Narcissism and Self-Insight: A Review and Meta-Analysis of Narcissists’ Self-Enhancement Tendencies.

Total Words = xx

**Narcissism and Self-Insight: A Review and Meta-Analysis of Narcissists’ Self-Enhancement Tendencies.**

Abstract

It has long been recognized that narcissists tend to self-enhance; however, scholars have only relatively recently begun examining whether narcissists enhance some of their attributes more than others. The current paper 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 on potentially self-enhanced variables to observer-reports or objective data. Results from 171 correlations reported in 35 empirical studies (*N* = 5,381) revealed that the narcissism-self-enhancement correlation was .20 (95% CI = [.14, .26]), and that narcissists tend to self-enhance their agentic characteristics more than their communal characteristics (the average relationship between narcissism and self-enhancement for agentic characteristics was .27, whereas for communal characteristics it was .01). In addition, we individually summarized narcissists’ self-enhancement for 10 different constructs (i.e., the Big Five, task performance, intelligence, leadership, attractiveness, and likeability). Finally, the impact of using regression residuals as opposed to difference scores to calculate self-enhancement was also investigated.

*Keywords*: narcissism, self-enhancement, meta-analysis, agency, communion

**Narcissism and Self-Insight: A Review and Meta-Analysis of Narcissists’ Self-Enhancement Tendencies.**

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, past research indicates that 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, 2014; Judge, LePine, & Rich, 2006), and creative (Goncalo, Flynn, & Kim, 2010) than 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, 2011b).

In general, a person predominantly self-enhances characteristics that are most central to his or her self-concept (Gaertner, Sedikides, & Chang, 2008; Gebauer, Sedikides, Verplanken, & Maio, 2012; James, 1907; 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 will first consolidate past findings to give an overall estimate of how much narcissists self-enhance in general, across criteria. We will 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 acquaintanceship, whether observers who have known a narcissist longer perceive them more negatively; a tendency that could result in a greater discrepancy between narcissists’ self-reports and observer-reports (i.e., greater observed self-enhancement) for well-acquainted as opposed to minimally acquainted participants, (c) addressing how existing issues related to the measurement of self-enhancement (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 is “characterized by affectation of grandeur or splendor or by absurd exaggeration” (Merriam-Webster’s online dictionary) 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). Further, individuals high in narcissism (CITATION)such that narcissism is iGregg & Sedikides, 2010; Morf et al., 2011; Rhodewalt, 2013Morf et al., 2011; Rhodewalt, 2013For 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 they experience failure (Campbell et al., 2000). In addition to these strategies, arguably the key weapon in narcissists’ self-regulatory arsenal is t(i.e., “claim greater standing on a characteristic, or more credit, than is objectively warranted”, Alicke & Sedikides, 2011, p. 2).

Self-enhancement theory draws heavily on individuals’ underlying self-motives [for a review see Alicke and 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 Jones (1973) and Leary (2007)]. Indeed, this vital human need to maintain a positive self-concept is evident in research showing a general tendency for people to have inflated views of themselves (Alicke & Sedikides, 2009; Alicke & Sedikides, 2011; Sedikides & Gregg, 2008), 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; Brown, 1986). At the same time, some evidence suggests that not everyone self-enhances. For example, in the context of a group discussion exercise, Gosling, John, Craik, and Robins (2008) found that 43% of participants did not self-enhance when their self-ratings were compared to 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; also referred to as criterion discrepancy; Kwan, John, Kenny, Bond, & Robins, 2004; Kwan, John, Robins, & Kuang, 2008; Kurt & Paulhus, 2008; Taylor, Lerner, Sherman, Sage, & McDowell, 2003). Social comparison is measured by asking people to compare themselves to others (e.g., compared to the average person, how agreeable are you?), whereas self-insight is measured by comparing peoples’ self-ratings to observer-ratings or objective measures (e.g., comparing a participant’s self-reported agreeableness to the agreeableness score reported for them by a knowledgeable observer).

This distinction 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 and 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). Further, 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), then their social comparison index was no longer related to self-rated or peer-rated adjustment outcomes. However, self-insight measures did explain incremental variance in both of these indicators of psychological adjustment. Thus, leading Kurt and Paulhus (2008) to conclude 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 these interpersonal adjustment ratings are obtained from peer-reports (p. xx). This is consistent with a study showing that men who self-enhanced at 18 (comparing self-reports to observer-reports), were perceived negatively by unacquainted examiners five years later—being described as “deceitful”, “distrustful of people”, and “has [a] brittle ego” (Colvin, Block & Funder, 1995, p. 1155). Of particular importance to the current paper, narcissism is studied more frequently in the self-insight literature than the social comparison literature, thus linking narcissism to the more maladaptive variant of self-enhancement (Kwan et al., 2004).

The current meta-analytic review will exclusively focus on self-insight indices of self-enhancement because of practical issues related to the availability of primary studies that measure narcissism, but also because self-enhancement as measured by social comparison has the undesirable property of lacking “a reality criterion against which the validity of the self-description can be evaluated” (Kurt & Paulhus, 2008, p. 840). In other words, social comparison measures could be problematic because it is possible that narcissists really are better than average (if a narcissist actually is better than average, then it would not be considered self-enhancement for that individual to perceive himself or herself more positively than he or she perceives the average person). For example, a recent meta-analysis established that narcissism is linked to physical attractiveness, (*r* = .15, *k* = 18, *N* = 1,039; Holtzman & Strube, 2010), so, assuming a normal distribution for physical attractiveness scores, it is potentially more likely that a narcissist is of slightly above average attractiveness. At the same time, the relationship between narcissism and attractiveness is relatively small, and the bulk of existing evidence suggests that narcissism is not strongly correlated with other positive criteria such as course grades (*r* = -.04, Farwell & Wohlwend-Lloyd, 1998), intelligence (*r* = .11, Gabriel et al., 1994), task performance in a group discussion exercise [*r* = 12 (staff ratings), *r* = .04 (peer ratings), John & Robins, 1994], leadership effectiveness [*r* = .02, *k* = 32, *N* = 5,593; Grijalva et al., 2014), or creativity [*r* = .08 (fluency) and *r* = .06 (flexibility); Goncalo et al., 2010]. To avoid the pitfalls associated with not having a measure of reality against which to compare self-reports, in the current paper we consider external criteria (i.e., observer reports and objective measures) to be essential—particularly when examining narcissism—because these external criteria constitute an “explicit standard” against which to establish the magnitude and direction of self-enhancement (Robins & Beer, 2001, p. 340).

**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., 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 in certain domains (e.g., attractiveness), 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, Reeder, Sedikides, & Elliot, 2000).

In addition, narcissists’ positive illusions extend beyond normal boundaries because they are seemingly immune to disconfirming evidence. For example, Robins and John (1997) performed a study where participants were asked to rate their 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 suggested 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 that narcissism will be positively related to self-enhancement.

*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 et al., 2011b; Rauthmann & Kolar, 2013). Specifically, this work indicates that 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 et al., 2011b). In a seminal work clarifying the boundaries 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 (Paulhus, 2001; Paulhus & Williams, 2002; Wiggins & Pincus, 1994). In effect, narcissism has a strong positive correlation with the agency axis of the interpersonal circumplex (*r* = .84; Bradlee & Emmons, 1992), but does not have a strong correlation with the communion axis of the interpersonal circumplex (*r* = .08; Bradlee & Emmons, 1992). Thus, narcissism falls within the interpersonal circumplex quadrant labeled unmitigated agency (Buss, 1990; Helgeson & Fritz, 2000). 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, scholars have established that a person predominantly self-enhances attributes that are most central to his or her self-concept (Gaertner et al., 2008; Gebauer et al., 2012; Sedikides et al., 2003), therefore it corresponds that narcissists’ positive illusions would give priority to agentic characteristics based on agency’s alignment with “self-seeking, egocentric motives” (Wiggins, 1991, p. 91). In support of this theoretical rationale, scholars have recently compiled a variety of diverse evidence demonstrating that narcissists value agentic outcomes and attributes more than communal outcomes and attributes. For example, narcissism is associated with agentic goals (e.g., power and status), but not communal goals (e.g., affiliation and closeness; Findley & Ojanen, 2013). In addition, narcissists tend to have agentic daydreams focusing on achievement (*r* = .45), heroic (*r* = .44), sexual (*r* = .37) and hostile (*r* = .23) themes (Raskin & Novacek, 1991), and 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 et al., 2010). Similarly, in a lab study, Besser and Priel (2010) found that narcissistic participants reported being angry after reading a hypothetical vignette about an achievement threat, but did not report being angry after reading a hypothetical vignette about a romantic rejection threat. In a study directly examining agency and communion, Campbell and colleagues (2002) showed that narcissists displayed a pronounced better-than-average effect for agentic characteristics but not communal characteristics.

