Self-Liking and Self-Competence Separate Self-Evaluation From Self-Deception: Associations With Personality, Ability, and Achievement

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ABSTRACT   The similarities between measures of self-evaluation and self-deception are reviewed, and a method for discriminating between them is proposed, using personality profiles and relations to ability and achievement. Across two samples, the Rosenberg Self-Esteem Scale (RSES) and Tafarodi's measures of self-evaluation were used to demonstrate that the RSES and Self-Liking are more similar to Self-Deceptive Enhancement

than is Self-Competence. Further, Self-Competence is uniquely associated with cognitive ability and both academic and creative achievement. It is concluded that, along with self-liking, self-competence is a useful form of self-evaluation that should be measured and taken into account in research that has traditionally focused on self-esteem.

The Two Faces of Self-Esteem

Self-esteem is a form of self-evaluation that remains one of psychology's most studied constructs (D. Watson, Suls, & Haig, 2002), despite growing concerns regarding its nature and measurement (Baumeister, Campbell, Krueger, & Vohs, 2003). It is most commonly assessed using the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965; Gray-Little, Williams, & Hancock, 1997), which construes self-esteem as a global evaluation of personal worth. Among the lay community, it is widely believed that positive self-evaluation is healthy and desirable, and similar notions are evident in the use of self-esteem questionnaires as outcome measures in studies of health and well-being (e.g., St. Lawrence et al., 1997). That self-esteem is strongly associated with positive affect and has an even more dramatic inverse relation to negative emotionality offers some support for this belief (Baumeister et al., 2003; D. Watson et al., 2002). Although the correlational nature of these relations does not allow for conclusions regarding causality, a number of interventions have attempted to boost self-esteem in the belief that such changes would yield various benefits (for a review, see Haney & Durlak, 1998). These programs have been spurred not only by the purported positive consequences of possessing high self-esteem, but also by the fear that antisocial behaviours such as drug abuse and bullying are the result of low self-esteem (O'Moore & Kirkham, 2001). There is an emerging sense, however, that this view may be seriously misleading and that self-esteem may have a number of worrying correlates.

An extensive review by Baumeister and colleagues (2003) concluded that individuals with high, rather than low, self-esteem appear to be more willing to experiment with alcohol and other drugs. Similarly, Olweus (1993) has found that bullies tend to possess relatively high, and not low, self-esteem (cf. Pulkkinen & Tremblay, 1992). Moreover, a number of studies indicate that some persons

with highly positive self-views appear prone to violence under conditions of ego-threat (for a review see Baumeister, Smart, & Boden, 1996). Although this may be a specific outcome of narcissism and not high scores on the RSES per se (Bushman & Baumeister, 2002; Twenge & Cambell, 2003), the positive association between the two (Raskin, Novacek, & Hogan, 1991a) indicates that a subset of high RSES scorers are narcissistic and thus potentially aggressive. High self-esteem has also been associated with other problematic behaviors, such as self-enhancement (e.g., Long & Spears, 1998; Robins, Hendin, & Trzesniewski, 2001; Shütz, 1998; Tice, 1991), an association that holds even in other cultures (Kurman & Sriram, 1997; Yik, Bond, & Paulhus, 1998). The association with self-enhancement is troubling because individuals with inflated self-worth may employ aggression, dominance, and exploitation to buffer their self-esteem from the ravages of doubt and depression (Raskin, Novacek, & Hogan, 1991b; P. J. Watson, Sawrie, Greene, & Arredondo, 2002). Perhaps unsurprisingly then, individuals with high self-esteem whose egos have been threatened are less liked by interaction partners than individuals with low self-esteem (Heatherton & Vohs, 2000; Vohs & Heatherton, 2003, 2004). Moreover, this effect cannot be attributed to trait narcissism (Heatherton & Vohs, 2000). Individuals with high RSES scores may also employ biased cognitive strategies in order to bolster or maintain their inflated self-views, such as self-serving social comparisons (Wheeler & Miyake, 1992; see also Vohs & Heatherton, 2004) or avoidance of information critical of one's own actions (Gerrard, Gibbons, Reis-Bergan, & Russell, 2000; see also Boney-McCoy, Gibbons, & Gerrard, 1999). High self-esteem as measured by the RSES, therefore, cannot be considered unequivocally positive.

