


# Narcissism and Self-Insight: A Review and Meta-Analysis of Narcissists' Self-Enhancement Tendencies

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## Abstract

The current article reviews the narcissism–self-enhancement literature using a multilevel meta-analytic technique. Specifically, we focus on self-insight self-enhancement (i.e., whether narcissists perceive themselves more positively than they are perceived by others); thus, we only include studies that compare narcissists' self-reports to observer reports or objective measures. Results from 171 correlations reported in 36 empirical studies ( $N = 6,423$ ) revealed that the narcissism–self-enhancement relationship corrected for unreliability in narcissism was .21 (95% confidence interval [CI] = [.17, .25]), and that narcissists tend to self-enhance their agentic characteristics more than their communal characteristics. The average corrected relationship between narcissism and self-enhancement for agentic characteristics was .29 (95% CI = [.25, .33]), whereas for communal characteristics it was .05 (95% CI = [–.01, .10]). In addition, we individually summarized narcissists' self-enhancement for 10 different constructs (i.e., the Big Five, task performance, intelligence, leadership, attractiveness, and likeability).

## Keywords

narcissism, self-enhancement, meta-analysis, agency, communion

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Self-enhancement is a fundamental characteristic of narcissism. In fact, narcissism has even been called the “self-enhancer personality” (Morf, Horvath, & Torchetti, 2011, p. 399). Indeed, individuals high in narcissism tend to self-enhance across a variety of domains: perceiving themselves to be more physically attractive (Bleske-Rechek, Remiker, & Baker, 2008; Gabriel, Critelli, & Ee, 1994), intelligent (Farwell & Wohlwend-Lloyd, 1998; Gabriel et al., 1994; Paulhus, Harms, Bruce, & Lysy, 2003; Paulhus & Williams, 2002), leader-like (Grijalva, Harms, Newman, Gaddis, & Fraley, 2015; Judge, LePine, & Rich, 2006), and creative (Goncalo, Flynn, & Kim, 2010) than what either objective measures or observer ratings of these attributes corroborate. Although narcissism's relationship with self-enhancement bias is well accepted, recently there has been an increased effort to identify whether there are patterns underlying these arguably inaccurate perceptions—such as whether narcissists inflate some attributes more than others (e.g., Carlson, Vazire, & Oltmanns, 2011).

In general, a person predominantly self-enhances characteristics that are most central to his or her self-concept (Gebauer, Sedikides, Verplanken, & Maio, 2012; Sedikides, Gaertner, & Toguchi, 2003). A better understanding of what narcissists positively distort (and thus presumably value), and of equal importance, what they do *not* positively distort (and

thus presumably do not value) provides insights into the psychological portrait of the narcissist. The current work therefore comprehensively reviews and meta-analyzes the narcissism–self-enhancement bias literature. Specifically, we will focus on self-insight self-enhancement, which is measured by comparing self-reports to external criteria (i.e., observer reports and objective measures). In doing so, we first consolidate past findings to give an overall estimate of how much narcissists self-enhance in general, across criteria. We next attempt to make four additional theoretical contributions, by (a) distinguishing between self-enhancement in agentic domains (e.g., arrogance and extraversion) as opposed to communal domains (e.g., agreeableness and honesty); (b) examining the role played by length of acquaintance, whether there is greater observed self-enhancement for well-acquainted as opposed to minimally acquainted participants; (c) addressing how the measurement of self-enhancement

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(i.e., regression residuals versus difference scores) may affect the magnitude of narcissism's relationship with self-enhancement; and (d) separately estimating the narcissism–self-enhancement relationship for specific criteria (e.g., intelligence, task performance, and physical attractiveness).

## Narcissism and Self-Enhancement

Grandiosity (2014) is “characterized by affectation of grandeur or splendor or by absurd exaggeration” and is the defining feature of the personality trait of narcissism. Narcissists like to be the center of attention, tend to show off, believe that they are special people, and prefer to be in leadership roles and roles imbued with power (Emmons, 1987; Raskin & Terry, 1988; Rhodewalt, 2011). From a theoretical perspective, it has been posited that narcissism is a self-regulatory mechanism that is used to maintain unrealistically high levels of self-esteem by using a mutually reinforcing system of interpersonal and intrapersonal self-regulatory strategies (Morf et al., 2011; Rhodewalt, 2011). For example, positive self-perceptions are defended by dealing harshly with potentially disconfirming evidence, such as by derogating and discrediting the source of negative feedback (Bushman & Baumeister, 1998; Kernis & Sun, 1994) and by blaming other people when the narcissist experiences failure (Campbell, Reeder, Sedikides, & Elliot, 2000). In addition to these strategies, arguably the key weapon in narcissists' self-regulatory arsenal is the tendency to self-enhance (i.e., “claim greater standing on a characteristic, or more credit, than is objectively warranted,” Alicke & Sedikides, 2011, p. 2).

As with self-regulatory models of narcissism, theories of self-enhancement also draw heavily on individuals' underlying self-motives (for a review, see Alicke & Sedikides, 2011). Specifically, self-enhancement has been described as “the desire to maintain or increase the positivity (or decrease the negativity) of one's self-concept or, alternatively, the desire to maintain, protect, and enhance one's self-esteem” (Leary, 2007, p. 320). Narcissism is likely related to self-enhancement because it is an extreme manifestation of the aforementioned desire to “maintain, protect, and enhance one's self-esteem” (Leary, 2007, p. 320). Although self-enhancement is critical to the construct of narcissism, it should be noted that inflated self-perceptions are not unique to narcissists. As far back as 1937, Gordon Allport asserted that there is a universal human motivation to view oneself positively, and the desire to be viewed positively has been labeled one of the “most prominent motivational assumptions of Western Psychology” (Kwang & Swann, 2010, p. 263; see also S. C. Jones, 1973; Leary, 2007). Indeed, this vital human need to maintain a positive self-concept is evident in a general tendency for people to have inflated views of themselves (Alicke & Sedikides, 2009, 2011), endorse self-serving attributions (Campbell & Sedikides, 1999; Mezulis, Abramson, Hyde, & Hankin, 2004), and believe that they are better than the average person (i.e., the better-than-average effect; Alicke, 1985;

Alicke & Govorun, 2005). At the same time, not everyone self-enhances. For example, in the context of a group discussion exercise, Gosling, John, Craik, and Robins (1998) found that 43% of participants did not self-enhance when their self-ratings were compared with act-frequency ratings provided by trained observers. Thus, consistent with past evidence, we contend that people generally self-enhance, but that there are also substantial individual differences in the tendency to self-enhance—with narcissism being a leading indicator of this tendency.

## Two Approaches to Measuring Self-Enhancement

Self-enhancement bias is the propensity to see oneself in an overly positive light, but there are two different approaches to establishing the amount of bias present in an individual's self-evaluation. The first is based on *social comparison* (perceiving oneself more positively than one perceives others), and the second is based on *self-insight* (perceiving oneself more positively than one is perceived by others; Kwan, John, Kenny, Bond, & Robins, 2004; Taylor, Lerner, Sherman, Sage, & McDowell, 2003). Social comparison is measured by asking people to compare themselves with others (e.g., “compared with the average person, how agreeable are you?”), whereas self-insight is measured by comparing people's self-ratings with observer ratings or objective measures (e.g., comparing a participant's self-reported agreeableness with the agreeableness score reported for them by a knowledgeable observer). A notable criticism of social comparison measures is that they have the undesirable property of lacking an external standard against which the validity of self-reports can be evaluated. In contrast, self-insight measures compare self-reports to an outside source, either observer reports or objective measures.

The distinction between social comparison and self-insight measures is important because different types of self-enhancement are associated with different psychological health outcomes; self-enhancement as measured by social comparison is considered to be more adaptive than self-enhancement as measured by self-insight (Kurt & Paulhus, 2008; Kwan et al., 2004). The historical lack of recognition of the difference between social comparison and self-insight has been blamed for the prolonged debate concerning whether or not self-enhancement promotes adjustment (i.e., the benefits and costs of positive illusions about the self; Taylor & Brown, 1994; but see also Block & Colvin, 1994). A meta-analytic review of the self-enhancement literature helped make sense of these apparent contradictions by establishing that self-enhancement, as measured by social comparison, is related to high self-esteem and psychological well-being, whereas studies that defined self-enhancement in terms of self-insight tended to find that it was relatively maladaptive (Kwan et al., 2004). Furthermore, in one of the few studies that collected both social comparison and self-insight information from the same participants, Kurt and Paulhus

(2008) reported that when they controlled for self-reported personality (i.e., the Big Five), their social comparison index was no longer related to self-rated or peer-rated adjustment outcomes. In contrast, self-insight measures did explain incremental variance in both of these indicators of psychological adjustment beyond the Big Five. This led to the conclusion that the self-insight index is “a more defensible operationalization of self-enhancement than is the social comparison index” and that it predicts poorer interpersonal adjustment, particularly when interpersonal adjustment ratings are obtained from peer-reports (Kurt & Paulhus, 2008, p. 848). Given the aforementioned advantages (i.e., incremental validity and an external standard against which to compare self-reports), the current meta-analytic review will exclusively focus on self-insight measures of self-enhancement.

### Past Research on Narcissism and Self-Enhancement

Evidence suggests that narcissists genuinely believe that they are more attractive, intelligent, creative, and better in a myriad of ways than available evidence can support (see citations in first paragraph). While it might be human nature to self-enhance to some degree, narcissistic self-enhancement appears to be insensitive to context such as social-appropriateness cues (Morf et al., 2011). For example, a documented moderator of the tendency to self-enhance is the level of accountability associated with one’s ratings (i.e., on average, individuals are less likely to self-enhance if they think they will later have to justify or defend their self-ratings; Sedikides, Herbst, Hardin, & Dardis, 2002). Narcissists, however, appear to flout modesty norms, and continue to self-enhance, even when they know they will later be held accountable for their ratings (Collins & Stukas, 2008). Moreover, narcissists will continue to exaggerate their abilities even when doing so alienates those around them. As a case in point, individuals high in narcissism have been shown to take credit for group successes, even when it means depriving other group members of their fair share of credit (Campbell et al., 2000).