Additional research even points to the fact that Narcissists’ preference for agency over communion is apparent at an implicit, unconscious level. e, anddiscovered 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 such that narcissists are more likely to remember self-relevant (i.e., agentic) trait content (Jones & Brunell, 2015).

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 compared to their agentic traits (Carlson, Naumann, & Vazire, 2011a; Carlson et al., 2011b). 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. This idea, however, that narcissists are avoiding vulnerability by eschewing communal traits is difficult to test. Instead, research is accumulating that the tendency to emphasize agentic traits and simultaneously deemphasize communal traits might be a conscious life strategy employed by narcissists that is focused on maximizing personal gain. Interestingly, narcissists appear to know full well that this personal gain often occurs at others’ expense (Jonason, Li, & Teicher, 2010). In addition, 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). Jones and Brunell (2015) likewise found that narcissists were willing to admit to having negative communal attributes (e.g., jealous, crude, insulting), although (as mentioned above) they only tended to recall agentic attributes in a surprise memory test—in other words, narcissists did not recall negative communal words even though they self-reported these attributes. 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” (Jones & Brunell, 2015, 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 the length of acquaintanceship 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; narcissists make positive first impressions that deteriorate as people get to know them better (Back, Schmukle, & Egloff, 2010; Carlson et al., 2011; Grijalva et al., 2014; Paulhus, 1998). Based on the thin slices of behavior paradigm, after a mere 30 seconds of exposure, participants identified narcissists as being extraverted and likeable (Oltmanns, Friedman, Fiedler, & Turkheimer, 2004). It appears that individuals are able to make snap judgments about whether or not someone is high in narcissism based on a variety of visual cues. For example, observers associate narcissism with wearing stylish and expensive clothing, having a neat and organized appearance that presumably took a long time to put together, being physically attractive, and for women, wearing makeup and having visible cleavage (Vazire, Naumann, Rentfrow, & Gosling, 2008). However, even though people might have an inkling that someone is narcissistic relatively early in a relationship, perceptions of narcissists still tend to become more negative over time. For example, Paulhus (1998) found that, over the course of two 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 their acquaintances became familiar with a broader range of their behaviors (p. 1204). Similarly, Carlson and colleagues (2011b) 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 et al., 2011b). 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 will also investigate a methodological moderator that will allow us to compare and contrast different methods of measuring self-enhancement. To calculate self-enhancement, researchers tend to use one of two methods: difference scores that are calculated by subtracting external-ratings from self-ratings or the self-criterion residual method (John & Robins, 1994; Paulhus & John, 1998). toalso known as, ,

Of these two approaches, difference scores have been criticized more frequently for their methodological weaknesses (Cronbach, 1958, 1992; Cronbach & Furby, 1970; Edwards, 1994; Edwards, 1995; Furr & Bacharach, 2014; Johns, 1981; Zuckerman & Knee, 1996). These criticisms have been discussed at length elsewhere, but a key concern (among others) 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. In sum, because of methodological problems, difference scores have been accused of producing “ambiguous and potentially misleading” results (Edwards, 1995, p. 307). .[[1]](#footnote-2) 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. We will be attempting to address the question, how similar (or different) are effect sizes produced using the self-criterion residual method, as compared to those produced using difference scores? Thus,

*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 questions examining the overall narcissism-self-enhancement relationship and agency/communion, we will also investigate 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 is difficult to formulate specific a priori hypotheses.

**Method**

**Literature Search**

We searched various electronic databases between the years 1980 and 2015 to identify samples with useful information for the present meta-analysis. 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, self-other discrepancy. Second, we searched the available conference programs for the Society for Personality and Social Psychology (SPSP), Association for Research in Personality (ARP), the American Psychological Association (APA), Society of Industrial and Organizational Psychology (SIOP), and 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 was requested from key scholars in the field; 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 including the: Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988), OMNI Personality Inventory (O’Brien; 1987), Structured Clinical Interview for DSM Disorders (SCID; First, Gibbon, Spitzer, Williams, & Benjamin, 1997 ), Personality Diagnostic Questionnaire-4 (PDQ-4; Hyler, 1994), Diagnostic Interview for DSM- IV Personality Disorders (DIPD-IV; Zanarini, Frankenburg, Sickel, & Yong, 1996), International Personality Disorders Examination (IPDE; Loranger, 1999), Personality Disorder Interview–IV (PDI, xx), Structured Interview for DSM–IV Personality Disorders (SIDP-IV; Pfohl, Blum, & Zimmerman, 1997), Diagnostic Interview for Narcissism (DIN), Schedule for Nonadaptive and Adaptive Personality (SNAP-2; Clark, 1993), Millon Clinical Multiaxial Inventory (MCMI-III; Millon, Millon, Davis, & Grossman, 2006b),Minnesota Multiphasic Personality Inventory (MMPI-2), Dirty Dozen (Jonason & Webster, 2010), Narcissistic Grandiosity Scale (NGS; Rosenthal, Hooley, & Steshenko, 2007), Hogan Developmental Survey Bold Scale (HDS-Bold; Hogan & Hogan, 1997; 2009), and California Personality Inventory (CPI; Gough & Bradley, 1996). These inventories were identified through two chapters in the *Handbook of Narcissism and Narcissistic Personality* that focus on the measurement of narcissism (i.e., Tamborski & Brown, 2011; Watson & Bagby, 2011). Overall, these search procedures identified 49 samples that appeared relevant to the current meta-analysis.

**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 were specifically interested in self-insight measures of self-enhancement; thus we only included those primary studies that compared narcissists’ self-reports with observer-reports (e.g., friend, family member, co-worker, supervisor, etc.) or objective ratings (e.g., high school GPA, SAT scores). Second, we excluded samples that used measures of vulnerable narcissism because evidence suggests that vulnerable narcissism is a different construct, and has different correlates, than the more commonly researched type of narcissism, called *grandiose* *narcissism*, that is the focus of the current paper (e.g., Pincus, Ansell, Pimentel, Cain, Wright, & Levy, 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 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; Emmons, 1984; Raskin & Terry, 1988), the shortened NPI-16 (Ames, Rose, & Anderson, 2006), the California Personality Inventory (CPI; Gough & Bradley, 1992, 2002; Wink & Gough, 1990), 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 *DSM*-*III-R* 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, Bushmann, Olthof, & Denissen, 2008), and a short dark-triad measure (Paulhus & Jones, 2011). Fourth, we included self-enhancement correlations based on both difference scores and regression residuals, and treated this as a moderator in our analyses.

**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), type 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). Further, we coded the raters’ relationships with the focal participant —if the raters had known the participant for a short period of time (i.e., less than 1 week) they were considered acquaintances; otherwise they were considered a close observer. 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.[[2]](#footnote-3) Agreement between the first and second authors on the coded effect sizes was as follows: publication type (100%), type of self-enhancement ratings (100%), type of sample (100%), length of relationship (97%), agency/communion (90%), and type of self-enhancement index (100%). Divergent ratings were discussed until agreement was reached. The main codes and input va lues for all of the effect sizes included in the meta-analysis can be found in Appendix A.

**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. Composites/averages are used in order 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., Podsakoff, Whiting, Welsh, & Mai, 2013).

In the current paper, 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 35 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.

Although the multilevel approach to meta-analysis has several advantages, it is relatively new, thus we will also report the results for our main findings using Hunter and Schmidt’s (2004) procedure.

**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. Many 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 (e.g., there were no unpublished studies where self-enhancement was calculated based on observer-reports by acquaintances). As can be seen, many of the variables were moderately to strongly intercorrelated. This highlights the importance of later analyses, which simultaneously examine our moderator variables to determine each variable’s unique contribution to the narcissism-self-enhancement relationship, controlling for the other moderators.

Before testing our hypotheses, we first 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 (i.e., ‘between samples’ variance). In this case, 19% of the total variance in effect sizes that can be attributed to between samples variance [ICC= .006/(.006 + .025)].

Table 3 reports the results of our multilevel weighted least squares (WLS; Steel & Kammeyer-Mueller, 2008) 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 = 35, 95% CI = [.13, .22]) [[3]](#footnote-4); and Model 2 estimates the relationship between narcissism and self-enhancement, corrected for unreliability in narcissism (*B* = .20, *k* = 171 effect sizes, number of samples = 35, 95% CI = [.14, .26]).[[4]](#footnote-5) As expected, narcissism was positively related to self-enhancement, supporting Hypothesis 1. However, the meta-analytic effect sizes reported above are the overall effect sizes, which mix communal and agentic attributes.