Self-Esteem and Self-Deception

In its negative aspect, self-esteem bears an uncanny resemblance to self-deception and to one psychometrically distinguishable form of self-deception in particular: self-deceptive enhancement. Although differing definitions of self-deception exist (reviewed by Mele, 1997), there is some consensus with regard to outcome: a mental state in which an individual unquestioningly maintains a belief that has been contradicted or proven flawed by some information

possessed by that individual (Peterson, 1999; Peterson et al., 2003; Peterson, Driver-Linn, & DeYoung, 2002).

Self-deception is most frequently measured by the well-validated Self-Deceptive Enhancement (SDE) subscale of the Balanced Inventory of Desirable Responding (BIDR; Paulhus, 1991), which taps an overconfident, egoistic variety of self-deception (Paulhus & John, 1998). This measure has been associated with a number of apparently maladaptive behaviors, including decreased ability to accommodate anomaly during categorization (Peterson et al., 2002) and failure to modulate responses in the face of changing reward contingencies (Peterson et al., 2003). It is also associated with negative physiological and social outcomes: men high in self-deception show markers of decreased health (Linden, Chambers, Maurice, & Lenz, 1993), and people who interact with, or observe interactions with, self-deceivers tend to evaluate them negatively, either immediately or over time (Bonanno, Field, Kovacevik, & Kaltman, 2002; Frenkel-Brunswick, 1939; Paulhus, 1998; see also Robins & Paulhus, 2001).

Notably, these negative social outcomes are very similar to those reported by Heatherton and Vohs (2000) in individuals with high self-esteem. In the same vein, SDE, like self-esteem, has been associated with self-enhancement (Paulhus & John, 1998) and is associated with a similar cognitive bias away from negative self-relevant information (Shane & Peterson, 2004). Like the RSES, SDE correlates positively with measures of narcissism (Paulhus, 1998) and a factor analysis of mental health measures revealed that both self-esteem and defensive positivity (a composite variable of positive self-distortions) load on the same factor (Compton, Smith, Cornish, & Qualls, 1996). Not surprisingly, SDE and the RSES are positively correlated (rs > .45; e.g., Greenwald & Farnham, 2000; Robins, Hendin et al., 2001).

An obvious explanation for this association between the most common measures of self-esteem and self-deception is that self-esteem can be bolstered and maintained through self-deceptive mechanisms. Consequently, the overconfident egoism associated with SDE may contaminate measures of self-esteem (Baumeister et al., 2003). This is not to say that people who score high on SDE give falsely inflated reports of their self-esteem, but rather that their self-esteem may be high due to overconfidence and willful ignorance of personal shortcomings or errors. Additionally, moderately high scores on SDE (perhaps indicating confidence rather than

overconfidence) may sometimes represent something more like self-esteem than self-deception.[1]

In either case, the conflation of self-esteem and self-deception presents a problem for research on both constructs. Theoretically speaking, it is worrying when two constructs exist at opposite poles of desirability and purported utility but are strongly related according to current psychometric approaches. Practically speaking, this translates into a situation in which the utility of a widely used index of mental health (i.e., the RSES) may be seriously undermined by the negative attributes associated with a closely related construct (i.e., self-deception). Self-esteem based on the possession of desirable characteristics is distinct conceptually from self-esteem based on overconfidence, and some way should be found to distinguish it from self-deceptive enhancement at the level of assessment. The current studies examine this problem by comparing a more differentiated model of self-evaluation to self-deceptive enhancement in terms of associations with personality, ability, and achievement.