In addition, narcissists’ positive illusions extend beyond normal boundaries because they are seemingly immune to disconfirming evidence. For example, Robins and John (1997) asked participants to rate their own performance after a leaderless group discussion. As expected, participants’ self-ratings were generally higher than trained raters’, but the interesting part was that when asked to view a video of their performance, individuals low in narcissism decreased their ratings to more closely reflect observer ratings, whereas individuals high in narcissism further increased their self-ratings to magnify the disconnect between their self-ratings and those of trained raters. The authors concluded that narcissists literally cannot see themselves as others see them because they are “blinded by their need for self-worth” (Robins & John, 1997, p. 42). Based on this evidence, we predict the following:

**Hypothesis 1:** Narcissism will have a positive relationship with self-enhancement.

### Agency and Communion

Although a layperson may assume that narcissists indiscriminately self-enhance across all domains, initial evidence suggests that they devalue some traditionally positive traits, while over-emphasizing others (Campbell, Rudich, & Sedikides, 2002; Carlson, Vazire, & Oltmanns, 2011). Specifically, narcissistic individuals have unrealistically positive evaluations of their agentic characteristics (e.g., power, dominance, and intelligence) but do not inflate, or inflate to a lesser degree, communal characteristics (e.g., agreeableness, warmth, and honesty; Campbell et al., 2002; Carlson, Vazire, & Oltmanns, 2011). In a seminal work clarifying the boundary between these two concepts, Wiggins (1991) referred to agency as “the condition of being a differentiated individual, and it is manifest in strivings for mastery and power which enhance and protect that differentiation,” whereas communion was defined as “the condition of being part of a larger social or spiritual entity, and it is manifested in strivings for intimacy, union, and solidarity with that larger entity” (p. 89; see also Bakan, 1966). Within this framework, narcissism is a vector positioned between the high-agency and low-communion axes (Bradlee & Emmons, 1992; Trapnell & Paulhus, 2012). Thus, narcissism falls within the interpersonal circumplex quadrant labeled *unmitigated agency* (Buss, 1990; Helgeson & Fritz, 1999). Unmitigated agency is characterized by “a focus on the self to the exclusion of others [which] . . . includes being hostile, cynical, greedy, and arrogant” (Helgeson & Fritz, 1999, p. 132; see also Rauthmann & Kolar, 2013).

As mentioned above, a person predominantly self-enhances attributes that are most central to his or her self-concept (Sedikides et al., 2003); therefore, it corresponds that narcissists’ positive illusions give priority to agentic characteristics based on agency’s alignment with “self-seeking, egocentric motives” (Wiggins, 1991, p. 91). To illustrate, narcissism has been associated with agentic goals (e.g., power and status), but not communal goals (e.g., affiliation and closeness; Findley & Ojanen, 2013). Also, in a daily diary study, narcissists’ state self-esteem was decreased by negative achievement events, but was immune to both positive and negative social events that the authors considered to be indicators of communion (Zeigler-Hill, Myers, & Clark, 2010). Narcissists’ preference for agency over communion is even apparent at an implicit, unconscious level. Gu, He, and Zhao (2013) discovered that narcissists exhibited attentional biases for performance words such that “they were highly vigilant to failure words and had difficulty disengaging from success words,” but that they were not affected by interpersonal words. Similarly, in a surprise recall task, narcissists were more likely to recall agentic trait descriptors than communal trait descriptors, suggesting that narcissism affects information processing in

such a way that narcissists are more likely to remember agentic trait content because it is more self-relevant (L. L. Jones & Brunell, 2014). Results like these led Paulhus (2001) to propose that narcissism is an extreme form of agency, and more recently, Campbell and colleagues introduced an agency model of narcissism (Campbell, Brunell, & Finkel, 2006; Campbell & Foster, 2007). It appears that agency, but not communion, is consistent with narcissists' grandiose self-conception of success.

Perhaps more surprising than the finding that narcissists endorse agentic characteristics is the fact that individuals high in narcissism possess a much less discrepant idea of how others perceive their communal traits, as compared with their agentic traits (Carlson, Naumann, & Vazire, 2011; Carlson, Vazire, & Oltmanns, 2011). It is possible that narcissists associate communal characteristics, such as honesty and dependability, with weakness and vulnerability—theoretically, exactly what the self-regulatory strategy of narcissism is meant to avoid (see Morf & Rhodewalt, 2001). For individuals high in narcissism, this would result in a decreased desire to align communal characteristics with their self-concept. The idea, however, that narcissists are avoiding vulnerability by eschewing communal traits, is difficult to test. Instead, results show that the tendency to emphasize agentic traits and simultaneously deemphasize communal traits might be a conscious life strategy used by narcissists that is focused on maximizing personal gain (Jonason, Li, & Teicher, 2010). Interestingly, narcissists appear to know full well that this personal gain often occurs at others' expense (Jonason et al., 2010). Carlson (2013) found that narcissists are not only aware that they are narcissistic (i.e., they admit to bragging and acting condescending), but with surprising self-insight, individuals high in narcissism also acknowledged that narcissism produced positive consequences for themselves that were accompanied by a fairly negative impact on others. A negative impact these narcissists appeared to find acceptable, as they also reported a desire to become more narcissistic in the future (Carlson, 2013). L. L. Jones and Brunell (2014) likewise found that narcissists were willing to admit to having negative communal attributes (e.g., jealous, crude, insulting), but had trouble remembering these self-reported communal attributes to a greater degree than self-reported agentic attributes in a later surprise recall task. The authors speculated that a failure to encode self-relevant negative communal traits could reflect (a) an indication of a weak avoidance motivation whereby narcissists strategically fail to encode information about their negative traits or (b) "it may simply be that narcissists view negative-communal traits . . . as more neutral than negative, less important, or possibly experience less ego-defence concerning their negative-communal qualities than other qualities" (L. L. Jones & Brunell, 2014, p. 11).

In sum, narcissists appear to enhance agentic characteristics more than communal characteristics, but it is unclear by exactly how much. On average, across studies, do narcissists

continue to enhance communal characteristics just to a lesser degree? The current work aims to estimate the magnitude of the self-enhancement effect for both agency and communion, as well as compare the two.

**Hypothesis 2:** Narcissists will self-enhance their agentic characteristics to a greater extent than they will self-enhance their communal characteristics.

## Acquaintanceship

As observer ratings are often the external criterion used to establish the magnitude of narcissists' self-enhancement, we will also be examining how observer characteristics systematically vary across studies. Specifically, we are interested in whether length of acquaintance affects the magnitude of the discrepancy between narcissists' self-reports and observer reports. Taking into consideration how well observers know participants is vital, because peoples' impressions of narcissists tend to change over time (i.e., narcissists make positive first impressions that deteriorate as people get to know them better; Back, Schmukle, & Egloff, 2010; Carlson, Naumann, & Vazire, 2011). For example, Paulhus (1998) found that, over the course of 2 months, narcissists went from being described as "confident, entertaining, and intelligent" by new acquaintances to being described as "arrogant, tends to brag, and overestimates abilities," as acquaintances became familiar with a broader range of their behaviors (p. 1204). Similarly, Carlson, Vazire, and Oltmanns (2011) found that new acquaintances perceived narcissists more positively than knowledgeable informants, and that even narcissists themselves were aware of how others' perceptions of them became more negative over time (Carlson, Vazire, & Oltmanns, 2011). Thus, we predict that narcissists' self-enhancement bias will be larger in magnitude when based on (the more negative) ratings from close others than (the more positive and thus more similar) ratings from new acquaintances.

**Hypothesis 3:** Narcissists' self-enhancement bias will be larger in magnitude when the criterion measure is based on ratings from close others than when based on ratings from new acquaintances.

## Difference Scores Versus the Self-Criterion Residual Method

We also investigate a methodological moderator that allows us to compare and contrast different methods of measuring self-enhancement. To calculate self-enhancement, researchers tend to use one of two methods: (a) difference scores that are calculated by subtracting external ratings from self-ratings or (b) the self-criterion residual method (John & Robins, 1994; Paulhus & John, 1998). The self-criterion residual is calculated by regressing self-reports onto an external criterion (e.g., others' perceptions). The resulting residual reflects the degree



of self–other bias present because all of the shared variance has been removed—effectively making the residuals an estimate of self-enhancement (or in some cases self-effacement, if the residual is negative, meaning that an individual’s self-report was lower than the observer report). These residuals can be correlated with narcissism scores, or any other variable, to calculate its relationship with self-enhancement.

Of these two approaches, difference scores have been criticized more frequently for their methodological weaknesses (Cronbach, 1958; Edwards, 1995). These criticisms have been discussed at length elsewhere, but one concern is that the difference score is less reliable than either of its two components, when the individual components are correlated, as will most likely be the case when comparing self-reports and observer reports. Because of methodological problems, difference scores have been accused of producing “ambiguous and potentially misleading” results (Edwards, 1995, p. 307). Given the criticisms of difference scores, the self-criterion residual method has become the preferred approach to calculating self-enhancement bias. At the same time, it remains unclear how much, on average, the results produced using the self-criterion residual method will differ from those produced using difference scores—scholars tend to report their results using only one of the two methods. Therefore, the current meta-analysis will examine the effect of the two different methods of calculating self-enhancement bias on the magnitude and direction of the narcissism–self-enhancement relationship.

**Research Question 1:** Do meta-analytic effect sizes based on the self-criterion residual method differ from those using the difference score method?

## Individual Self-Enhancement Criteria

In addition to the previously described hypotheses and research question, we will also examine narcissism’s relationship with individual self-enhancement criteria (e.g., intelligence, attractiveness, and leadership). These additional analyses will be performed in an exploratory manner, as they are contingent on effect size availability, which makes it difficult to formulate specific a priori hypotheses.

## Method

### Literature Search

First, keyword searches in PsycINFO, Google Scholar, Web of Science, and Dissertation Abstracts International were performed using the following keywords: *narcissism*, *narcissist*, *self-enhancement*, *positive illusion*, *self-report*, *self-perception*, *other-report*, *peer-report*, *informant-report*, *observer-report*, *self-evaluation*, *self-assessment*, and *self–other discrepancy*. Second, we searched the available conference programs for the Society for Personality and Social Psychology (SPSP), the Association for Research in Personality (ARP),

the American Psychological Association (APA), the Society of Industrial and Organizational Psychology (SIOP), and the Academy of Management (AOM). Third, a snowball approach was used where reference sections of articles already included in the meta-analysis were examined. Fourth, we performed a forward search of all articles that met our inclusion criteria for the meta-analysis by looking for more recent papers that cited our included papers. Fifth, unpublished data were requested from key scholars in the field, and researchers were specifically contacted if their published or unpublished papers did not provide necessary information. Sixth, we searched for papers that mentioned common measures of narcissism identified from two chapters in the *Handbook of Narcissism and Narcissistic Personality* that focused on the measurement of narcissism (i.e., Tamborski & Brown, 2011; Watson & Bagby, 2011).