**Moderator analyses**

***Agency and Communion.*** Next, we tested our hypotheses and research questions concerning agency and communion. Out of a total of 171 effect sizes, 93 were coded as agentic (54%) and 53 (31%) were coded as communal; 25 effect sizes were coded as neither agentic nor communal. Out of concern that the ‘neither agency nor communion’ category could affect our results, we ran this moderator analysis with only agentic effect sizes (*B* = .28, *SE* = .03, *k* = 93 effect sizes; number of samples = 28, 95% CI = [.23, .33]), and then with only communal effect sizes (*B* = .05, *SE* = .03, *k* = 53, number of samples = 11, 95% CI = [-.004, .11]).[[5]](#footnote-6) The results, suggest that narcissism is related to self-enhancement in agentic, but not communal traits. Given the nature of Hypothesis 2, which specifically predicts that narcissists self-enhance more in agentic domains than in communal domains, it is also important to note that the confidence intervals for agentic and communal criteria do not overlap. Thus, narcissists tend to self-enhance their agentic characteristics more than their communal characteristics, on average, supporting Hypothesis 2.

***Acquaintanceship.*** In Model 4, we examined whether the length of acquaintanceship affects the narcissism-self-enhancement relationship. It was predicted that individuals who have only known a narcissist for a short period of time (i.e., acquaintances) will see the narcissist more positively, resulting in a smaller discrepancy between their observer reports and narcissists’ self-reports as compared to more knowledgeable observers (i.e., close others). However, this hypothesis was not supported—the length of acquaintanceship (*B* = -.02, 95% CI = [-.09, .06]) was not a statistically significant predictor of the correlation. For effect sizes based on observer ratings from acquaintances, the average narcissism-self-enhancement relationship was predicted to be .21 [; ], which was very similar to the average narcissism-self-enhancement relationship observed for close others, which in this case was equal to the intercept, .23. Therefore, Hypothesis 3 was not supported.

***Methodological moderators.*** In addition, we examined several methodological moderators of interest. Neither publication status (i.e., published vs. unpublished; *B* = -.06, 95% CI = [-.20, .07]), the source of the self-enhancement ratings (i.e., observer-reports vs. objective measures; *B* = .07, 95% CI = [-.05, .19]) nor the narcissism measure used (i.e., NPI vs. non-NPI; *B* = -.07, 95% CI = [-.17, .04]) were statistically significant predictors of the narcissism-self-enhancement relationship. In other words, the narcissism-self-enhancement relationship remained relatively consistent regardless of the aforementioned methodological differences across studies. These findings provide evidence for the robustness of narcissism’s association with self-enhancement.

***Self-criterion residual method versus difference scores.*** An additional 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* = .13, 95% CI = [.01, .25]). Effect sizes with self-enhancement measures calculated using the self-criterion residual method tended to be larger than those calculated using difference scores. To be thorough, 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). With effect sizes derived from difference scores removed, the number of effect sizes decreased from 148 to 110 (74% of the correlations in our original data set were based on residuals) and the number of independent samples decreased from 26 to 17. The corrected meta-analytic correlation increased slightly when difference scores were removed (from *B* = .20 to *B* = .24, 95% CI = [.18, .31]; although the confidence intervals for the *B*s overlapped, which suggests that the meta-analytic effect size based only on regression residuals was not larger than that based on a combination of difference scores and regression residuals). The overall pattern of results remained the same with and without difference scores—in both cases, only the agency (*B* = .14, *p* < .05) and communion (*B* = -.12, *p* < .05) moderators were statistically significant. The number of effect sizes decreased, but the magnitude of the effect sizes either remained the same or increased slightly. Therefore, the significant narcissism-self-enhancement relationship is not an artifact produced by using differences scores.

***Competing moderators.*** We also simultaneously regressed the effect sizes onto our moderators to estimate each variable’s unique contribution. There was one caveat—we excluded the observer-report/objective measure moderator from this analysis because of the amount of collinearity between the observer-report/objective measure moderator and the residual/difference score moderator (*r* = .73, *p* < .05; see Table 1). Very few primary studies used objective measures (only 21 of 146 effect sizes); however studies that used objective measures were also those that employed difference scores (when effect sizes based on difference scores were removed from the pool of effect sizes using objective measures, only 5 of the 21 objective measure effect sizes remained). Overall, the competing moderators model (Model 9; Table 1) found that both the agency and communion moderators continued to be statistically significant predictors of the narcissism-self-enhancement relationship, whereas none of the methodological moderators were significant. The residual vs. difference score moderator was no longer statistically significant when the effects of the other moderators were controlled.

**Individual self-enhancement constructs**

Next, we individually examined the extent to which narcissists self-enhanced specific constructs (e.g., physical attractiveness). As part of this analysis, we searched for exceptions to the previously described trend for agency and communion (i.e., 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. Thus, we were able to perform this analysis for 10 out of the original 23 constructs in our meta-analysis (if the different types of fairness are considered one construct; see Table 1).

First, we will describe our results for constructs categorized as agentic. We found that the narcissism-self-enhancement relationship for task performance was not statistically significant (*B* = .14, *p* > .05; *k* effect sizes = 17, number of samples = 6). This result was unexpected, so we took a closer look at the individual effect sizes included in the analysis, and it was discovered that there were two broad types of task performance. The first type of task performance came from a single study where participants performed a remote associates task; they were provided with three words and instructed to provide a fourth word that “when combined with each of the three stimulus words would result in a common compound word or phrase” (i.e., Nunez, 2007, p. 42). In contrast, the second type of task performance came from group decision making tasks (e.g., lost on the moon; Robins & Beer, 2001) or peer-ratings based on individual task performance on a group project (Paulhus, 1998). When the remote associates task was examined separately from the other types of task performance, results revealed that narcissists did not self-enhance on the remote associates task (*B* = -.05, *p* > .05; note this result should be interpreted with caution because it is based on data from a single study), but did self-enhance when task performance was measured using other task performance metrics (*B* = .20, *p* > .05; *k* effect sizes = 11, number of samples = 5). The narcissism-self-enhancement relationship for other agentic constructs was as follows: intelligence (*B* = .28, *p* < .05; *k* effect sizes = 15, number of samples = 10), leadership (*B* = .34, *p* < .05; *k* effect sizes = 11, number of samples = 4), extraversion (*B* = .41, *p* < .05; *k* effect sizes = 9, number of samples = 4), attractiveness (*B* = .38, *p* < .05; *k* effect sizes = 11, number of samples = 5), and openness (*B* = .38, *p* < .05; *k* effect sizes = 7, number of samples = 3)—all of the meta-analytic effect sizes were statistically significant (i.e., their confidence intervals did not include zero). In summary, each of the *agentic* constructs that we were able to examine individually was significantly related to narcissistic self-enhancement—there were no exceptions.

Next, we examined narcissists’ tendency to self-enhance on 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* = -.05, *p* > .05; *k* effect sizes = 10, number of samples = 4) nor their conscientiousness (*B* = .13, *p* > .05; *k* effect sizes = 7, number of samples = 3), but surprisingly, they did enhance their likability (*B* = .32, *p* < .05; *k* = 7, number of samples = 3). Therefore, likability provides an exception to the overall null relationship between narcissistic self-enhancement on communal constructs. In our discussion section, we will explore what it is about likability as opposed to agreeableness that may result in the differing relationships with narcissists’ tendency to self-enhance—although we should point out that the likeability result should be interpreted with caution because it was based on only 3 samples. Finally, emotional stability is not traditionally categorized as agentic or communal. Narcissists did not tend to significantly enhance their emotional stability (*B* = .08, *p* > .05; *k* effect sizes = 7, number of samples = 4).

**Discussion**

The current paper investigated narcissists’ tendency to self-enhance. We aggregated 171 correlations from 35 independent samples using mixed-effects (multilevel) meta-analytic techniques to reveal that there was a small but consistent relationship between narcissism and self-enhancement. Further, 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 similar pattern when we examined our results individually by construct; however, these analyses were based on a smaller number of effect sizes and should be interpreted with caution. Narcissism was associated with self-enhancement on all of the agentic characteristics (i.e., task performance, attractiveness, leadership, intelligence, extraversion, and openness). On the other hand, narcissism was largely unrelated to self-enhancement in individual traits categorized as communal, which included agreeableness and conscientiousness. In other words, based on our results, one would generally expect narcissists’ self-reported agreeableness and conscientiousness ratings to be relatively similar to observer ratings. From a practical perspective, this means that researchers may be able to rely on narcissists’ self-reported communal ratings, at least for agreeableness and conscientiousness, however, they should be more cautious about relying on a narcissist’s self-reports of agentic qualities.

It is worth exploring in slightly more detail the only communal trait for which narcissists did in fact self-enhance—likability. At first, it appears 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 (agentic characteristics), a possibility that necessitates further research.

Observer-report vs. objective measures

**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 potential 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, which suggests that narcissists’ are wary of relationships because observers have the power to point out that narcissists’ self-perceptions are inflated]; however, it should be noted that the average communal effect size we found was near zero (i.e., *B* = .01). If narcissists really considered communal traits to reflect negative qualities, then we would have expected to see statistically significant negative effect sizes. 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 paper 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. The authors label this good feeling “narcissistic esteem”, 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.

