to ecosystem) goals. As above, mere condition assignment had no effect; only when the goals were attained were changes observed, suggesting that it is the experience of success, and not just the pursuit alone, that is reinforcing. That Study 2 went beyond self-report measures of social goals may explain why Study 2’s findings extended to communal as well as agentic narcissists. Study 2 was more behavioral, and the results reinforce the notion (Gebauer & Sedikides, 2018a,b; Nehrlich et al., 2019) that communal narcissists are similar to agentic narcissists “in deed, if not always in word.”

As per hypothesis 2 of Study 2, participants randomly assigned to pursue egocentric goals felt less self-concordance for those goals, intended to invest less effort in them, and expected to be less successful in them. Egosystem-assigned participants also reported less longitudinal progress in attaining their goals. These findings are congruent with literature showing that people assign greater self-reported value to intrinsic, prosocial goals and less value to extrinsic, egocentric goals (Crocker & Canevello, 2017; Kasser, 2002). For most individuals, ecosystem goals are more potentially rewarding than egosystem goals.

As per hypothesis 3 of Study 2, however, this pattern depended on the person. Participants felt more self-concordance regarding their assigned goals to the extent

that those goals matched their personality dispositions. Specifically, both agentic and communal narcissists felt more self-concordant (i.e. more autonomous and less controlled) in pursuing assigned egosystem goals compared to assigned ecosystem goals. A similar interaction pattern held for expected success: Narcissists of both forms expected to do better when assigned egosystem, compared to ecosystem, goals. These patterns replicate conceptually prior results (Sheldon & Cooper, 2008; Sheldon & Schüler, 2011), supporting Sheldon's (2014) claim that the self-concordance measure indexes a state of person/goal fit. However, the effect did not pertain to intended effort.

Study 2's hypothesis 4 addressed longitudinal changes in the thwarting and supporting of others' needs (Rocchi et al., 2017). Although mere goal-condition assignment (egosystem vs. ecosystem) did not affect these interpersonal behaviors, egosystem (vs. ecosystem) goal assignment did *interact* with goal attainment to predict boosted thwarting and reduced satisfaction of others' needs. These findings suggest that those who pursue successfully egosystem goals evince a coarsening of their social behavior over time. Turning to the second aspect of hypothesis 4, initial communal narcissism predicted reductions in the support of others' needs over time, consistent with the "altruistic in words but not deeds" formulation. In addition, initial agentic narcissism predicted increases in the thwarting of others' needs. The latter findings suggest that both forms of grandiose narcissism are associated with the coarsening of social behavior over time, with the difference being that communal narcissists reduce their supporting of others and agentic narcissists increase their thwarting of others. Of course, this intriguing pattern requires replication, but it nevertheless indicates that the positive social intentions of communal narcissists fade over time, and that, agentic narcissists may eventually give in to frustration or malice.

Taken together, our findings paint an interpretable picture. Agentic narcissists openly endorse egocentric goals, whereas communal narcissists do not. However, communal narcissists show just as much behavioral egocentrism as agentic narcissists. Both forms of narcissism are associated with greater self-concordance and higher expectancies for assigned egocentric (but not ecocentric) goals. Also, both forms of narcissism predict coarsening social behavior over time, differing slightly in the particulars (reduced support vs. increased thwarting of others' psychological needs). Finally, egosystem goals were not as subjectively desirable as ecosystem goals (on average). Regardless, successfully pursuing egosystem goals breeds higher narcissism, both agentic and communal, and also predicts increased thwarting of others' needs as well as reduced satisfaction of others' needs. The former findings help explain how the narcissism may increase over time, both within a person (Giacomin & Jordan, 2016) and within a population (Twenge & Campbell, 2009). If people can be induced to pursue self-focused goals, and if they also find success in those pursuits, then they may become more narcissistic – in turn causing them to pursue even more self-focused goals. Narcissism may be like an addiction which persists or worsens as long as the person is able to keep getting "fixes" of self-enhancement (Baumeister & Vohs, 2001; Morf, Horvath, & Torchetti, 2011).

These two studies have some limitations. In particular, we relied on self-reports rather than actual behavior. Although we have argued that choices of goals to pursue in the near future are a more behavioral type measure than self-ratings, we do not know if participants actually pursued the chosen goals. Indirect evidence that they did is provided by the observed effects of reported goal-attainment, taken in combination with the type of goal attained (egocentric or ecocentric). It is unlikely that the significant longitudinal

interaction effects observed reflected mere demand or lay theory effects. But still, even the goal attainment measures were based in self-report. Future work might use a Goal Attainment Scaling technique (Kiresuk, Smith, & Cardello, 1994), or sample participants' actual daily behaviors, to close this gap. Another study limitation is the exclusively undergraduate samples, taken from a single Midwestern university. Future work will need to generalize to other samples. However, the goals we examined were not unique to student populations (Crocker & Canavello, 2017), and thus it is likely that the effects would replicate in other kinds of samples.

There are additional promising research directions. Experimentation could examine the effects of succeeding (vs. failing) on egocentric (vs. ecocentric) tasks, upon participants' subsequent interpersonal behavior or narcissism. Experience sampling research might clarify the processes by which narcissistic "addictions" are acquired, as a function of a stream of self-enhancing behaviors and experiences. It would also be fruitful to use purer behavioral measures, for a better sampling of system 1 constructs and processes (Kahneman, 2011).

In conclusion, our research linked for the first time three major research traditions (narcissism, social motivation, and SDT) and obtained a coherent pattern of findings that offer novel perspectives on all three traditions. We hope other researchers will help us to extend this picture.

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