### Inclusion Criteria

No restrictions were placed on the potentially self-enhanced variables included in the meta-analysis (see Table 1 for a list of potentially self-enhanced construct domains investigated in the current work). The first criterion for inclusion concerned the type of self-enhancement index. We only included those primary studies that compared narcissists’ self-reports with observer reports (e.g., friend, family member, coworker, supervisor, etc.) or objective ratings (e.g., high school grade point average [GPA], SAT scores). Second, we excluded samples that used measures of vulnerable narcissism because vulnerable narcissism is a different construct with different correlates than the more commonly researched type of narcissism (titled grandiose narcissism) that is the focus of the current article (e.g., Pincus et al., 2009). Notably, many measures developed in the clinical literature have been shown to measure grandiose narcissism; thus, we used the categorization of grandiose versus vulnerable inventories provided in Grijalva, Newman, et al. (2015) to determine whether to include specific measures in the current meta-analysis. In the end, we included samples that used the following narcissism measures: the Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988), the shortened NPI-16 (Ames, Rose, & Anderson, 2006), the California Personality Inventory (CPI; Gough & Bradley, 1996, 2002), the Bold scale of the Hogan Development Survey (HDS-Bold; Hogan & Hogan, 2009), a narcissism measure derived from the California Adult Q-set (CAQ; Block, 1961/1978), an observational narcissism measure developed from the *Diagnostic and Statistical Manual of Mental Disorders* (3rd ed., rev.; *DSM-III-R*; American Psychiatric Association, 1987) definition of Narcissistic Personality Disorder (e.g., John & Robins, 1994), a 10-item adjective-based measure of narcissism (Harms, Roberts, Wood, & Brummel, 2006), the 10-item Childhood Narcissism Scale (Thomaes, Stegge, Bushman, Olthof, & Denissen, 2008), and a short dark-triad measure (Paulhus & Jones, 2011). We excluded a sample that measured entitlement using

**Table 1.** Self-Enhanced Variables Categorized as Agentic or Communal.

| Self-enhancement criteria  | Agentic | Communal | Neither or both |
|--|---------|----------|-----------------|
| Agentic Traits   | ✓       |          |                 |
| Agreeableness  |         | ✓        |                 |
| Arrogant   | ✓       |          |                 |
| Communal traits  |         | ✓        |                 |
| Conscientiousness  |         | ✓        |                 |
| Counterproductive work behavior  |         |          | ✓               |
| Emotional stability  |         |          | ✓               |
| Envy   |         |          | ✓               |
| Exaggerates abilities  | ✓       |          |                 |
| Extraversion   | ✓       |          |                 |
| Fairness–consistency (i.e., extent to which a subject treats staff consistently and does not play favorites)                 |         | ✓        |                 |
| Fairness–decision making (i.e., extent to which a subject is unbiased and impartial in making decisions)                     |         | ✓        |                 |
| Fairness–empathy (i.e., the extent to which a subject can see things from the perspective of his or hers)                    |         | ✓        |                 |
| Fairness–equality (i.e., extent to which a subject treats employees like equals rather than inferiors)                       |         | ✓        |                 |
| Fairness–relative (i.e., how fair the subject is relative to other managers within his or her organization)                  |         | ✓        |                 |
| Fairness–supportiveness (i.e., extent to which a subject provides substantive, symbolic, and emotional support to employees) |         | ✓        |                 |
| Fairness–transaction (i.e., extent to which a subject is fair and non-exploitative in resources exchanges with employees)    |         | ✓        |                 |
| Fairness–treatment (i.e., extent to which a manager is respectful and sensitive in interactions with staff)                  |         | ✓        |                 |
| Fairness–voice (i.e., the extent to which a subject is open to the advice and feedback of staff)                             |         | ✓        |                 |
| Funny  |         |          | ✓               |
| General Self-Enhancement Across Categories   |         |          | ✓               |
| Honest   |         | ✓        |                 |
| Impulsive  | ✓       |          |                 |
| Intelligence/academic performance  | ✓       |          |                 |
| Interpersonal perception   |         |          | ✓               |
| Leadership   | ✓       |          |                 |
| Likable  |         | ✓        |                 |
| Machiavellianism   | ✓       |          |                 |
| Openness   | ✓       |          |                 |
| Power-oriented   | ✓       |          |                 |
| Physically attractive  | ✓       |          |                 |
| Psychopathy  | ✓       |          |                 |
| Reliable   |         | ✓        |                 |
| Task performance   | ✓       |          |                 |
| Well-being   |         |          | ✓               |

five items from the exploitative/entitlement facet of the NPI because the Cronbach's alpha reliability for this measure was .07 (i.e., Cohen, Panter, Turan, Morse, & Kim, 2014).

### Coding of Primary Studies

All effect sizes were coded so that positive scores indicate self-enhancement and negative scores indicate self-effacement. Studies were coded for sample size, the demographic

makeup of the sample, publication type (i.e., published paper vs. unpublished paper), the source of self-enhancement ratings (i.e., observer report vs. objective measures), type of sample (i.e., students vs. non-students), and type of self-enhancement index (i.e., regression residual vs. difference score). Furthermore, we coded the length of raters' relationships with the focal participant using three categories: (a) *zero acquaintance*—the rater and target were strangers who had not interacted (e.g., participants' personalities were rated

by strangers based on their Facebook profiles, Carlson, Naumann, & Vazire, 2011; participants' physical attractiveness was rated by strangers based on photographs, Gabriel et al., 1994), (b) *short acquaintance*—when the rater and participant had interacted, but known each other for less than 1 week (e.g., without prior interaction, individuals participated in a leaderless group discussion exercise and then rated each group member's task performance, Robins & Beer, 2001; without prior interaction, pairs of participants talked for 5 min and then rated their partner's personality, Carlson, Vazire, & Oltmanns, 2011), and (c) *long acquaintance*—when the rater and participant had known each other longer than 1 week (e.g., friend, family member, and coworker ratings). If an observer rater was nominated by a participant, then we assumed that person was a friend, family member, or coworker and thus in the long acquaintance category. In addition, we coded whether each potentially self-enhanced construct was an indicator of agency, communion, or neither (the neither category was chosen if it was decided that the construct was neither consistent with agency nor communion, or if it was an indeterminate combination of the two). Our coding decisions were based on the definitions of agency and communion provided by Wiggins (1991)—which can be found in our introduction. For a summary of the agency/communion/neither categorization by construct, see Table 1. Agreement between the first and second authors on the coded effect sizes were as follows: publication type (100%), type of self-enhancement ratings (100%), type of sample (100%), length of relationship (95%), agency/communion (93%), and type of self-enhancement index (100%). Divergent ratings were discussed until agreement was reached. The main codes and input values for all of the effect sizes included in the meta-analysis can be found in the online appendix.

### Analysis

Many of the samples included in the present meta-analysis reported multiple correlations for the narcissism–self-enhancement relationship (e.g., reporting narcissists' self-enhancement across multiple constructs, across multiple time points, or across multiple observers). To control for the nested nature of the data, we used a multilevel analysis technique that allowed us to include dependent observations, thus incorporating all of the available information into our analyses. We chose to use this multilevel approach to meta-analysis because using more traditional techniques (e.g., Borenstein, Hedges, Higgins, & Rothstein, 2009; Hunter & Schmidt, 2004) would have required creating a composite or average when there were multiple effect sizes from a single sample to adhere to the standard statistical assumption of independent observations. However, in the current study, this would often have meant averaging across different constructs—such as attractiveness, agreeableness, and intelligence. Recently, researchers have instead been using a multilevel approach that allows one to incorporate multiple

effect sizes from a single sample (e.g., Nye, Su, Rounds, & Drasgow, 2012; Podsakoff, Whiting, Welsh, & Mai, 2013).

In the current article, the narcissism–self-enhancement relationship (effect size) was conceptualized as a Level 1 variable, and the sample was conceptualized as a Level 2 variable. We identified 171 effect sizes (Level 1) from 36 independent samples (Level 2). Consistent with past research, the multilevel meta-regression analyses were performed with SAS using PROC MIXED (e.g., Podsakoff et al., 2013), and weighted by sample size, which is best practice for moderator analyses, according to Steel and Kammeyer-Mueller (2002). Finally, we corrected the effect sizes for unreliability in narcissism. For studies missing reliability information, we used the following: the average of available NPI reliabilities (reliability for NPI = .82), the reliability for the HDS-Bold came from its technical manual (reliability for HDS-Bold = .67), and the reliability for the CAQ was obtained from Wink (1992; reliability for CAQ = .91).<sup>1</sup>

**Publication bias.** We performed our publication bias analyses using the Comprehensive Meta-Analysis software with random effects models. In addition, we carried out *p-curve* analyses based on Simonsohn, Nelson, and Simmons (2014). The *p-curve* analyses were conducted via the online APP 3.0 (<http://www.p-curve.com/app3/>) developed by Simonsohn and colleagues. To meet the independence assumptions of all of the publication bias analyses, we averaged/composited the effect sizes such that there was only one effect size per sample.

### Results

Table 2 displays the means, standard deviations, and correlations among the study moderator variables. Because the correlations were between dichotomous moderator variables, we calculated tetrachoric correlations. A few of the relationships in Table 2 could not be estimated, because there were no studies in our data set that used a particular combination of moderator categories. As can be seen, many of the variables were moderately to strongly intercorrelated. Before testing our hypotheses, we also calculated the intraclass correlation coefficient ICC(1) (Bliese, 2000), which estimates the percentage of total variance in effect sizes that can be explained by Level 2 nesting of effect sizes within sample. In this case, 12% of the total variance in effect sizes can be attributed to group-level variance.