***Acquaintanceship.*** A third contribution of the current meta-analysis is to question the assumption that well-acquainted individuals really have a more discrepant perception of narcissists’ personality and behavior than new acquaintances. It is logically intuitive that peoples’ perceptions of narcissists would change as they get to know a narcissist better, because it takes time for narcissists more negative qualities to become apparent; however, we did not find that Narcissists’ self-enhancement bias was larger in magnitude when the criterion measure was based on ratings from close others than when based on ratings from new acquaintances. These results are consistent with another recent meta-analysis that did not find an acquaintanceship effect for the narcissism-leadership emergence association (Grijalva et al., 2014). The lack of support for our acquaintanceship hypothesis may suggest that the role of acquaintanceship is more complicated than previously believed.

***Difference Scores.*** In reference to our research question concerning the impact of using difference scores, as opposed to regression residuals, we found a statistically significant difference in the magnitude of the effect sizes produced when ‘difference score vs. regression residual’ was the only covariate (see Table 3). When, however, the other competing moderators were included in the model, the difference score vs. regression residual predictor was no longer statistically significant. Regardless, the conclusion that we would like readers to draw from our paper is that if they are forced to choose between using the difference score and the regression residual approaches to calculating self-enhancement, they should use regression residuals and avoid using difference scores. Not only were regression residuals used more frequently than difference scores (suggesting they are the more accepted measure, likely because of the seeming consensus that difference scores have undesirable statistical properties, cf. Furr & Bacharach, 2012), but also our meta-analytic effect sizes based on regression residuals tended to be slightly larger than those produced using difference scores (although this difference was not statistically significant). That being said, there is now a more advanced method for indexing self-enhancement. Drawing on Kenny’s (1994) Social Relations Model (SRM), this new method was proposed by Kwan and colleagues (2004) and 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 (2004) 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 Kwan et al., 2004 and Borkenau, Zaltauskas, & Leising, 2009).

**Limitations and Future Research Directions**

The current paper has several limitations. First, the number of effect sizes was smaller than we would have liked for some of the moderator analyses (e.g., fewer studies used objective measures than observer-reports), as well as the analyses examining potentially self-enhanced constructs (we were able to examine 10 constructs, but we would have liked to perform this analysis for a larger number of constructs). More robust estimates will emerge as results continue to accumulate. Finally, we were interested in exploring how narcissists’ self-enhancement differed cross-culturally, but this was unfortunately not possible as all of our primary studies consisted of Western, individualistic samples.

Therefore, future research is needed to examine the role that culture plays in narcissistic self-enhancement. Substantial empirical work has focused on whether people from collectivistic cultures self-enhance, and if so, whether they tend to self-enhance the same attributes as people from individualistic cultures (Sedikides, Gaertner, & Toguchi, 2003; Sedikides, Gaertner, & Vevea, 2005; but see also Hamamura, Heine, and Takemoto (2007). Sedikides and colleagues (2003) found that people from individualistic cultures tend to self-enhance their personal effectiveness and independence (i.e., “qualities that validate their independent self-construals” (p. 61), whereas people from collectivistic cultures tend to enhance qualities that further the goals of maintaining group harmony and cooperation (i.e., qualities that validate their interdependent self-construals). Given the potential role that cultural context has in the content of peoples’ self-enhancement, it would be interesting to explore whether narcissistic individuals embedded in collectivistic societies tend to self-enhance agentic attributes.

**Conclusion**

Our study 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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Table 1.

*Self-Enhancement Aspects’ Agency and Communion*

|  |  |  |  |
| --- | --- | --- | --- |
| 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 |  |  | ✓ |

Table 2.

*Means, Standard Deviations, and Correlations among the Meta-Analytic Moderators*

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Variable | M | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1. Publication Type | .76 | .43 | -- |  |  |  |  |  |  |
| 2. Type Self-Enhance Rating | .86 | .35 | -.39\* | -- |  |  |  |  |  |
| 3. Type of Sample | .88 | .33 | .32\* | .56\* | -- |  |  |  |  |
| 4. Length of Relationship | .41 | .49 | .39 | -- | .45 | -- |  |  |  |
| 5. Agency | .54 | .50 | .30\* | -.50\* | -.70 | .19 | -- |  |  |
| 6. Communion | .32 | .47 | -.41\* | .40\* | -- | -.23 | -.94 | -- |  |
| 7. Type Self-Enhancement Index | .75 | .44 | .52\* | .64\* | .22\* | .39\* | .24 | -.39 | -- |

*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); Length of relationship (0 = acquaintance,

1 = close observer); 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 35 independent samples (due to missing data, some correlations were based on fewer than 171 effect sizes).

\**p* < .05.

Table 3.

*Summary of Multilevel WLS Results Predicting Narcissism’s Relationship with Self-Enhancement* (*k effect sizes = 171; number of samples = 35*)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | |  | | Individual Moderators | | | | | | | | | |  | |
|  | Uncorrected Overall Self-Enhancement | | Corrected  Overall Self-Enhancement | | Agency vs.  Communion | | Acquaintance vs. Close Other | | Residual vs. Difference Score | | Publication Type | | Observer vs. Objective | | Competing Moderators | |
|  | **Model 1** | | **Model 2** | | **Model 3** | | **Model 4** | | **Model 5** | | **Model 6** | | **Model 7** | | **Model 8** | |
| Predictor | *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*) | *B*  (95% CI) | *SE*  (*p*) |
| Intercept | .18\*  (.14, .22) | .03  (.000) | .20\*  (.14, .26) | .03  (.000) | .13\*  (.04, .21) | .04  (.004) | .23\*  (.16, .30) | .03  (.000) | .11\*  (.01, .21) | .05  (.039) | .25\*  (.13, .36) | .05  (.000) | .16\*  (.11, .28) | .05  (.003) | .14  (-.02, .29) | .08  (.086) |
| Agency |  |  |  |  | .14\*  (.06, .21) | .04  (.001) |  |  |  |  |  |  |  |  | .14\*  (.06, .22) | .04  (.001) |
| Communion |  |  |  |  | -.12\*  (-.20, -.03) | .04  (.007) |  |  |  |  |  |  |  |  | -.10\*  (-.19, -.02) | .04  (.021) |
| Acquaintance |  |  |  |  |  |  | -.02  (-.09, .06) | .04  (.656) |  |  |  |  |  |  | -.02  (-.09, .04) | .03  (.491) |
| Residual |  |  |  |  |  |  |  |  | .13\*  (.01, .25) | .06  (.032) |  |  |  |  | .07  (-.10, .20) | .07  (.499) |
| Publication Type |  |  |  |  |  |  |  |  |  |  | -.06  (-.20, .07) | .06  (.334) |  |  | -.02  (-.14, .10) | .06  (.740) |
| Observer vs.  Objective |  |  |  |  |  |  |  |  |  |  |  |  | .07  (-.05, .19) | .06  (.265) |  |  |

*Note*. WLS = weighted least squares; *B* = unstandardized regression coefficient weighted by sample size; 95% CI= 95% confidence interval*; p =* exact *p*-value; *SE* = standard error of the regression coefficient; 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); Acquaintance vs. Close Other (Acquaintance = 1, Close Other = 0); Observer vs. Objective (1 = Observer-Report, 0 = Objective Measure). There were 171 effect sizes and 35 independent samples.

\**p* < .05

Table 4.

*Summary of Multilevel WLS Results Predicting Narcissism’s Relationship with Self-Enhancement—Excluding Effect Sizes Based on Difference Scores (k effect sizes = 127; number of samples = 24)*

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | |  | | Individual Moderators | | | | | | | |  | |
|  | Uncorrected Overall Self-Enhancement | | Corrected  Overall Self-Enhancement | | Agency vs.  Communion | | Acquaintance vs. Close Other | | Publication Type | | Observer vs. Objective | | Competing Moderators | |
|  | **Model 1** | | **Model 2** | | **Model 3** | | **Model 4** | | **Model 6** | | **Model 7** | | **Model 8** | |
| Predictor | *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 | .20\*  (.09, .31) | .02  (.022) | .24\*  (.18, .29) | .02  (.000) | .14\*  (.05, .22) | .04  (.001) | .26\*  (.20, .31) | .03  (.000) | .24\*  (.16, .32) | .04  (.000) | .24\*  (.12, .36) | .06  (.000) | .15  (.05, .25) | .05  (.005) |
| Agency |  |  |  |  | .16\*  (.08, .24) | .04  (.000) |  |  |  |  |  |  | .16\*  (.07, .24) | .04  (.000) |
| Communion |  |  |  |  | -.12\*  (-.21, -.02) | .05  (.015) |  |  |  |  |  |  | -.10\*  (-.20, -.01) | .05  (.033) |
| Acquaintance |  |  |  |  |  |  | -.04  (-.11, .03) | .04  (.230) |  |  |  |  | -.04  (-.10, .03) | .03  (.293) |
| Publication Type |  |  |  |  |  |  |  |  | -.01  (-.12, .10) | .05  (.854) |  |  | .02  (-.09, .13) | .05  (.714) |
| Observer vs.  Objective |  |  |  |  |  |  |  |  |  |  | -.004  (-.13, .12) | .06  (.956) |  |  |

*Note*. WLS = weighted least squares; *B* = unstandardized regression coefficient weighted by sample size; 95% CI= 95% confidence interval*; p =* exact *p*-value; *SE* = standard error of the regression coefficient; 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); Acquaintance vs. Close Other (Acquaintance = 1, Close Other = 0); Observer vs. Objective (1 = Observer-Report, 0 = Objective Measure). There were 127 effect sizes and 24 independent samples (there was missing data for the acquaintance moderator, so sample size for this analysis was 119 effect sizes and 19 independent samples).