Two Types of Global Self-Evaluation

Tafarodi and colleagues have demonstrated that the most common measure of global self-esteem (the RSES) actually measures two distinct, though related, constructs—self-competence and self-liking—with a distinct bias toward the latter (Tafarodi & Milne, 2002; Tafarodi & Swann, 1995). Self-competence is defined as the sense of one's capability derived from multiple experiences of successful intentional goal pursuit (Tafarodi & Swann, 2001). Self-liking, on the other hand, is a purely subjective evaluation of personal worth, not explicitly related to behavior and ability, but linked to the self as a

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1. The mutual contamination of self-esteem and self-deception may be responsible for certain internal contradictions that have emerged in both literatures. Some self-esteem researchers tend to describe those with very high self-esteem as intrinsically self-enhancing. In truth, this presumably applies only to some subset not properly discriminated by gross measures of self-esteem (perhaps those who would also score high on SDE). Similarly, some researchers have claimed that self-deception (often termed "positive illusions" in this literature) is an adaptive process that contributes to mental health (Taylor & Brown, 1988, 1994). This assertion, however, is based primarily on the negative association between self-deception and self-reported negative affect, and a growing body of evidence demonstrates that self-deception is unlikely to be beneficial (Colvin, Block, & Funder, 1995; Paulhus, 1998; Peterson et al., 2002, 2003; Shane & Peterson, 2004).

social object, according to internalized criteria of social worth such as morality or attractiveness (Tafarodi & Swann, 1995, 2001). A number of studies have demonstrated the reliability, as well as the convergent and divergent validity of these two types of self-evaluation (e.g., Tafarodi, Marshall, & Milne, 2003; Tafarodi & Swann, 1995, 2001; Tafarodi & Vu, 1997). Self-liking appears most similar to what many researchers define as self-esteem—not a general evaluation of the self (as a literal definition might suggest) but an affectively based evaluation of how one ''feels'' about oneself (Leary, 2004). In contrast, self-competence shares many similarities with self-efficacy beliefs, which are primarily cognitive rather than affective (Bandura, 1997). These two forms of self-evaluation no doubt influence one another (e.g., believing you are competent surely makes you feel good about yourself), but they are nonetheless distinct, rendering their conflation in the RSES problematic. The current studies explored the divergent patterns of relations among self-competence, self-liking, the RSES, and self-deception using multiple regression and a trait-profile approach. Our prediction was that the theoretically more objective basis of self-competence (i.e., successful outcomes of intentional goal pursuit) would render it less vulnerable to contamination with self-deception, relative to self-liking. Although we expected the RSES to be much like self-liking, its similarity to SDE may be slightly attenuated by its conflation of self-liking and self-competence.

Personality Profiles of Self-Evaluation and Self-Deception

The comparison of trait profiles (i.e., correlations with a number of personality traits) is a useful way to explore convergent and divergent validity, especially among closely related constructs that may be difficult to differentiate by simple indices of association (e.g., Robins, Hendin et al., 2001). This method also allows for the qualitative description of phenomena with respect to a well-researched nomological network. The Big Five personality domains—Extraversion, Agreeableness, Conscientiousness, Emotional Stability (Neuroticism, reversed), and Openness—constitute the most widely used taxonomy of personality traits and have many known correlates (John & Srivastava, 1999).

The utility of a trait-profile approach for the study of self-esteem has been previously noted (Robins, Tracy, Trzesniewski, Potter, & Gosling, 2001), and normative correlations with the RSES are well

established. The RSES is characterized by a high positive correlation with Emotional Stability ($r \cong .60$), moderate to high correlations with Extraversion and Conscientiousness ($r \cong .40$ for both), and weaker correlations with Agreeableness and Openness ($r \cong .15$–$.20$ for both), across a number of different Big Five measures (e.g., Judge & Bono, 2001; Robins, Hendin et al., 2001; Robins, Tracy et al., 2001; D. Watson et al., 2002).

The personality correlates of SDE, by contrast, have been reported in only a handful of studies. Self-Deceptive Enhancement typically correlates moderately with Emotional Stability and Conscientiousness (mean N-weighted rs across four studies $= .42$ and $.34$, respectively, [total $N = 964$]), less powerfully with Extraversion (mean $r = .22$), and weakly with Agreeableness and Openness (mean rs $= .12$ and $.19$, respectively; Barrick & Mount, 1996; Meston, Heiman, Trapnell, & Paulhus, 1998; Reid-Seiser & Fritzsche, 2001; Stöber, Dette, & Musch, 2002).