Table 3 reports the results of our multilevel weighted least squares analyses to predict the relationship between narcissism and self-enhancement. Model 1 displays the relationship between narcissism and self-enhancement, *uncorrected* for unreliability in narcissism ( $B = .18$ ,  $k = 171$  effect sizes, number of samples = 36, 95% confidence interval [CI] = [.15, .22]); and Model 2 estimates the relationship between narcissism and self-enhancement, *corrected* for unreliability in narcissism ( $B = .21$ ,  $k = 171$  effect sizes, number of samples = 36, 95% CI = [.17, .25]). For these analyses, the

**Table 2.** Means, Standard Deviations, and Correlations Among the Meta-Analytic Moderators.

| Variable                       | <i>M</i> | <i>SD</i> | 1     | 2     | 3     | 4     | 5     | 6     | 7 |
|--------------------------------|----------|-----------|-------|-------|-------|-------|-------|-------|---|
| 1. Publication type            | .54      | .50       | —     |       |       |       |       |       |   |
| 2. Type self-enhance rating    | .85      | .35       | -.10  | —     |       |       |       |       |   |
| 3. Type of sample              | .88      | .32       | .58*  | .49*  | —     |       |       |       |   |
| 4. Short relationship          | .32      | .47       | .72*  | —     | —     | —     |       |       |   |
| 5. Long relationship           | .62      | .49       | -.56* | —     | —     | -1.0* |       |       |   |
| 5. Agency                      | .54      | .50       | .24*  | -.43* | -.59* | .11   | —     |       |   |
| 6. Communion                   | .31      | .46       | -.35* | .49*  | .55*  | -.22  | -1.0* | —     |   |
| 7. Type self-enhancement index | .78      | .42       | .65*  | .56*  | .17   | .51*  | .39*  | -.45* | — |

Note. Publication type (0 = unpublished, 1 = published); type of self-enhance rating (0 = objective measure, 1 = observer report); type of sample (0 = not a student sample [internet/community samples], 1 = student sample); short relationship (0 = not short relationship, 1 = short relationship); long relationship (0 = not long relationship, 1 = long relationship); agency (0 = not agency, 1 = agency); communion (0 = not communion, 1 = communion); type of self-enhancement index (0 = difference score, 1 = regression residual). The correlations reported in this table are tetrachoric correlations. There were 171 effect sizes and 36 independent samples (due to missing data, the number of effect sizes ranged from 146 to 171).

\* $p < .05$ .

intercept of the multilevel model without predictors (i.e., the null model) uses the same metric as a correlation coefficient. As expected, narcissism was positively related to self-enhancement, supporting Hypothesis 1. In Table 3, we also report results from several methodological moderators of interest. Publication status (i.e., published vs. unpublished;  $B = .02$ , 95% CI =  $[-.07, .11]$ ), the source of the self-enhancement ratings (i.e., observer reports vs. objective measures;  $B = -.01$ , 95% CI =  $[-.10, .08]$ ), and the type of sample (i.e., student vs. non-student;  $B = -.05$ , 95% CI =  $[-.15, .06]$ ) were not statistically significant predictors of the narcissism–self-enhancement relationship. However, the narcissism measure used (i.e., NPI vs. non-NPI;  $B = -.09$ , 95% CI =  $[-.19, -.003]$ ) was significant such that studies using the NPI produced slightly smaller effect sizes than studies using other narcissism inventories. The pseudo- $R^2$  for this analysis was .03; adding the “NPI vs. other narcissism measure” variable accounted for an additional 3% of the variance in the narcissism–self-enhancement relationship beyond that explained by the baseline model (i.e., Model 2).<sup>2</sup> A final methodological moderator of interest addressed Research Question 1 (i.e., whether effect sizes produced using the self-criterion residual method are the same as those produced using difference scores). In this case, the regression coefficient was statistically significant ( $B = .10$ , 95% CI =  $[.01, .19]$ ) such that the self-criterion residual method produced slightly larger effect sizes than difference scores.

Therefore, we further performed all of our analyses with the effect sizes based on difference scores removed to ensure that our conclusions remained the same (see Table 4). When effect sizes derived from difference scores were removed, 130 effect sizes and 25 independent samples remained in the analysis. In other words, the majority of the correlations in our original data set were based on the self-criterion residual method (i.e., 76% of the effect sizes). Consequently, even when studies using difference scores were removed, we still had enough remaining data to conduct our analyses. The corrected meta-analytic

correlation increased slightly when difference scores were removed to  $B = .24$  (95% CI =  $[.21, .28]$ ) compared with the combined data  $B = .21$  (95% CI =  $[.17, .25]$ ), although the confidence intervals for the  $B$ s overlapped. The overall pattern of results remained largely the same with and without difference scores—the only differences were that (a) when difference scores were removed, the type of narcissism measure was no longer a statistically significant moderator and (b) the type of self-enhancement rating was significant ( $B = -.11$ ; 95% CI =  $[-.22, -.002]$ ) such that objective measures produced slightly larger effect sizes than observer reports.

### Agency and Communion

Next, we tested our hypotheses and research questions concerning agency and communion. Out of a total of 171 effect sizes, 92 were coded as agentic (54%) and 53 (31%) were coded as communal; 26 effect sizes were coded as neither agentic nor communal. We ran these analyses separately for agency and communion: first, with only agentic effect sizes corrected for unreliability in narcissism ( $B = .29$ ,  $SE = .02$ ,  $k = 92$  effect sizes; number of samples = 28, 95% CI =  $[.25, .33]$ ; see Model 2 in Table 5), and then with only communal effect sizes corrected for unreliability in narcissism ( $B = .05$ ,  $SE = .03$ ,  $k = 53$ , number of samples = 11, 95% CI =  $[-.01, .10]$ ; see Model 2 in Table 6).<sup>3</sup> The results suggest that narcissism is related to self-enhancement in agentic, but not communal criteria. The confidence intervals for agentic and communal criteria did not overlap, and therefore, narcissists tended to self-enhance their agentic characteristics more than their communal characteristics, on average, supporting Hypothesis 2. In addition, we reported the methodological moderator results separately for agentic criteria (in Table 5) and communal criteria (in Table 6). The methodological moderator analyses were only performed for variables that had at least three samples in each dummy coded category (e.g., for the publication type analysis, we required there to



**Table 3.** Summary of Multilevel WLS Results Predicting Narcissism's Relationship With Self-Enhancement.

| Predictor                             | Uncorrected overall self-enhancement |            | Corrected overall self-enhancement |            | Residual vs. difference score      |            | Publication type     |            | Observer vs. objective  |            | NPI vs. other narcissism measure |            | Student vs. non-student sample |            |
|---------------------------------------|--------------------------------------|------------|------------------------------------|------------|------------------------------------|------------|----------------------|------------|-------------------------|------------|----------------------------------|------------|--------------------------------|------------|
|                                       | Model 1                              | Model 2    | Model 3                            | Model 4    | Model 5                            | Model 6    | Model 7              |            |                         |            |                                  |            |                                |            |
|                                       | B (95% CI)                           | SE (p)     | B (95% CI)                         | SE (p)     | B (95% CI)                         | SE (p)     | B (95% CI)           | SE (p)     | B (95% CI)              | SE (p)     | B (95% CI)                       | SE (p)     | B (95% CI)                     | SE (p)     |
| Intercept                             | .18*                                 | .02 (.000) | .21*                               | .02 (.000) | .25*                               | .02 (.000) | .22*                 | .03 (.000) | .21*                    | .03 (.000) | .19*                             | .02 (.000) | .20*                           | .02 (.000) |
| Residual                              | [.15, .22]                           |            | [.17, .25]                         |            | [.20, .29]                         |            | [.16, .28]           |            | [.15, .26]              |            | [.13, .24]                       |            | [.15, .25]                     |            |
| Publication type                      |                                      |            | .10* [.01, .19] (.025)             |            | .02 [-.07, .11] (.643)             |            | .02                  |            | -.01 [-.10, .08] (.776) |            | -.09* [-.19, -.003] (.043)       |            | -.05 [-.15, .06] (.372)        |            |
| Observer vs. objective                |                                      |            |                                    |            |                                    |            |                      |            |                         |            |                                  |            |                                |            |
| NPI                                   |                                      |            |                                    |            |                                    |            |                      |            |                         |            |                                  |            |                                |            |
| Student                               |                                      |            |                                    |            |                                    |            |                      |            |                         |            |                                  |            |                                |            |
| Dummy code = 0 (k, number of samples) |                                      |            | 37, 9                              |            | 79, 17                             |            | 25, 18 <sup>a</sup>  |            | 31, 8 <sup>a</sup>      |            | 151, 29                          |            | 20, 7                          |            |
| Dummy code = 1 (k, number of samples) |                                      |            | 130, 25                            |            | 92, 19                             |            | 146, 24 <sup>a</sup> |            | 140, 30 <sup>a</sup>    |            | 171, 36                          |            | 171, 36                        |            |
| Total                                 | 171, 36                              |            | 171, 36                            |            | 167 <sup>b</sup> , 34 <sup>b</sup> |            | 171, 36              |            | 171, 36                 |            | 171, 36                          |            | 171, 36                        |            |
| k, number of samples (N)              | (N = 6,423)                          |            | (N = 6,423)                        |            | (N = 6,077)                        |            | (N = 6,423)          |            | (N = 6,423)             |            | (N = 6,423)                      |            | (N = 6,423)                    |            |
| $\tau_0^2, \sigma^2$                  | .0041, 3.338                         |            | .0059, 4.332                       |            | .0027, 4.256                       |            | .0062, 4.332         |            | .0063, 4.332            |            | .0064, 4.213                     |            | .0059, 4.336                   |            |
| Pseudo-R <sup>2</sup>                 |                                      |            | .02                                |            | .00                                |            | .00                  |            | .00                     |            | .03                              |            | .00                            |            |

Note. WLS = weighted least squares; Uncorrected Overall Self-Enhancement = narcissism-self-enhancement relationship uncorrected for unreliability in narcissism; Corrected Overall Self-Enhancement = narcissism-self-enhancement relationship corrected for unreliability in narcissism; Publication type (published = 1, unpublished = 0); Residual vs. difference score (residual = 1, difference score = 0); Observer vs. objective (1 = observer report, 0 = objective measure); NPI vs. other measure (1 = NPI, 0 = other measures); NPI = Narcissistic Personality Inventory; Student vs. non-student sample (1 = student, 0 = non-student); B = unstandardized regression coefficient weighted by sample size; SE = standard error of the regression coefficient; 95% CI = 95% confidence interval; p = exact p value; k = number of effect sizes; N = number of participants (see Note 1);  $\tau_0^2$  = intercept variance across groups;  $\sigma^2$  = within-group, individual-level variance; Pseudo-R<sup>2</sup> = proportion of variance explained beyond baseline model (baseline model = Model 2).

<sup>a</sup>Some samples had effects sizes for both 0 and 1 dummy coded categories.

<sup>b</sup>There were missing data for this analysis.

\*p < .05.