\**p* < .05



Table 5.

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Self-Enhancement Criteria | *k* | Samples | *B* | *SE* | *95% CI* | *p-value* |
| Task Performance | 17 | 6 | .14 | .07 | -.02, .30 |  |
| *Remote Associates Task* | 8 | 1 | -.05 | .05 | -.17, .07 |  |
| *Other* | 9 | 5 | .20\* | .06 | .06, .34 |  |
| Intelligence | 15 | 10 | .28\* | .03 | .21, .35 |  |
| Leadership | 11 | 4 | .34\* | .05 | .17, .50 |  |
| Agreeableness | 10 | 4 | -.05 | .07 | -.26, .16 |  |
| Extraversion | 9 | 4 | .41\* | .05 | .26, .56 |  |
| Attractiveness | 8 | 5 | .38\* | .08 | .16, .59 |  |
| Conscientiousness | 7 | 3 | .13 | .07 | -.16, .43 |  |
| Emotional Stability | 7 | 4 | .08 | .08 | -.27, .43 |  |
| Openness | 7 | 3 | .38 | .09 | -.02, .79 |  |
| Likeable | 6 | 3 | .32\* | .03 | .14, .51 |  |

*Notes*. WLS = weighted least squares; *k* = number of effect sizes included in the meta-analysis; Samples = number of independent samples included in the meta-analysis; *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* < .05

Figure x.

*Funnel Plot for Agentic Effect Sizes*



APPENDIX A

*Main Codes and Input Values for Narcissism and Self-Enhancement Studies in the Meta-Analysis*

| Group | Study | Type of Publication | Sample | Narcissism Measure | Objective vs. Observer | Residual vs. Difference Score | Length of Relationship | Self-Enhancement Construct | Agency/  Communion/Neither | *N* | *r* | *p̂* |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | Ames & Kammrath (2004)  Sample 1 | Published | Students | NPI | Objective | Difference | . | Interpersonal perception | Neither | 138 | .13 | .16 |
| 1 | Ames & Kammrath (2004)  Sample 2 | Published | Students | NPI | Observer | Difference | Close observer | Interpersonal perception | Neither | 134 | .05 | .06 |
| 1 | Ames & Kammrath (2004)  Sample 2 | Published | Students | NPI | Observer | Difference | Close observer | Interpersonal perception | Neither | 134 | .08 | .10 |
| 2 | Brown (2010) | Unpublished | Students | NPI | Objective | Difference | . | Interpersonal perception | Neither | 47 | .30 | .33 |
| 3 | Campbell, Goodie, & Foster (2004)  Sample 1 | Published | Students | NPI | Objective | Difference | . | Intelligence | Agency | 104 | .28 | .31 |
| 4 | Campbell, Goodie, & Foster (2004)  Sample 2 | Published | Students | NPI | Objective | Difference | . | Intelligence | Agency | 97 | .30 | .33 |
| 5 | Campbell, Goodie, & Foster (2004)  Sample 3 | Published | Students | NPI | Objective | Difference | . | Intelligence | Agency | 607 | .10 | .11 |
| 6 | Carlson, Naumann, & Vazire (2011) | Published | Students | NPI | Observer | Residual | Acquaintance | Attractive | Agency | 82 | .01 | .01 |
| 6 | Carlson, Naumann, & Vazire (2011) | Published | Students | NPI | Observer | Residual | Close observer | Attractive | Agency | 82 | .26 | .31 |
| 6 | Carlson, Naumann, & Vazire (2011) | Published | Students | NPI | Observer | Residual | Acquaintance | Surgency | Agency | 82 | .33 | .39 |
| 6 | Carlson, Naumann, & Vazire (2011) | Published | Students | NPI | Observer | Residual | Acquaintance | Surgency | Agency | 82 | .41 | .49 |
| 6 | Carlson, Naumann, & Vazire (2011) | Published | Students | NPI | Observer | Residual | Acquaintance | Agreeable | Communion | 82 | .02 | .02 |
| 6 | Carlson, Naumann, & Vazire (2011) | Published | Students | NPI | Observer | Residual | Acquaintance | Agreeable | Communion | 82 | .02 | .02 |
| 6 | Carlson, Naumann, & Vazire (2011) | Published | Students | NPI | Observer | Residual | Close observer | Agreeable | Communion | 82 | .08 | .10 |
| 6 | Carlson, Naumann, & Vazire (2011) | Published | Students | NPI | Observer | Residual | Acquaintance | Intelligence | Agency | 82 | .24 | 29 |

*(continued)*

APPENDIX A (continued)

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Group | Study | Type of Publication | Sample | Narcissism Measure | Objective vs. Observer | Residual vs. Difference Score | Length of Relationship | Self-Enhancement Construct | Agency/  Communion/Neither | *N* | *r* | *p̂* |
| 6 | Carlson, Naumann, & Vazire (2011) | Published | Students | NPI | Observer | Residual | Acquaintance | Intelligence | Agency | 82 | .21 | .25 |
| 6 | Carlson, Naumann, & Vazire (2011) | Published | Students | NPI | Observer | Residual | Close observer | Intelligence | Agency | 82 | .24 | .29 |
| 6 | Carlson, Naumann, & Vazire (2011) | Published | Students | NPI | Observer | Residual | Acquaintance | Well-being | Neither | 82 | .23 | .27 |
| 6 | Carlson, Naumann, & Vazire (2011) | Published | Students | NPI | Observer | Residual | Close observer | Well-being | Neither | 82 | .26 | .31 |
| 6 | Carlson, Naumann, & Vazire (2011) | Published | Students | NPI | Observer | Residual | Acquaintance | Likeable | Neither | 82 | .21 | .25 |
| 6 | Carlson, Naumann, & Vazire (2011) | Published | Students | NPI | Observer | Residual | Close observer | Likeable | Neither | 82 | .21 | .25 |
| 6 | Carlson, Naumann, & Vazire (2011) | Published | Students | NPI | Observer | Residual | Acquaintance | Reliable | Communion | 82 | .00 | .00 |
| 6 | Carlson, Naumann, & Vazire (2011) | Published | Students | NPI | Observer | Residual | Acquaintance | Reliable | Communion | 82 | .01 | .01 |
| 6 | Carlson, Naumann, & Vazire (2011) | Published | Students | NPI | Observer | Residual | Close observer | Reliable | Communion | 82 | .02 | .02 |
| 7 | Carlson, Vazire, & Oltmanns (2011)  Study 1 | Published | Students | NPI | Observer | Residual | Acquaintance | Attractiveness | Agency | 201 | .33 | .41 |
| 7 | Carlson, Vazire, & Oltmanns (2011)  Study 1 | Published | Students | NPI | Observer | Residual | Close observer | Attractiveness | Agency | 201 | .41 | .51 |
| 7 | Carlson, Vazire, & Oltmanns (2011)  Study 1 | Published | Students | NPI | Observer | Residual | Acquaintance | Openness | Agency | 201 | .22 | .28 |
| 7 | Carlson, Vazire, & Oltmanns (2011)  Study 1 | Published | Students | NPI | Observer | Residual | Close observer | Openness | Agency | 201 | .19 | .24 |
| 7 | Carlson, Vazire, & Oltmanns (2011)  Study 1 | Published | Students | NPI | Observer | Residual | Acquaintance | Conscientiousness | Communion | 201 | .20 | .25 |
| 7 | Carlson, Vazire, & Oltmanns (2011)  Study 1 | Published | Students | NPI | Observer | Residual | Close observer | Conscientiousness | Communion | 201 | .21 | .26 |

*(continued)*

APPENDIX A (continued)