Although the trait profiles for SDE and the RSES are not identical, the strong similarity between them appears in keeping with other demonstrations of their relatedness. Further, it may be that the inclusion of some items tapping self-competence renders the RSES less like SDE than it would be if it were a pure measure of self-liking. Big Five trait profiles for self-liking and self-competence have not previously been reported, nor have associations between these scales and SDE. In the current studies, a more rigorous comparison of trait associations was accomplished by employing a within-subjects design and statistical tests of the equality of correlations.

One potential concern regarding investigations of self-deception (and other forms of socially desirable responding) based on self-report is that responses may be distorted beyond utility by self-deceivers. Much evidence has accumulated to contradict this supposition, however (e.g., Barrick & Mount, 1996; McCrae & Costa, 1983; Piedmont, McCrae, Riemann, & Angleitner, 2000). Paulhus, the scale's author, recommends *not* controlling for SDE when assessing personality, due to its genuine association with personality (Paulhus & John, 1998), and high scores on SDE appear to indicate self-deception not because they are exaggerated but precisely because they are genuine assertions of overconfidence. The amount of veridical personality variance associated with SDE scores appears to be greater than that which results from exaggeration or self-enhancement, particularly when responses are anonymous (McCrae

& Costa, 1983; Piedmont et al., 2000). Personality profiles associated with self-evaluation and self-deception scales are thus likely to be sufficiently valid to allow for meaningful comparisons.

STUDY 1

Study 1 examined relations among the self-evaluation and self-deception scales, using correlation and multiple regression, then compared them quantitatively and qualitatively in terms of Big Five trait-profiles.

Hypotheses

We made the following hypotheses: (1) Congruent with the findings of Tafarodi and colleagues (Tafarodi & Milne, 2002; Tafarodi & Swann, 1995), the RSES should be more similar to Self-Liking than to Self-Competence, but both Self-Liking and Self-Competence should predict unique variance in RSES scores. (2) Self-Liking should be more strongly related to SDE than should Self-Competence. This hypothesis was tested both by comparing differences in correlation magnitude and by using regression to compare independent contributions of Self-Liking and Self-Competence to the prediction of SDE. (3) Following the logic of Hypotheses 1 and 2, the Big Five trait profile for Self-Competence should be distinct from the profiles for Self-Liking, SDE, and the RSES, though the RSES profile may fall somewhere between the Self-Liking and Self-Competence profiles. (4) In terms of specific trait associations, we hypothesized that Conscientiousness and Openness would exhibit stronger associations with Self-Competence than with Self-Liking, the RSES, and SDE. Conscientiousness is linked to competence conceptually, psychometrically (competence is a facet of Conscientiousness; Costa & McCrae, 1992), and empirically (see Furnham, 2001, for a discussion). Openness is related to cognitive ability (De-Young, Peterson, & Higgins, 2005; McCrae & Costa, 1997) and creativity (Carson, Peterson, & Higgins, 2005)—likely correlates of competence—but has typically been found to show little relation to the RSES or SDE. Because self-deceivers appear to ignore indications of error that would otherwise induce negative affect (Peterson et al., 2002, 2003), we hypothesized that Emotional Stability would be especially strongly related to scales tapping self-deception, namely

SDE and Self-Liking (relative to Self-Competence). Whereas the research reviewed in our introduction suggests that Extraversion is more strongly related to self-esteem than self-deception, no difference in association was hypothesized with respect to self-competence versus self-liking, as reward sensitivity and positive affect (core features of Extraversion) seem compatible with both. No differences in association with Agreeableness were hypothesized because previous reports indicate only weak associations with both self-esteem and self-deception.