**Table 4.** Summary of Multilevel WLS Results Predicting Narcissism's Relationship With Self-Enhancement—Excluding Effect Sizes Based on Difference Scores.

| Predictor                | Uncorrected overall self-enhancement |               |               | Corrected overall self-enhancement |               |               | Publication type     |               |                        | Observer vs. objective |                     |               | NPI vs. other narcissism measure |               |                    | Student vs. non-student sample |        |  |
|--------------------------|--------------------------------------|---------------|---------------|------------------------------------|---------------|---------------|----------------------|---------------|------------------------|------------------------|---------------------|---------------|----------------------------------|---------------|--------------------|--------------------------------|--------|--|
|                          | Model 1                              |               |               | Model 2                            |               |               | Model 3              |               |                        | Model 4                |                     |               | Model 5                          |               |                    | Model 6                        |        |  |
|                          | B (95% CI)                           | SE (p)        | SE (p)        | B (95% CI)                         | SE (p)        | SE (p)        | B (95% CI)           | SE (p)        | SE (p)                 | B (95% CI)             | SE (p)              | SE (p)        | B (95% CI)                       | SE (p)        | SE (p)             | B (95% CI)                     | SE (p) |  |
| Intercept                | .21*<br>[.18, .24]                   | .01<br>(.000) | .02<br>(.000) | .24*<br>[.21, .28]                 | .02<br>(.000) | .02<br>(.000) | .26*<br>[.21, .30]   | .02<br>(.000) | .23*<br>[.20, .27]     | .05<br>(.000)          | .23*<br>[.17, .29]  | .02<br>(.000) | .23*<br>[.18, .28]               | .02<br>(.000) | .23*<br>[.18, .28] | .02<br>(.000)                  |        |  |
| Publication type         |                                      |               |               | .03<br>[-.03, .10]                 | .03<br>(.318) |               |                      |               |                        |                        |                     |               |                                  |               |                    |                                |        |  |
| Observer vs. objective   |                                      |               |               |                                    |               |               |                      |               | -.11*<br>[-.22, -.002] | .06<br>(.047)          |                     |               |                                  |               |                    |                                |        |  |
| NPI                      |                                      |               |               |                                    |               |               |                      |               |                        |                        | -.04<br>[-.14, .05] | .04<br>(.325) |                                  |               |                    |                                |        |  |
| Student                  |                                      |               |               |                                    |               |               |                      |               |                        |                        |                     |               |                                  |               |                    |                                |        |  |
| Dummy code = 0           |                                      |               |               | 48, 12                             |               |               | 9, 9 <sup>a</sup>    |               | 22, 7 <sup>a</sup>     |                        | 13, 5               |               |                                  |               |                    |                                |        |  |
| (k, number of samples)   |                                      |               |               |                                    |               |               |                      |               |                        |                        |                     |               |                                  |               |                    |                                |        |  |
| Dummy code = 1           |                                      |               |               | 82, 13                             |               |               | 121, 20 <sup>a</sup> |               | 108, 19 <sup>a</sup>   |                        | 117, 20             |               |                                  |               |                    |                                |        |  |
| (k, number of samples)   |                                      |               |               |                                    |               |               |                      |               |                        |                        |                     |               |                                  |               |                    |                                |        |  |
| Total                    | 130, 25                              |               |               | 130, 25                            |               |               | 130, 25              |               | 130, 25                |                        | 130, 25             |               | 130, 25                          |               | 130, 25            |                                |        |  |
| k, number of samples (N) | (N = 4,537)                          |               |               | (N = 4,537)                        |               |               | (N = 4,537)          |               | (N = 4,537)            |                        | (N = 4,537)         |               | (N = 4,537)                      |               | (N = 4,537)        |                                |        |  |
| $\tau_0^2, \sigma^2$     | .0000, 3.755                         |               |               | .0000, 4.950                       |               |               | .0000, 4.950         |               | .0000, 4.836           |                        | .0012, 4.823        |               | .0014, 4.795                     |               | .0014, 4.795       |                                |        |  |
| Pseudo-R <sup>2</sup>    |                                      |               |               | .00                                |               |               | .00                  |               | .02                    |                        | .02                 |               | .03                              |               | .03                |                                |        |  |

Note. WLS = weighted least squares; Uncorrected Overall Self-Enhancement = narcissism-self-enhancement relationship uncorrected for unreliability in narcissism; Corrected Overall Self-Enhancement = narcissism-self-enhancement relationship corrected for unreliability in narcissism; Publication type (published = 1, unpublished = 0); Residual vs. difference score (residual = 1, difference score = 0); Observer vs. objective (1 = observer report, 0 = objective measure); NPI vs. other measure (1 = NPI, 0 = other measures); NPI = Narcissistic Personality Inventory; Student vs. non-student sample (1 = student, 0 = non-student); B = unstandardized regression coefficient, weighted by sample size; SE = standard error of the regression coefficient; 95% CI = 95% confidence interval; p = exact p value; k = number of effect sizes; N = number of participants (see Note 1);  $\tau_0^2$  = intercept variance across groups;  $\sigma^2$  = within-group, individual-level variance; Pseudo-R<sup>2</sup> = proportion of variance explained beyond baseline model (baseline model = Model 2). See Note 2 for an interpretation of Pseudo-R<sup>2</sup> values.

<sup>a</sup>Some samples had effects sizes for both the 0 and 1 dummy coded categories.

\*p < .05.

**Table 5.** Summary of Multilevel WLS Results Predicting Narcissism's Relationship With Self-Enhancement in Agentic Criteria.

| Predictor                              | Uncorrected overall self-enhancement |               | Corrected overall self-enhancement |               | Residual vs. difference score     |               | Publication type   |               | Observer vs. objective |               | NPI vs. other narcissism measure |               | Student vs. non-student sample |               |
|--|--------------------------------------|---------------|------------------------------------|---------------|-----------------------------------|---------------|--------------------|---------------|------------------------|---------------|----------------------------------|---------------|--------------------------------|---------------|
|  | Model 1                              | Model 2       | Model 3                            | Model 4       | Model 5                           | Model 6       | Model 7            |               |                        |               |                                  |               |                                |               |
|  | B (95% CI)                           | SE (p)        | B (95% CI)                         | SE (p)        | B (95% CI)                        | SE (p)        | B (95% CI)         | SE (p)        | B (95% CI)             | SE (p)        | B (95% CI)                       | SE (p)        | B (95% CI)                     | SE (p)        |
| Intercept                              | .26*<br>[.22, .29]                   | .02<br>(.000) | .29*<br>[.25, .33]                 | .02<br>(.000) | .31*<br>[.29, .36]                | .02<br>(.000) | .27*<br>[.21, .33] | .03<br>(.000) | .30*<br>[.25, .35]     | .03<br>(.000) | .27*<br>[.22, .32]               | .02<br>(.000) | .29*<br>[.24, .34]             | .03<br>(.000) |
| Residual                               |                                      |               | .09<br>[-.02, .20]                 | .05<br>(.11)  |                                   |               |                    |               |                        |               |                                  |               |                                |               |
| Publication type                       |                                      |               |                                    |               | -.04<br>[-.14, .05]               | .04<br>(.328) |                    |               |                        |               |                                  |               |                                |               |
| Observer vs. objective                 |                                      |               |                                    |               | .03<br>[-.05, .11]                | .04<br>(.452) |                    |               |                        |               |                                  |               |                                |               |
| NPI                                    |                                      |               |                                    |               |                                   |               |                    |               |                        |               | -.07<br>[-.17, .03]              | .05<br>(.153) | .01<br>[-.10, .12]             | .05<br>(.833) |
| Student                                |                                      |               |                                    |               |                                   |               |                    |               |                        |               |                                  |               |                                |               |
| Dummy code = 0                         |                                      |               |                                    |               |                                   |               | 20, 14             |               | 18, 6                  |               | 18, 5                            |               |                                |               |
| (k, number of samples)                 |                                      |               |                                    |               |                                   |               |                    |               |                        |               |                                  |               |                                |               |
| Dummy code = 1                         |                                      |               |                                    |               |                                   |               | 72, 19             |               | 74, 23                 |               | 74, 23                           |               |                                |               |
| (k, number of samples)                 |                                      |               |                                    |               |                                   |               |                    |               |                        |               |                                  |               |                                |               |
| Total                                  | 92, 28                               |               | 92, 28                             |               | 90 <sup>a</sup> , 27 <sup>a</sup> |               | 92, 28             |               | 92, 28                 |               | 92, 28                           |               | 92, 28                         |               |
| k <sub>i</sub> , number of samples (N) | (N = 5,564)                          |               | (N = 5,564)                        |               | (N = 5,363)                       |               | (N = 5,564)        |               | (N = 5,564)            |               | (N = 5,564)                      |               | (N = 5,564)                    |               |
| $\tau_0^2, \sigma^2$                   | .0055, 1.509                         |               | .0075, 1.959                       |               | .0063, 2.007                      |               | .0077, 1.951       |               | .0070, 1.997           |               | .0070, 1.957                     |               | .0079, 1.963                   |               |
| Pseudo-R <sup>2</sup>                  |                                      |               | -.02                               |               | -.02                              |               | .004               |               | -.02                   |               | .001                             |               | -.002                          |               |

Note. WLS = weighted least squares; Uncorrected Overall Self-Enhancement = narcissism-self-enhancement relationship uncorrected for unreliability in narcissism; Corrected Overall Self-Enhancement = narcissism-self-enhancement relationship corrected for unreliability in narcissism; Publication type (published = 1, unpublished = 0); Residual vs. difference score (residual = 1, difference score = 0); Observer vs. objective (1 = observer report, 0 = objective measure); NPI vs. other measure (1 = NPI, 0 = other measures); NPI = Narcissistic Personality Inventory; Student vs. Non-Student Sample (1 = student, 0 = non-student); B = unstandardized regression coefficient, weighted by sample size; SE = standard error of the regression coefficient; 95% CI = 95% confidence interval; p = exact p value; k = number of effect sizes; N = number of participants (see Note 1);  $\tau_0^2$  = intercept variance across groups;  $\sigma^2$  = within-group, individual-level variance; Pseudo-R<sup>2</sup> = proportion of variance explained beyond baseline model (baseline model = Model 2). See Note 2 for an interpretation of Pseudo-R<sup>2</sup> values.

<sup>a</sup>There were missing data for this analysis.

\*p < .05.

**Table 6.** Summary of Multilevel WLS Results Predicting Narcissism's Relationship With Self-Enhancement in Communal Criteria.