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Group | Study | Type of Publication | Sample | Narcissism Measure | Objective vs. Observer | Residual vs. Difference Score | Length of Relationship | Self-Enhancement Construct | Agency/  Communion/Neither | *N* | *r* | *p̂* |
| 7 | Carlson, Vazire, & Oltmanns (2011)  Study 1 | Published | Students | NPI | Observer | Residual | Acquaintance | Extraversion | Agency | 201 | .35 | .44 |
| 7 | Carlson, Vazire, & Oltmanns (2011)  Study 1 | Published | Students | NPI | Observer | Residual | Close observer | Extraversion | Agency | 201 | .34 | .43 |
| 7 | Carlson, Vazire, & Oltmanns (2011)  Study 1 | Published | Students | NPI | Observer | Residual | Acquaintance | Agreeable | Communion | 201 | .19 | .24 |
| 7 | Carlson, Vazire, & Oltmanns (2011)  Study 1 | Published | Students | NPI | Observer | Residual | Close observer | Agreeable | Communion | 201 | .18 | .23 |
| 7 | Carlson, Vazire, & Oltmanns (2011)  Study 1 | Published | Students | NPI | Observer | Residual | Acquaintance | Emotional stability | Neither | 201 | .22 | .28 |
| 7 | Carlson, Vazire, & Oltmanns (2011)  Study 1 | Published | Students | NPI | Observer | Residual | Close observer | Emotional stability | Neither | 201 | .14 | .18 |
| 7 | Carlson, Vazire, & Oltmanns (2011)  Study 1 | Published | Students | NPI | Observer | Residual | Acquaintance | Intelligence | Agency | 201 | .27 | .34 |
| 7 | Carlson, Vazire, & Oltmanns (2011)  Study 1 | Published | Students | NPI | Observer | Residual | Close observer | Intelligence | Agency | 201 | .31 | .39 |
| 7 | Carlson, Vazire, & Oltmanns (2011)  Study 1 | Published | Students | NPI | Observer | Residual | Acquaintance | Well-being | Neither | 201 | .24 | .30 |
| 7 | Carlson, Vazire, & Oltmanns (2011)  Study 1 | Published | Students | NPI | Observer | Residual | Close observer | Well-being | Neither | 201 | .20 | .25 |
| 7 | Carlson, Vazire, & Oltmanns (2011)  Study 1 | Published | Students | NPI | Observer | Residual | Acquaintance | Honest | Communion | 201 | .08 | .10 |
| 7 | Carlson, Vazire, & Oltmanns (2011)  Study 1 | Published | Students | NPI | Observer | Residual | Close observer | Honest | Communion | 201 | .09 | .11 |
| 7 | Carlson, Vazire, & Oltmanns (2011)  Study 1 | Published | Students | NPI | Observer | Residual | Acquaintance | Likeable | Neither | 201 | .24 | .30 |

(*continued*)

APPENDIX A (continued)

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Group | Study | Type of Publication | Sample | Narcissism Measure | Objective vs. Observer | Residual vs. Difference Score | Length of Relationship | Self-Enhancement Construct | Agency/  Communion/Neither | *N* | *r* | *p̂* |
| 7 | Carlson, Vazire, & Oltmanns (2011)  Study 1 | Published | Students | NPI | Observer | Residual | Close observer | Likeable | Neither | 201 | .32 | .40 |
| 7 | Carlson, Vazire, & Oltmanns (2011)  Study 1 | Published | Students | NPI | Observer | Residual | Acquaintance | Funny | Neither | 201 | .31 | .39 |
| 7 | Carlson, Vazire, & Oltmanns (2011)  Study 1 | Published | Students | NPI | Observer | Residual | Close observer | Funny | Neither | 201 | .28 | .35 |
| 7 | Carlson, Vazire, & Oltmanns (2011)  Study 1 | Published | Students | NPI | Observer | Residual | Acquaintance | Impulsive | Agency | 201 | .08 | .10 |
| 7 | Carlson, Vazire, & Oltmanns (2011)  Study 1 | Published | Students | NPI | Observer | Residual | Close observer | Impulsive | Agency | 201 | .11 | .14 |
| 7 | Carlson, Vazire, & Oltmanns (2011)  Study 1 | Published | Students | NPI | Observer | Residual | Acquaintance | Exaggerates abilities | Agency | 201 | .15 | .19 |
| 7 | Carlson, Vazire, & Oltmanns (2011)  Study 1 | Published | Students | NPI | Observer | Residual | Close observer | Exaggerates abilities | Agency | 201 | .18 | .23 |
| 7 | Carlson, Vazire, & Oltmanns (2011)  Study 1 | Published | Students | NPI | Observer | Residual | Acquaintance | Arrogant | Agency | 201 | .32 | .40 |
| 7 | Carlson, Vazire, & Oltmanns (2011)  Study 1 | Published | Students | NPI | Observer | Residual | Close observer | Arrogant | Agency | 201 | .21 | .26 |
| 7 | Carlson, Vazire, & Oltmanns (2011)  Study 1 | Published | Students | NPI | Observer | Residual | Acquaintance | Power oriented | Agency | 201 | .37 | .46 |
| 7 | Carlson, Vazire, & Oltmanns (2011)  Study 1 | Published | Students | NPI | Observer | Residual | Close observer | Power oriented | Agency | 201 | .34 | .43 |

(*continued*)

APPENDIX A (continued)

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Group | Study | Type of Publication | Sample | Narcissism Measure | Objective vs. Observer | Residual vs. Difference Score | Length of Relationship | Self-Enhancement Construct | Agency/  Communion/Neither | *N* | *r* | *p̂* |
| 8 | Carlson, Vazire, & Oltmanns (2011)  Study 2 | Published | Students | NPI | Observer | Residual | Acquaintance | Attractiveness | Agency | 72 | .55 | .60 |
| 8 | Carlson, Vazire, & Oltmanns (2011)  Study 2 | Published | Students | NPI | Observer | Residual | Close observer | Attractiveness | Agency | 72 | .52 | .57 |
| 8 | Carlson, Vazire, & Oltmanns (2011)  Study 2 | Published | Students | NPI | Observer | Residual | Acquaintance | Openness | Agency | 72 | .31 | .34 |
| 8 | Carlson, Vazire, & Oltmanns (2011)  Study 2 | Published | Students | NPI | Observer | Residual | Acquaintance | Openness | Agency | 72 | .30 | .33 |
| 8 | Carlson, Vazire, & Oltmanns (2011)  Study 2 | Published | Students | NPI | Observer | Residual | Close observer | Openness | Agency | 72 | .21 | .23 |
| 8 | Carlson, Vazire, & Oltmanns (2011)  Study 2 | Published | Students | NPI | Observer | Residual | Close observer | Openness | Agency | 72 | .35 | .38 |
| 8 | Carlson, Vazire, & Oltmanns (2011)  Study 2 | Published | Students | NPI | Observer | Residual | Acquaintance | Conscientiousness | Communion | 72 | .08 | .09 |
| 8 | Carlson, Vazire, & Oltmanns (2011)  Study 2 | Published | Students | NPI | Observer | Residual | Acquaintance | Conscientiousness | Communion | 72 | .04 | .04 |
| 8 | Carlson, Vazire, & Oltmanns (2011)  Study 2 | Published | Students | NPI | Observer | Residual | Close observer | Conscientiousness | Communion | 72 | .03 | .03 |
| 8 | Carlson, Vazire, & Oltmanns (2011)  Study 2 | Published | Students | NPI | Observer | Residual | Close observer | Conscientiousness | Communion | 72 | .08 | .09 |
| 8 | Carlson, Vazire, & Oltmanns (2011)  Study 2 | Published | Students | NPI | Observer | Residual | Acquaintance | Extraverted | Agency | 72 | .27 | .30 |

(*continued*)

APPENDIX A (continued)

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Group | Study | Type of Publication | Sample | Narcissism Measure | Objective vs. Observer | Residual vs. Difference Score | Length of Relationship | Self-Enhancement Construct | Agency/  Communion/Neither | *N* | *r* | *p̂* |
| 8 | Carlson, Vazire, & Oltmanns (2011)  Study 2 | Published | Students | NPI | Observer | Residual | Acquaintance | Extraverted | Agency | 72 | .16 | .18 |
| 8 | Carlson, Vazire, & Oltmanns (2011)  Study 2 | Published | Students | NPI | Observer | Residual | Close observer | Extraverted | Agency | 72 | .25 | .27 |
| 8 | Carlson, Vazire, & Oltmanns (2011)  Study 2 | Published | Students | NPI | Observer | Residual | Close observer | Extraverted | Agency | 72 | .32 | .35 |
| 8 | Carlson, Vazire, & Oltmanns (2011)  Study 2 | Published | Students | NPI | Observer | Residual | Acquaintance | Agreeable | Communion | 72 | .13 | .14 |
| 8 | Carlson, Vazire, & Oltmanns (2011)  Study 2 | Published | Students | NPI | Observer | Residual | Acquaintance | Agreeable | Communion | 72 | .04 | .04 |
| 8 | Carlson, Vazire, & Oltmanns (2011)  Study 2 | Published | Students | NPI | Observer | Residual | Close observer | Agreeable | Communion | 72 | .11 | .12 |
| 8 | Carlson, Vazire, & Oltmanns (2011)  Study 2 | Published | Students | NPI | Observer | Residual | Close observer | Agreeable | Communion | 72 | .11 | .12 |
| 8 | Carlson, Vazire, & Oltmanns (2011)  Study 2 | Published | Students | NPI | Observer | Residual | Acquaintance | Emotionally stable | Neither | 72 | .06 | .07 |
| 8 | Carlson, Vazire, & Oltmanns (2011)  Study 2 | Published | Students | NPI | Observer | Residual | Acquaintance | Emotionally stable | Neither | 72 | .03 | .03 |
| 8 | Carlson, Vazire, & Oltmanns (2011)  Study 2 | Published | Students | NPI | Observer | Residual | Close observer | Emotionally stable | Neither | 72 | .15 | .16 |
| 8 | Carlson, Vazire, & Oltmanns (2011)  Study 2 | Published | Students | NPI | Observer | Residual | Close observer | Emotionally stable | Neither | 72 | .11 | .12 |