Method

Participants. Eighty-two participants (55 female, 27 male) were recruited either through the website for an introductory psychology course or by posters on campus advertising the study, and received course credit or $10, respectively, for their participation. Participants ranged in age from 18 to 49 years, $M = 23.5$, $SD = 6.2$.

Materials. Participants completed computerized questionnaire measures of self-evaluation, self-deception, and the Big Five in the context of a larger battery of personality and cognitive assessments. In addition to the RSES, self-evaluation was assessed with Tafarodi's Self-Liking and Self-Competence Scale-Revised (SLCS-R; Tafarodi & Swann, 2001). The Self-Liking subscale includes items such as, "I am very comfortable with myself," while a typical item from the Self-Competence subscale is, "I am highly effective at the things I do." Self-deception was assessed using the 20-item Self-Deceptive Enhancement (SDE) subscale of the BIDR (Paulhus, 1991), which includes items like "I am a completely rational person" and "I never regret my decisions." Personality was assessed with the Big Five Inventory (BFI; John & Srivastava, 1999), a well-validated, 44-item instrument.

The RSES, SLCS-R, BFI, and SDE employed 4-point, 5-point, 5-point, and 7-point Likert scales, respectively. The SDE was scored using standard Likert procedure because this method has been found to be superior to dichotomous scoring (in which only extreme scores in the self-deceptive direction are counted) in terms of both reliability and validity, despite the strong correlation between scores resulting from the two methods (Johnson, 1995; Stöber et al., 2002). In the present sample, correlation between the two scoring methods for

SDE was high, and similar personality profiles were found for both, $r = .80$, $p < .001$.

Results

Scale reliabilities. Cronbach's alpha was .72 for SDE and considerably higher for the self-evaluation scales, RSES: $\alpha = .89$; Self-Liking: $\alpha = .90$; Self-Competence: $\alpha = .82$. Measurement of personality was also reliable, Extraversion: $\alpha = .86$; Agreeableness: $\alpha = .76$; Conscientiousness: $\alpha = .82$; Emotional Stability: $\alpha = .86$; Openness: $\alpha = .81$. In cases where differences in reliability may account for differences in association (i.e., if a more reliable scale had a higher correlation with a third variable than a less reliable scale), we report correlations disattenuated for unreliability. The latter provide an upper-level estimate of true association between the latent constructs underlying the measures, by taking into account scale reliability (Schmitt, 1996). If differential reliabilities are responsible for the observed difference in association, disattenuated correlations should show an attenuated divergence.

Relations between the RSES, Self-Liking, and Self-Competence. As hypothesized, the RSES ($M = 3.01$, $SD = 0.54$) was correlated with both Self-Liking ($M = 3.41$, $SD = 0.90$) and Self-Competence ($M = 3.36$, $SD = 0.66$), but more strongly with the former than the latter, Self-Liking: $r(80) = 0.86$, $p < .001$; Self-Competence: $r(80) = 0.66$, $p < .001$. The difference in correlation strength was significant, $t(79) = 3.67$, $p < 0.001$ (Steiger, 1980). Disattenuated correlations showed the same pattern, indicating that this finding is not a product of differential scale reliabilities, Self-Liking: $r(80) = 0.96$; Self-Competence: $r(80) = 0.77$. A simultaneous linear regression was performed with Self-Competence and Self-Liking entered as predictors of the RSES. Both predictors contributed unique variance, but Self-Liking was a much greater predictor ($R^2 = .79$), Self-Liking: $\beta = .71$, $t(79) = 11.54$, $p < .001$; Self-Competence: $\beta = .28$, $t(79) = 4.52$, $p < .001$. Although the correlation between predictors was fairly strong in this regression, $r(80) = .54$, $p < .001$, it did not reach the threshold at which multicollinearity typically becomes a problem ($r > .90$; Tabachnik & Fidell, 2001). Further, collinearity diagnostics were well within the acceptable range; the variance inflation factor (VIF) was less than 2 and the largest Condition Index

(CI) was less than 14. Regressions are typically thought to have multicollinearity problems when VIF values fall above 10 (Neter, Kutner, Nachtsheim, & Wasserman, 1996), or when CI values are 30 or above (Belsley, 1991; Tabachnik & Fidell, 2001).