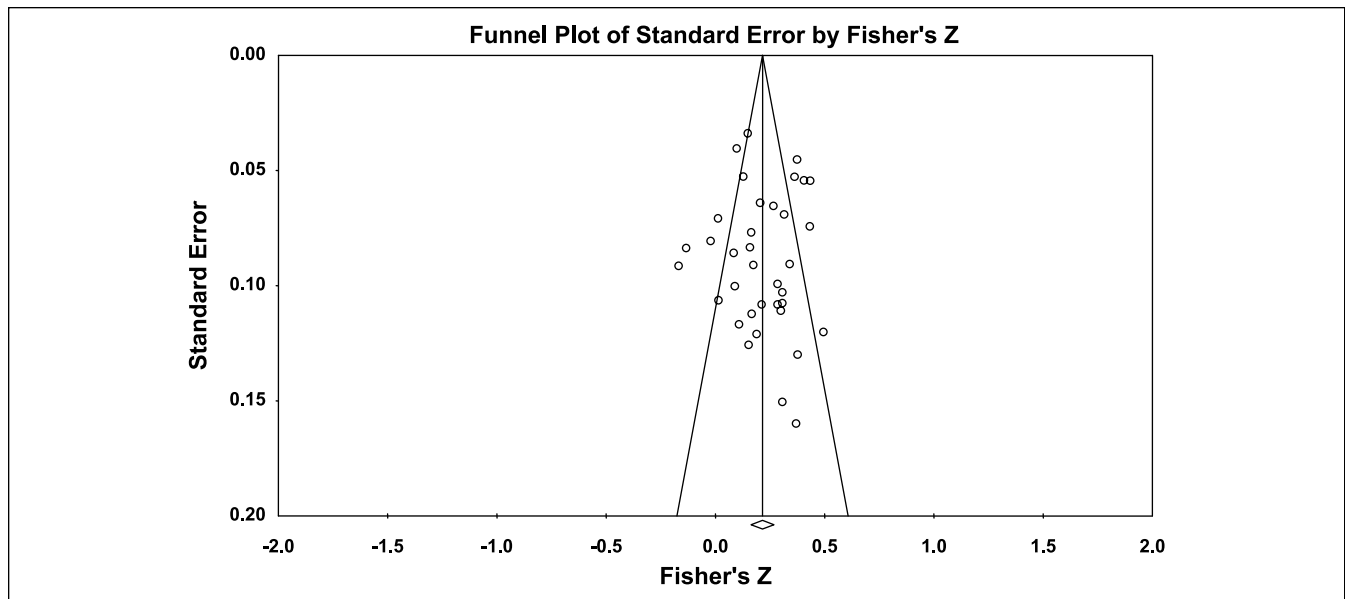
| Predictor                             | Uncorrected overall self-enhancement |                       | Corrected overall self-enhancement |                       | Residual vs. difference score |   | Publication type   |                       |
|---------------------------------------|--------------------------------------|-----------------------|------------------------------------|-----------------------|-------------------------------|---|--------------------|-----------------------|
|                                       | B (95% CI)                           | SE (p)                | B (95% CI)                         | SE (p)                | B (95% CI)                    | SE (p)  | B (95% CI)         | SE (p)                |
| Intercept                             | .04<br>[-.01, .09]                   | .02<br>(.094)         | .05<br>[-.01, .10]                 | .03<br>(.075)         | .07*<br>[.001, .14]           | .03<br>(.048)                                   | .06<br>[-.03, .15] | .05<br>(.202)         |
| Residual                              |                                      |                       |                                    |                       | .02<br>[-.10, .14]            | .06<br>(.730)                                   |                    |                       |
| Publication type                      |                                      |                       |                                    |                       |                               |   | .01<br>[-.10, .13] | .06<br>(.806)         |
| Dummy code = 0 (k, number of samples) |                                      |                       |                                    | 20, 3                 |                               | 33, 7   |                    |                       |
| Dummy code = 1 (k, number of samples) |                                      |                       |                                    | 31, 6                 |                               | 20, 4   |                    |                       |
| Total: k, number of samples, (N)      |                                      | 53, 11<br>(N = 1,612) |                                    | 53, 11<br>(N = 1,612) |                               | 51 <sup>a</sup> , 9 <sup>a</sup><br>(N = 1,266) |                    | 53, 11<br>(N = 1,612) |
| $\tau_0^2, \sigma^2$                  |                                      | .0000, 3.345          |                                    | .0000, 4.414          |                               | .0000, 4.307                                    |                    | .0000, 4.495          |
| Pseudo-R <sup>2</sup>                 |                                      |                       |                                    |                       |                               | .02   |                    | -.02                  |

Note. WLS = weighted least squares; Uncorrected Overall Self-Enhancement = narcissism-self-enhancement relationship uncorrected for unreliability in narcissism; Corrected Overall Self-Enhancement = narcissism-self-enhancement relationship corrected for unreliability in narcissism; Residual vs. difference score (residual = 1, difference score = 0); Publication type (published = 1, unpublished = 0); B = unstandardized regression coefficient weighted by sample size; SE = standard error of the regression coefficient; 95% CI = 95% confidence interval; p = exact p value; k = number of effect sizes; N = number of participants (see Note 1);  $\tau_0^2$  = intercept variance across groups;  $\sigma^2$  = within-group, individual-level variance; Pseudo-R<sup>2</sup> = proportion of variance explained beyond baseline model (baseline model = Model 2). See Note 2 for an interpretation of Pseudo-R<sup>2</sup> values.

<sup>a</sup>There were missing data for this analysis.

\*p < .05.





**Figure 1.** Funnel plot for the relationship between narcissism and overall self-enhancement.

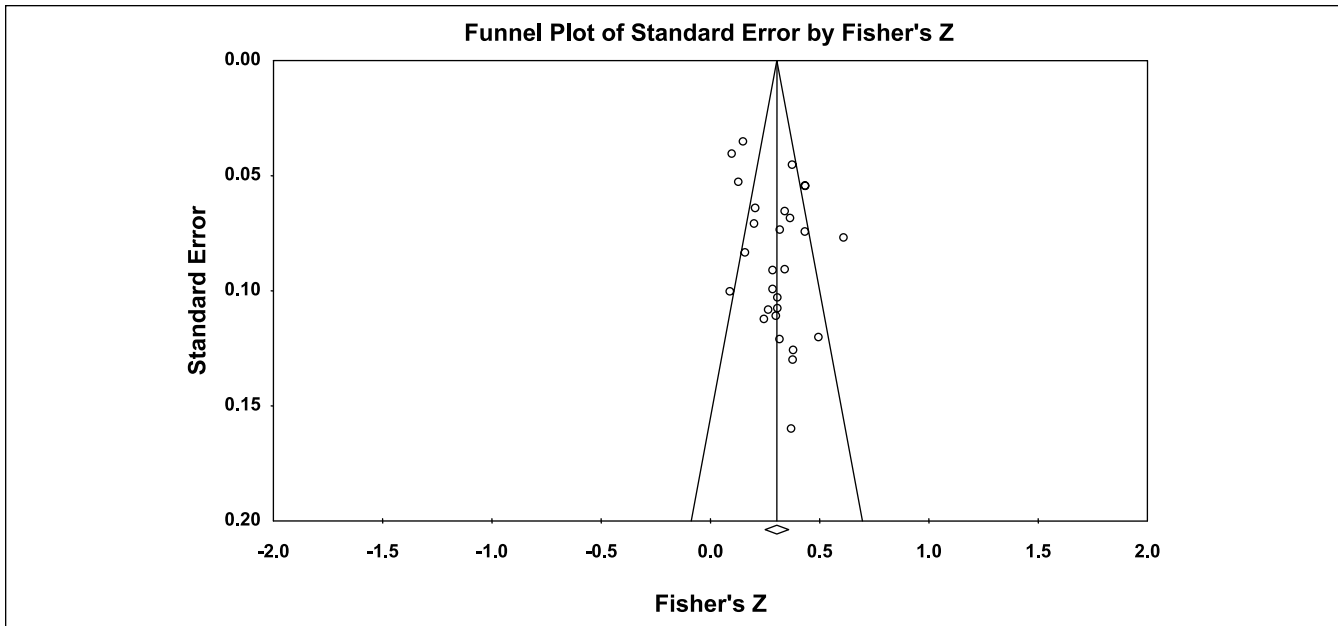
be at least three published samples and three unpublished samples). This resulted in fewer moderator analyses being performed for communal criteria. Results for communal criteria should be interpreted with caution because they were based on a small number of effect sizes.

### Publication Bias

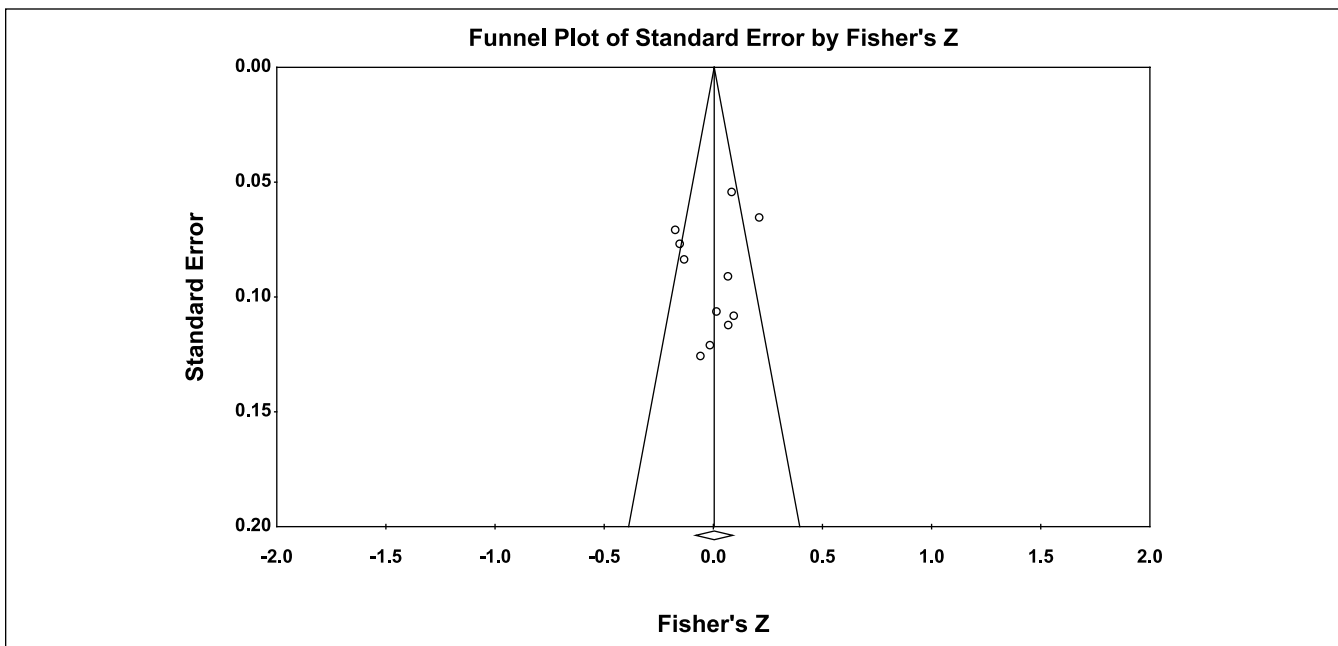
Publication bias was investigated for the narcissism–overall self-enhancement relationship, as well as separately for self-enhancement in agentic and communal criteria. First, as reported above, we compared published with unpublished studies—the concern being that studies with larger effect sizes might be more likely to get published. This was not the case in the current article because we found that the effect sizes did not differ between published and unpublished studies (see results for “Publication type” in Tables 3–6). Second, we examined funnel plots where publication bias is indicated by a lack of symmetry about the mean (Borenstein et al., 2009). Based on the funnel plots in the current study, there does not appear to be a large amount of publication bias for overall self-enhancement (Figure 1), self-enhancement in agentic criteria (Figure 2), or for self-enhancement in communal criteria (Figure 3). Third, to quantify the magnitude of any potential publication bias, we also performed Duval and Tweedie’s (2000) trim and fill analysis that is designed to detect where missing studies are likely to be located and then include these missing studies to compute a less biased, “adjusted” meta-analytic effect. The observed point estimate for overall self-enhancement was .21 (95% CI = [.16, .26]), whereas the adjusted value was .17 (95% CI = [.11, .22]). For agentic effect sizes, the observed point estimate was .30