(*continued*)

APPENDIX A (continued)

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Group | Study | Type of Publication | Sample | Narcissism Measure | Objective vs. Observer | Residual vs. Difference Score | Length of Relationship | Self-Enhancement Construct | Agency/  Communion/Neither | *N* | *r* | *p̂* |
| 8 | Carlson, Vazire, & Oltmanns (2011)  Study 2 | Published | Students | NPI | Observer | Residual | Acquaintance | Intelligence | Agency | 72 | .29 | .32 |
| 8 | Carlson, Vazire, & Oltmanns (2011)  Study 2 | Published | Students | NPI | Observer | Residual | Close observer | Intelligence | Agency | 72 | .10 | .11 |
| 8 | Carlson, Vazire, & Oltmanns (2011)  Study 2 | Published | Students | NPI | Observer | Residual | Acquaintance | Likeable | Neither | 72 | .35 | .38 |
| 8 | Carlson, Vazire, & Oltmanns (2011)  Study 2 | Published | Students | NPI | Observer | Residual | Close observer | Likeable | Neither | 72 | .28 | .31 |
| 8 | Carlson, Vazire, & Oltmanns (2011)  Study 2 | Published | Students | NPI | Observer | Residual | Acquaintance | Funny | Neither | 72 | .14 | .15 |
| 8 | Carlson, Vazire, & Oltmanns (2011)  Study 2 | Published | Students | NPI | Observer | Residual | Close observer | Funny | Neither | 72 | .14 | .15 |
| 8 | Carlson, Vazire, & Oltmanns (2011)  Study 2 | Published | Students | NPI | Observer | Residual | Acquaintance | Exaggerates abilities | Agency | 72 | .25 | .27 |
| 8 | Carlson, Vazire, & Oltmanns (2011)  Study 2 | Published | Students | NPI | Observer | Residual | Close observer | Exaggerates abilities | Agency | 72 | .34 | .37 |
| 8 | Carlson, Vazire, & Oltmanns (2011)  Study 2 | Published | Students | NPI | Observer | Residual | Acquaintance | Arrogant | Agency | 72 | .36 | .40 |
| 8 | Carlson, Vazire, & Oltmanns (2011)  Study 2 | Published | Students | NPI | Observer | Residual | Close observer | Arrogant | Agency | 72 | .38 | .42 |
| 9 | Dattner (1999) | Unpublished | Students | NPI | Observer | Difference | Close observer | Fairness-consistency | Communion | 91 | .13 | .15 |
| 9 | Dattner (1999) | Unpublished | Students | CPI | Observer | Difference | Close observer | Fairness-consistency | Communion | 91 | .26 | .31 |
| 9 | Dattner (1999) | Unpublished | Students | NPI | Observer | Difference | Close observer | Fairness-decision making | Communion | 91 | .13 | .15 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |

*(continued)*APPENDIX A (continued)

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Group | Study | Type of Publication | Sample | Narcissism Measure | Objective vs. Observer | Residual vs. Difference Score | Length of Relationship | Self-Enhancement Construct | Agency/  Communion/Neither | *N* | *r* | *p̂* |
| 9 | Dattner (1999) | Unpublished | Students | CPI | Observer | Difference | Close observer | Fairness-decision making | Communion | 91 | .12 | .14 |
| 9 | Dattner (1999) | Unpublished | Students | NPI | Observer | Difference | Close observer | Fairness-empathy | Communion | 91 | .09 | .10 |
| 9 | Dattner (1999) | Unpublished | Students | CPI | Observer | Difference | Close observer | Fairness-empathy | Communion | 91 | .05 | .06 |
| 9 | Dattner (1999) | Unpublished | Students | NPI | Observer | Difference | Close observer | Fairness-equality | Communion | 91 | .16 | .18 |
| 9 | Dattner (1999) | Unpublished | Students | CPI | Observer | Difference | Close observer | Fairness-equality | Communion | 91 | .32 | .38 |
| 9 | Dattner (1999) | Unpublished | Students | NPI | Observer | Difference | Close observer | Fairness-relative | Communion | 91 | .12 | .13 |
| 9 | Dattner (1999) | Unpublished | Students | CPI | Observer | Difference | Close observer | Fairness-relative | Communion | 91 | .06 | .07 |
| 9 | Dattner (1999) | Unpublished | Students | NPI | Observer | Difference | Close observer | Fairness-supportiveness | Communion | 91 | .16 | .18 |
| 9 | Dattner (1999) | Unpublished | Students | CPI | Observer | Difference | Close observer | Fairness-supportiveness | Communion | 91 | .12 | .14 |
| 9 | Dattner (1999) | Unpublished | Students | NPI | Observer | Difference | Close observer | Fairness-transaction | Communion | 91 | .09 | .10 |
| 9 | Dattner (1999) | Unpublished | Students | CPI | Observer | Difference | Close observer | Fairness-transaction | Communion | 91 | .05 | .06 |
| 9 | Dattner (1999) | Unpublished | Students | NPI | Observer | Difference | Close observer | Fairness-treatment | Communion | 91 | .09 | .10 |
| 9 | Dattner (1999) | Unpublished | Students | CPI | Observer | Difference | Close observer | Fairness-treatment | Communion | 91 | .13 | .15 |
| 9 | Dattner (1999) | Unpublished | Students | NPI | Observer | Difference | Close observer | Fairness-voice | Communion | 91 | .04 | .04 |
| 9 | Dattner (1999) | Unpublished | Students | CPI | Observer | Difference | Close observer | Fairness-voice | Communion | 91 | .05 | .06 |
| 10 | Gabriel, Critelli, & Ee (1994)  Sample 1 | Published | Students | NPI | Observer | Difference | Acquaintance | Attractiveness | Agency | 62 | .29 | .31 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |

(*continued*)

APPENDIX A (continued)

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Group | Study | Type of Publication | Sample | Narcissism Measure | Objective vs. Observer | Residual vs. Difference Score | Length of Relationship | Self-Enhancement Construct | Agency/  Communion/Neither | *N* | *r* | *p̂* |
| 10 | Gabriel, Critelli, & Ee (1994)  Sample 1 | Published | Students | NPI | Objective | Difference | . | Intelligence | Agency | 62 | .35 | .38 |
| 11 | Gabriel, Critelli, & Ee (1994)  Sample 2 | Published | Students | NPI | Observer | Difference | Acquaintance | Attractiveness | Agency | 84 | .30 | .32 |
| 11 | Gabriel, Critelli, & Ee (1994)  Sample 2 | Published | Students | NPI | Objective | Difference | . | Intelligence | Agency | 84 | .23 | .25 |
| 12 | Gebauer, Sedikides, Verplanken, & Maio (2012)  Sample 1 | Published | Internet | NPI | Objective | Residual | . | Communal traits | Communion | 145 | .13 | .15 |
| 13 | Gebauer, Sedikides, Verplanken, & Maio (2012)  Sample 2 | Published | Students | NPI | Objective | Residual | . | Communal traits | Communion | 201 | .17 | .19 |
| 13 | Gebauer, Sedikides, Verplanken, & Maio (2012)  Sample 2 | Published | Students | NPI | Objective | Residual | . | Agentic traits | Agency | 201 | .20 | .22 |
| 14 | Gosling, John, Craik, & Robins (1998) | Published | Students | NPI | Observer | Residual | Acquaintance | A variety of categories | Neither | 88 | .27 | .32 |
| 15 | Harms, Wood, & Roberts (2007) | Unpublished | Students | Selected items measuring the dark triad | Observer | Residual | Close observer | Openness | Agency | 351 | .49 | .57 |

(*continued*)

APPENDIX A (continued)