Relations between Self-Deception and self-evaluation. The hypothesis that the SDE scale ($M = 4.01$, $SD = 0.72$) would be more strongly related to the RSES and Self-Liking than to Self-Competence was tested using correlation and regression. Moderate to high correlations were observed between SDE and the three measures of self-evaluation, RSES: $r(80) = .57$, $p < .001$; Self-Liking: $r(80) = .57$, $p < .001$; Self-Competence: $r(80) = 0.45$, $p < .001$. Although Self-Liking and the RSES had stronger correlations with SDE than Self-Competence, these differences did not reach statistical significance, Self-Liking: $t(79) = 1.39$, $p > .15$; RSES: $t(79) = 1.54$, $p > .10$. Disattenuated correlations revealed the same pattern of associations, RSES: $r(80) = .71$; Self-Liking: $r(80) = .71$; Self-Competence: $r(80) = 0.59$. A simultaneous linear regression of SDE on Self-Liking and Self-Competence revealed that Self-Liking was the greater unique predictor while Self-Competence was a lesser, not quite significant predictor ($R^2 = .35$), Self-Liking: $\beta = .46$, $t(79) = 4.32$, $p < .001$; Self-Competence: $\beta = .20$, $t(79) = 1.85$, $p = .07$; VIF < 2, CI < 14.

Trait profiles. Correlation profiles of personality for the measures of self-deception and self-evaluation are presented in Figure 1. As predicted, the RSES, Self-Liking, and SDE appear very similar in their profiles, whereas Self-Competence looks different, showing a stronger correlation with Conscientiousness and the only significant correlation with Openness. Tests for the equality of correlations revealed that Self-Liking, the RSES, and SDE did not differ significantly in any of their personality correlates. We predicted that Conscientiousness and Openness would be more strongly associated with Self-Competence than Self-Liking, SDE, or the RSES (though the prediction was weaker for the RSES because it incorporates items tapping self-competence). These hypotheses were confirmed in the case of Conscientiousness, Self-Liking: $t(79) = 4.87$, $p < .001$; SDE: $t(79) = 3.36$, $p < .005$; RSES: $t(79) = 5.02$, $p < .001$. Openness was significantly more strongly correlated with Self-Competence than it was with Self-Liking or SDE, but this same difference was not statistically significant in the case of the RSES, Self-Liking:
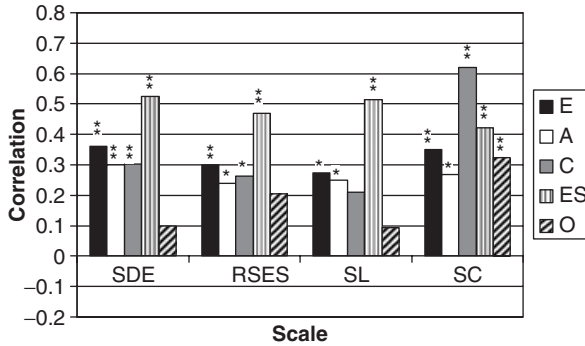
Figure 1
Study 1. Profiles of personality correlations for self-deception and self-esteem measures (*N* = 82).

$t(79) = 2.26$, $p < .05$; SDE: $t(79) = 2.00$, $p = .05$; RSES: $t(79) = 1.25$, $p > 0.20$. Disattenuated correlations revealed that the stronger association to Openness for Self-Competence relative to SDE could not be attributed to differences in reliability, Self-Competence: $r(80) = .40$; SDE: $r(80) = .13$. Emotional Stability had higher correlations with the RSES, SDE, and Self-Liking, as predicted; however, these differences did not achieve statistical significance, all $ts < 1.1$, $ps > .25$. Extraversion and Agreeableness did not distinguish any of the measures, all $ts < 1.5$, $ps > .25$.