(95% CI = [.25, .34]), whereas the adjusted value was .25 (95% CI = [.20, .30]); for communal effect sizes, the observed point estimate was .004 (95% CI = [−.08, .09]), which was exactly the same as the adjusted value. In sum, the adjusted effect sizes decreased slightly for overall self-enhancement and self-enhancement in agentic criteria, but none of the differences between observed and adjusted effect sizes reached statistical significance.

Finally, we conducted *p-curve* analyses. A “*p-curve* is the distribution of statistically significant *p* values for a set of independent findings” (Simonsohn et al., 2014, p. 535). If the *p-curve* distribution is right-skewed, this is an indication that publication bias is less likely. For overall self-enhancement, 13 of 36 effect sizes were excluded from the *p-curve* analysis because they were not statistically significant. The results are summarized in Figure 4 where one can see that the distribution is right-skewed; 74% of effect sizes had *p* values smaller than or equal to .01, and 87% were no larger than .02. The curve was significantly right-skewed based on both the binomial test (share of significant results  $p < .025$ ;  $p = .0002$ ) and the continuous test ( $Z = -12.4$ ,  $p < .0001$ ). Next, for self-enhancement in agentic criteria, 26 effect sizes were included in the analysis. Figure 5 shows that this distribution is also right-skewed with 81% of the effect sizes having *p* values smaller than or equal to .01, and 96% were no larger than .02. The curve is significantly right-skewed based on both the binomial test (share of significant results  $p < .025$ ;  $p < .0001$ ) and the continuous test ( $Z = -14.54$ ,  $p < .0001$ ). We could not perform this analysis for communal self-enhancement because only three effect sizes were significant. In sum, we concluded that publication bias is likely not a great threat to the validity of the current study.



**Figure 2.** Funnel plot for the relationship between narcissism and self-enhancement in agentive criteria.

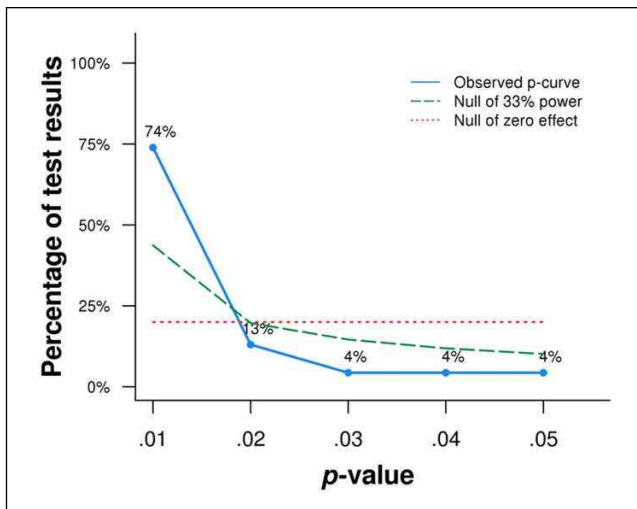


**Figure 3.** Funnel plot for the relationship between narcissism and self-enhancement in communal criteria.

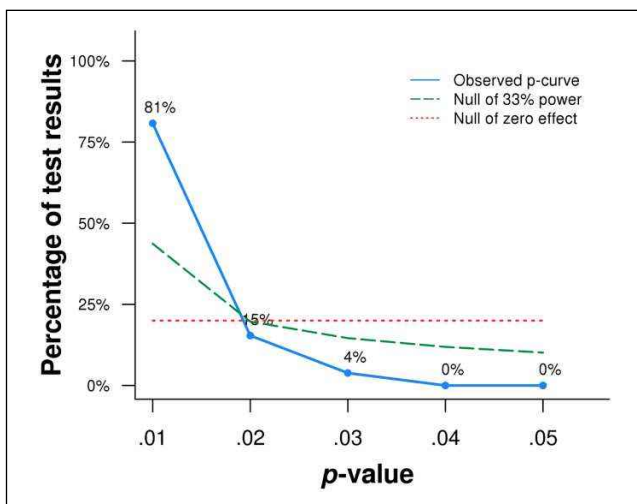
### Length of Acquaintance

Next, we assessed the impact of length of acquaintance on the narcissism–self-enhancement relationship. It was predicted that individuals who had known a narcissist for a shorter period of time would see the narcissist more positively, resulting in a smaller discrepancy between their observer reports and narcissists' self-reports, as compared

with informants who had known the participants for a longer period of time. For this analysis, we identified three broad categories of acquaintance for which we ran separate regression analyses: zero acquaintance (corrected  $B = .23$ ,  $SE = .08$ ,  $k = 9$ , number of samples = 5, 95% CI = [.005, .45]), short acquaintance (corrected  $B = .19$ ,  $SE = .03$ ,  $k = 46$ , number of samples = 8, 95% CI = [.06, .31]), and long acquaintance (corrected  $B = .22$ ,  $SE = .03$ ,  $k = 91$ , number of samples



**Figure 4.** The  $p$ -curve for narcissism's relationship with self-enhancement.



**Figure 5.** The  $p$ -curve for the relationship between narcissism and self-enhancement in agentic criteria.

= 18, 95% CI = [.16, .29]). Hypothesis 3 was not supported, as evidenced by the overlapping confidence intervals for the three categories of acquaintanceship.

### Individual Self-Enhancement Constructs

Finally, we individually examined the extent to which narcissists self-enhanced specific constructs. These results appear in Table 7. As part of this analysis, we searched for exceptions to the previously described trend for agency and communion. In other words, we examined whether there were any agentic characteristics that narcissists did not inflate and communal characteristics that narcissists did inflate. Identifying exceptions might offer insight into boundaries

concerning narcissists' agentic self-enhancement and hints regarding what it is about communion that narcissists may find unappealing. We only performed this additional analysis for constructs that had effect sizes from at least three independent samples. We were able to perform this analysis for 10 out of the 27 constructs in our meta-analysis (the different types of fairness were considered one construct; see Table 1). Many of these results should be interpreted with caution because they were based on a limited number of samples.

First, the narcissism–self-enhancement relationships for agentic constructs were as follows: intelligence ( $B = .29$ ,  $k$  effect sizes = 21, number of samples = 14, 95% CI = [.23, .35]), task performance ( $B = .17$ ,  $k$  effect sizes = 16, number of samples = 6, 95% CI = [.08, .25]), leadership ( $B = .34$ ,  $k$  effect sizes = 11, number of samples = 4, 95% CI = [.17, .50]), extraversion ( $B = .41$ ,  $k$  effect sizes = 10, number of samples = 5, 95% CI = [.31, .52]), attractiveness ( $B = .40$ ,  $k$  effect sizes = 9, number of samples = 6, 95% CI = [.28, .52]), and openness ( $B = .28$ ,  $k$  effect sizes = 8, number of samples = 4, 95% CI = [-.09, .66]). Each of the agentic constructs that we were able to examine individually was significantly related to narcissistic self-enhancement—except for openness. We will discuss the discrepancy for openness below.

Next, we examined narcissists' tendency to self-enhance communal constructs. We were only able to individually examine three communal constructs: agreeableness, conscientiousness, and likeability. As expected, narcissists did not self-enhance their agreeableness ( $B = -.14$ ,  $k$  effect sizes = 11, number of samples = 5, 95% CI = [-.44, .16]), but surprisingly, they did enhance their likability ( $B = .32$ ,  $k = 6$ , number of samples = 3, 95% CI = [.17, .48]) and their conscientiousness ( $B = .18$ ,  $k$  effect sizes = 9, number of samples = 5, 95% CI = [.04, .32]). Therefore, likability and conscientiousness provide exceptions to the overall null relationship for narcissistic self-enhancement on communal constructs. Finally, emotional stability is not categorized as agentic or communal, but it is worth noting that narcissists did not tend to significantly enhance their emotional stability ( $B = .10$ ,  $k$  effect sizes = 10, number of samples = 6, 95% CI = [-.02, .23]).

## Discussion

The current article investigated narcissists' tendency to self-enhance. We aggregated 171 correlations from 36 independent samples using multilevel meta-analytic techniques to reveal that there was a small but consistent relationship between narcissism and self-enhancement. Furthermore, we discovered that narcissists self-enhanced their agentic attributes more than their communal attributes, suggesting that the aforementioned significant overall narcissism–self-enhancement relationship was driven by narcissists' positive distortion in agentic domains. In contrast, the average effect size for communal characteristics was near zero.