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Group | Study | Type of Publication | Sample | Narcissism Measure | Objective vs. Observer | Residual vs. Difference Score | Length of Relationship | Self-Enhancement Construct | Agency/  Communion/Neither | *N* | *r* | *p̂* |
| 15 | Harms, Wood, & Roberts (2007) | Unpublished | Students | Selected items measuring the dark triad | Observer | Residual | Close observer | Conscientiousness | Communion | 351 | .10 | .12 |
| 15 | Harms, Wood, & Roberts (2007) | Unpublished | Students | Selected items measuring the dark triad | Observer | Residual | Close observer | Extraversion | Agency | 351 | .43 | .49 |
| 15 | Harms, Wood, & Roberts (2007) | Unpublished | Students | Selected items used to measure the dark triad | Observer | Residual | Close observer | Agreeableness | Communion | 351 | .04 | .05 |
| 15 | Harms, Wood, & Roberts (2007) | Unpublished | Students | Selected items used to measure the dark triad | Observer | Residual | Close observer | Emotional stability | Neither | 351 | .05 | .06 |
| 15 | Harms, Wood, & Roberts (2007) | Unpublished | Students | Selected items used to measure the dark triad | Observer | Residual | Close observer | Leadership | Agency | 351 | .31 | .36 |
| 16 | HAS; Sample 1\* | Technical Manual | Community | HDS-Bold | Observer | Residual | Close observer | Leadership | Agency | 861 | .15 | .18 |
| 16 | HAS; Sample 1\* | Technical Manual | Community | HDS-Bold | Observer | Residual | Close observer | Leadership | Agency | 861 | .15 | .18 |
| 16 | HAS; Sample 1\* | Technical Manual | Community | HDS-Bold | Observer | Residual | Close observer | Leadership | Agency | 861 | .15 | .18 |
| 17 | HAS; Sample 2\* | Technical Manual | Community | HDS-Bold | Observer | Residual | Close observer | Leadership | Agency | 211 | .30 | .37 |
| 17 | HAS; Sample 2\* | Technical Manual | Community | HDS-Bold | Observer | Residual | Close observer | Leadership | Agency | 211 | .30 | .37 |
| 17 | HAS; Sample 2\* | Technical Manual | Community | HDS-Bold | Observer | Residual | Close observer | Leadership | Agency | 211 | .33 | .40 |
| 17 | HAS; Sample 2\* | Technical Manual | Community | HDS-Bold | Observer | Residual | Close observer | Leadership | Agency | 211 | .30 | .37 |
| 18 | HAS; Sample 3\* | Technical Manual | Community | HDS-Bold | Observer | Residual | Close observer | Leadership | Agency | 359 | .35 | .43 |
| 18 | HAS; Sample 3\* | Technical Manual | Community | HDS-Bold | Observer | Residual | Close observer | Leadership | Agency | 359 | .36 | .44 |
| 18 | HAS; Sample 3\* | Technical Manual | Community | HDS-Bold | Observer | Residual | Close observer | Leadership | Agency | 359 | .34 | .42 |

(*continued*)

APPENDIX A (continued)

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Group | Study | Type of Publication | Sample | Narcissism Measure | Objective vs. Observer | Residual vs. Difference Score | Length of Relationship | Self-Enhancement Construct | Agency/  Communion/Neither | *N* | *r* | *p̂* |
| 19 | John & Robins (1994)  Sample 1 | Published | Students | DSM-III-R | Observer | Residual | Acquaintance | Task performance | Agency | 102 | .40 | .43 |
| 19 | John & Robins (1994)  Sample 1 | Published | Students | CAQ | Observer | Residual | Acquaintance | Task performance | Agency | 102 | .20 | .24 |
| 19 | John & Robins (1994) Sample 2 | Published | Students | NPI | Observer | Residual | Acquaintance | Task Performance | Agency | 72 | .32 | .36 |
| 19 | John & Robins (1994)  Sample 2 | Published | Students | CPI | Observer | Residual | Acquaintance | Task performance | Agency | 72 | .23 | .26 |
| 21 | Nùnez (2007)  Time 1 No feedback | Published | Community | NPI | Objective | Difference | . | Task performance | Agency | 102 | .01 | .01 |
| 21 | Nùnez (2007)  Time 1 No feedback | Published | Community | NPI | Objective | Difference | . | Task performance | Agency | 102 | .01 | .01 |
| 21 | Nùnez (2007)  Time 2 Feedback | Published | Community | NPI | Objective | Difference | . | Task performance | Agency | 102 | .11 | .12 |
| 21 | Nùnez (2007)  Time 2 Feedback | Published | Community | NPI | Objective | Difference | . | Task performance | Agency | 102 | .05 | .05 |

(*continued*)

APPENDIX A (continued)

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Group | Study | Type of Publication | Sample | Narcissism Measure | Objective vs. Observer | Residual vs. Difference Score | Length of Relationship | Self-Enhancement Construct | Agency/  Communion/Neither | *N* | *r* | *p̂* |
| 22 | Paulhus (1998)  Study 1 Time 1 | Published | Students | NPI | Observer | Residual | Acquaintance | Task performance | Agency | 124 | .13 | .15 |
| 22 | Paulhus (1998)  Study 1 Time 2 | Published | Students | NPI | Observer | Residual | Close observer | Task performance | Agency | 124 | .33 | .37 |
| 23 | Paulhus (1998)  Study 2 Time 1 | Published | Students | NPI | Observer | Residual | Acquaintance | Task performance | Agency | 89 | .00 | .00 |
| 23 | Paulhus (1998)  Study 2 Time 2 | Published | Students | NPI | Observer | Residual | Close observer | Task performance | Agency | 89 | .30 | .34 |
| 24 | Paulhus & Williams (2002) | Published | Students | NPI | Objective | Residual | . | Intelligence | Agency | 245 | .24 | .26 |
| 24 | Paulhus & Williams (2002) | Published | Students | NPI | Objective | . | . | Intelligence | Agency | 245 | .17 | .19 |
| 25 | Robins & Beer (2001)  Sample 1 | Published | Students | NPI | Observer | Residual | Acquaintance | Task performance | Agency | 360 | .13 | .15 |
| 26 | Robins & Beer (2001)  Sample 2 | Published | Students | NPI | Objective | Residual | . | Academic performance | Agency | 486 | .36 | .40 |

*Note. N* = sample size; *r* = sample size weighted mean correlation; = correlation corrected for attenuation in the predictor; NPI = Narcissistic Personality Inventory; HDS-Bold = Hogan Developmental Survey; CPI = California Personality Inventory; CAQ = California Adult Q-sort; HAS = Hogan Assessment Systems; NPDS = Narcissistic Personality Disorder Scale.

\*Hogan & Hogan, 2009

1. It should be noted that although the self-criterion residual method is preferred over using difference scores it has also faced methodological criticism [see Krueger and Wright (2011) for a discussion]. We will explore alternative methods for calculating self-enhancement in our Discussion section, however our review revealed that most researchers currently report their results by correlating narcissism with a difference score or a regression residual. [↑](#footnote-ref-2)
2. Conscientiousness proved difficult to categorize because we perceived it to have both communal (e.g., dutifulness) and agentic (e.g., achievement striving) facets (Costa & McCrae, 1992). Past researchers categorized conscientiousness as a communal trait (e.g., Campbell et al., 2002, p. 359), so to be consistent with past research, we also coded conscientiousness as a communal trait. If we removed conscientiousness from the communion category, then the narcissism-self-enhancement effect size for communal criteria was .02 (*k* = 44; number of samples = 18; 95% CI = [-.04, .08]) and did not significantly differ from the narcissism-self-enhancement effect size for communal criteria when conscientiousness was included. [↑](#footnote-ref-3)
3. In this case, the intercept of the multilevel model without predictors (i.e., the null model) uses the same metric as a correlation coefficient. [↑](#footnote-ref-4)
4. Results are reported both corrected and uncorrected for unreliability in narcissism. [↑](#footnote-ref-5)
5. In addition, we performed the regression analysis including the neither category by creating two dummy variables, one for communal attributes (1 = communal, 0 = not communal) and one for agentic attributes (1 = agentic, 0 = not agentic). Next, we estimated the magnitude of narcissists’ self-enhancement for agentic and communal constructs, by regressing the narcissism-self-enhancement effect sizes (see Model 3) onto the agentic and communal dummy variables. Both of the regression coefficients for these predictors were statistically significant (agency *B* = .14, 95% CI = [.06, .21]; communion *B* = -.12, 95% CI = [-.20, -.03]). In addition, we estimated the average relationship between agency and self-enhancement, as well as between communion and self-enhancement. For agentic constructs (e.g., power and extraversion), the average narcissism-self-enhancement relationship was estimated to be .27 []. In contrast, for communal self-enhancement constructs (e.g., honesty and agreeableness), the average narcissism-self-enhancement relationship was estimated to be .01 []. [↑](#footnote-ref-6)