We found a somewhat similar pattern when we examined our results individually by construct; however, these analyses

**Table 7.** Summary of Multilevel WLS Results Predicting the Narcissism–Self-Enhancement Relationship for Different Self-Enhancement Criteria.

| Self-enhancement criteria | <i>k</i> | Samples | <i>N</i> | <i>B</i> | <i>SE</i> | 95% CI      | <i>p</i> value |
|---------------------------|----------|---------|----------|----------|-----------|-------------|----------------|
| Intelligence              | 21       | 14      | 2,827    | .29*     | .03       | [.23, .35]  | .000           |
| Task performance          | 16       | 6       | 789      | .17*     | .04       | [.08, .25]  | .001           |
| Leadership                | 11       | 4       | 1,390    | .34*     | .05       | [.17, .50]  | .008           |
| Agreeableness             | 11       | 5       | 751      | -.14     | .11       | [-.44, .16] | .264           |
| Extraversion              | 10       | 5       | 751      | .41*     | .04       | [.31, .52]  | .000           |
| Emotional stability       | 10       | 6       | 907      | .10      | .05       | [-.02, .23] | .092           |
| Attractiveness            | 9        | 6       | 622      | .40*     | .05       | [.28, .52]  | .000           |
| Conscientiousness         | 9        | 5       | 904      | .18*     | .05       | [.04, .32]  | .022           |
| Openness                  | 8        | 4       | 669      | .28      | .12       | [-.09, .66] | .096           |
| Likable                   | 6        | 3       | 241      | .32*     | .04       | [.17, .48]  | .013           |

Note. WLS = weighted least squares; *k* = number of effect sizes included in the meta-analysis; Samples = number of independent samples included in the meta-analysis; *N* = number of participants (see Note 1); *B* = unstandardized regression coefficient weighted by sample size; *SE* = standard error of the regression coefficient; 95% CI = lower and upper bounds of the 95% confidence interval for *B*; *p* = exact *p* value.

\**p* < .05.

were based on a smaller number of effect sizes and should be interpreted with caution. Narcissism was associated with self-enhancement on the agentic constructs of task performance, attractiveness, leadership, intelligence, and extraversion, but not openness. However, narcissists unexpectedly self-enhanced two communal traits, likeability and conscientiousness, although, as expected, narcissists did not enhance agreeableness. From a practical perspective, this means that researchers should potentially be more cautious about relying on a narcissists' self-reports of agentic qualities, as well as likeability and conscientiousness, because these are the characteristics they are more likely to positively distort. In contrast, narcissists are *not* more likely to provide inflated self-ratings on communal constructs than non-narcissists, on average.

It is worth exploring in more detail the two communal traits for which narcissists did in fact self-enhance—likability and conscientiousness. At first, it appeared as though likeability would fit better with our definition of communion, because likability is associated with being friendly and cooperative (Cillessen & Rose, 2005; van der Linden, Scholte, Cillessen, Nijenhuis, & Segers, 2010). However, likeability has also been used as a measure of popularity (e.g., sociometric status ratings in which one is asked to rate each individual in a group on likeability; e.g., Dion & Berscheid, 1974). In contrast to likeability, popularity “refers to the extent to which one has prestige and influence in a group, and is often associated with social dominance” (van der Linden et al., 2010, p. 669). It is possible that narcissists are endorsing likeability because they associate likeability with popularity, and consequently, social influence and prestige, a possibility that necessitates further research.

Our findings for conscientiousness also did not conform to the expected pattern for communal constructs. Although previous scholars have categorized conscientiousness as being communal (e.g., Campbell et al., 2002), we initially

found conscientiousness difficult to categorize into either agency or communion, because we perceived it to have both communal (e.g., dutifulness) and agentic (e.g., achievement striving) facets (Costa & McCrae, 1992). Thus, we also ran our communion analysis without conscientiousness, and our results did not statistically differ when conscientiousness was excluded (corrected *B* = -.02, *SE* = .05, *k* = 44, number of samples = 10, 95% CI = [-.17, .12]). At the same time, it is possible that only certain facets of conscientiousness are driving the observed relationship between narcissism and self-enhancement—a possibility that needs to be verified by future research. Similarly, opposing facet-level relationships could also explain why narcissists did not enhance the agentic Big Five trait of openness to a significant degree. For example, one facet of openness is *feelings*, which taps into a sensitivity to one's own feelings, whereas another facet is *actions*, which taps into a preference for variety over routine (Costa & McCrae, 1992). Narcissists are not known for being particularly introspective and in touch with their emotions, but narcissism has been associated with approach motivation and specific behaviors such as risk taking (Vazire & Funder, 2006) and sensation/fun seeking (Campbell et al., 2006; Miller et al., 2009). Thus, individuals high in narcissism may be more likely to enhance facets of openness that align more closely with approach motivation. Unfortunately, due to limitations in the type of information available in our primary studies, we were not able to examine the narcissism–self-enhancement relationship for the Big Five at the facet level; hence, further empirical inquiry is needed on the narcissism–self-enhancement relationship in the Big Five facets.

### Theoretical Implications

The mapping of narcissists' pattern of self-enhancement has many theoretical implications. First, the current study emphasizes the contextualized nature of narcissism's relationship



with self-enhancement. Although narcissists do indeed self-enhance, these positive illusions appear to be targeted toward agentic attributes—potentially attributes that are central to their self-concepts. Thus, the current work helps to precisely identify an important boundary condition on what was once thought to be a global tendency toward self-enhancement. A possible direction for future research would be to explore why narcissists' self-ratings are more similar to observer ratings for communal traits. For example, do communal characteristics have a subtle negative connotation to narcissists—are communal characteristics associated with weakness and unwanted vulnerability? This explanation is intuitively appealing based on some theoretical accounts of narcissism (such as Morf and Rhodewalt's [2001] dynamic self-regulatory processing model of narcissism); however, it should be noted that the average communal effect size we found was near zero (i.e.,  $B = .05$ ). If narcissists really considered communal traits to reflect negative qualities, then we would have expected to see statistically significant negative effects. Based on our results, narcissists may perceive communal qualities as simply being unimportant. This is consistent with Campbell and Foster's (2007) observation that one of the defining features of narcissism is a "lack of interest in warm and caring interpersonal relationships" (p. 118, emphasis added).

Thus, a second contribution of the current article was that it provided further insight into theoretical accounts of narcissism. Specifically, Campbell and colleagues' extended agency model of narcissism (e.g., Campbell & Foster, 2007) posits that prioritizing agentic over communal concerns is a fundamental characteristic of narcissism—a contention that is supported by the current meta-analysis. In addition, the agency model of narcissism indicates that inflated self-views are one of the intrapsychic strategies that narcissists use to feel good about themselves, and state that narcissistic esteem is "linked primarily to dominance rather than closeness or acceptance" (Campbell & Foster, 2007, p. 122). Overall, our results are consistent with and build confidence in the aforementioned components of the more general agency model of narcissism.

A third contribution of the current meta-analysis was to investigate the impact of using difference scores, as opposed to regression residuals. We found that effect sizes based on regression residuals were slightly larger than those based on difference scores. Although difference scores are criticized more frequently, the self-criterion residual method has also faced methodological criticism (see Krueger & Wright, 2011). That being said, there are now more advanced methods than difference scores and the self-criterion residual method for indexing self-enhancement. First, drawing on Kenny's (1994) Social Relations Model (SRM), a new method was proposed by Kwan and colleagues (2004) that requires round-robin data (i.e., data collected in a small group in which all group members provide self-reports, as well as reports for every other group member). If round-robin data are available, then

using Kwan and colleagues' method allows one to get a more precise estimate of self-enhancement by taking into consideration both perceiver effects (how one tends to perceive others) and target effects (how one tends to be perceived; for a more detailed description, see Borkeau, Zaltauskas, & Leising, 2009; Kwan et al., 2004). A second option is to use polynomial regression and response surface methodology (Edwards & Parry, 1993), which have become popular in the person-environment fit literature in industrial and organizational psychology. Using polynomial regression, researchers can analyze their results from a three-dimensional perspective, relating self-ratings and observer ratings to an outcome of interest, such as narcissism. Polynomial regression and response surface methodology allow researchers to directly test the relationships that difference scores are supposed to evaluate without the same restrictive (often untested) assumptions inherent to the use of difference scores (see Edwards, 2002, for a thorough description of polynomial regression).

### Limitations and Future Research Directions

The current article has several limitations. First, the number of effect sizes was smaller than we would have liked for some of the moderator analyses, and it would have been preferable to examine a greater number of potentially self-enhanced constructs (although we were able to examine 10 constructs). In addition, despite the fact it is logically intuitive that people's perceptions of narcissists change as they get to know a narcissist better, because it takes time for narcissists' more negative qualities to become apparent, our acquaintance hypothesis (Hypothesis 3) was not supported. We would have liked to use a continuous measure of length of acquaintance rather than three categories (zero, short, and long acquaintance), but this was not possible because of missing information for many studies and the fact that many studies combined data from dyads with different lengths of acquaintance. Due to the somewhat crude nature of the acquaintance categories in the current work, we hope that researchers will continue to address the role played by length of acquaintance. Finally, we were interested in exploring how narcissists' self-enhancement differed cross-culturally, but the majority of our primary studies originated from samples collected in the United States and Canada. Future research is needed to examine the role that culture plays in narcissistic self-enhancement.

### Conclusion

We empirically reviewed the narcissism-self-enhancement literature. In addition to summarizing the magnitude of the meta-analytic effect sizes, the current study provided nuanced insight into narcissism's relationship with self-enhancement by showing that the relationship was driven by narcissists' tendency to self-enhance their agentic attributes, as opposed to their communal attributes.

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### Notes

1. If a sample had multiple effect sizes that were based on different numbers of participants, then we used the smallest sample size from each sample to compute a conservative overall sample size estimate to report in our article. However, in our analyses, we weighted each effect size using the most accurate information available—allowing effect sizes from the same sample to have different sample sizes, where applicable.
2. Notably, because the current study is using multilevel modeling for which there are multiple variance components, adding predictor variables occasionally increases rather than decreases some of the variance components. This increase in variance makes negative pseudo- $R^2$  variables possible in the multilevel modeling context (Raudenbush & Bryk, 2002). In the current article, negative pseudo- $R^2$  values will be interpreted as indicating particularly poor predictors.
3. We chose to run the analyses for agency and communion separately because it did not make sense theoretically to control for the “neither agency nor communion” category when estimating our agency and communion effect sizes. However, when agency and communion were simultaneously added to the overall self-enhancement model (i.e., added to Model 2 in Table 3), then the pseudo- $R^2$  for agency/communion was .35. This provides further evidence that the agency/communion distinction serves as an important boundary condition of narcissism’s relationship with self-enhancement.

### Supplemental Material

The online supplemental material is available at <http://pspb.sagepub.com/supplemental>.

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