Study 1 Discussion

Consistent with Tafarodi and colleagues' findings, regression indicated the RSES to be predominantly a measure of self-liking, with a small self-competence component. That the magnitudes of Big Five trait correlations for the RSES in almost all cases fell between those for Self-Liking and Self-Competence can presumably be attributed to the fact that the RSES combines these two forms of self-evaluation. Personality profiles for the RSES and Self-Deceptive Enhancement were both consistent with previously reported correlations and did not differ statistically significantly from each other—further evidence of their problematic similarity. The inclusion of measures of self-liking and self-competence, however, allowed us to demonstrate that this similarity appears to be specific to the self-liking form of global self-evaluation and not applicable

to self-competence. When the shared variance of Self-Liking and Self-Competence was controlled through regression, only Self-Liking was a significant predictor of SDE. Furthermore, Self-Competence revealed itself to be distinct from Self-Liking and SDE in its stronger associations with Conscientiousness and Openness. One hypothesis that was not fully supported was that Emotional Stability would be more strongly related to Self-Liking and SDE than to Self-Competence; although the differences were in the predicted direction, they were not statistically significant.

STUDY 2

The sample size in Study 1 was small for a multiple regression, perhaps affecting the stability of the Beta weight estimates for individual predictors (Tabachnick & Fidell, 2001). Because a replication would increase confidence in these estimates, in Study 2 we turned to an existing dataset with a larger sample and a more thorough battery of Big Five measures, including the NEO PI-R (Costa & McCrae, 1992a), which decomposes the Big Five into constituent facets. A facet-level analysis may provide a more nuanced differentiation of self-esteem from self-deception, and a clearer conception of how self-competence stands apart from these constructs. Also of interest in this data set were indices of cognitive ability (IQ) and both academic and creative achievement, which allowed us to circumvent some of the limitations of self-report.[2]

Hypotheses

In addition to the hypotheses of Study 1, we investigated the following additional hypotheses: (1) The very strong negative relation previously demonstrated between self-esteem and the Depression facet of Neuroticism (D. Watson et al., 2002) may be more true of the Self-Esteem measures than Self-Competence. Although Watson and colleagues (2002) have theorized that global self-worth constitutes one pole of a single bipolar construct, with depression anchoring the other end, the relatively weaker association with Emotional

2. Big Five scores and intercorrelations from this data set are reported by De-Young et al. (2002), and DeYoung et al. (2005) have examined the Big Five in relation to IQ.

Stability for Self-Competence found in Study 1 suggests that this may be less true of competence-based self-evaluations. (2) Based on the conception of Self-Competence as a genuine reflection of historical success in goal pursuit, we hypothesized that it would be associated with objective measures of actual ability and achievement. By contrast, Self-Liking should not predict ability and achievement because it is theoretically based on more subjective evaluations of worth. Self-Deceptive Enhancement was not expected to be associated with ability and achievement, as ignorance of one's errors logically impedes learning. This prediction might fail, however, to the degree that low to moderate SDE scores reflect normal levels of confidence rather than overconfidence.

Method

Participants.   University of Toronto undergraduate students were recruited by posters displayed around campus advertising payment for participation ($10 per hour). Participants included 245 individuals (169 females and 76 males), who ranged in age from 18 to 38 years ($M = 21.2$, $SD = 3.1$).

Materials.   Participants completed computerized measures of self-evaluation, self-deception, and the Big Five in the context of a larger battery of measures. The RSES and SDE were administered as in Study 1. The original, 20-item version of the SLCS (Tafarodi & Swann, 1995) was used rather than the SLCS-R, as this study was organized prior to the publication of the latter. The Big Five were assessed with two instruments: (1) Goldberg's (1992) Trait Descriptive Adjectives (TDA), which asks respondents to rate on a 7-point Likert scale how well each of 100 adjectives describes them; and (2) the NEO PI-R (Costa & McCrae, 1992a, 1992b), in which respondents rate their agreement with descriptive statements on a 5-point Likert scale. The NEO PI-R breaks each of the Big Five into six facets, assessed by eight items each. Standardized NEO PI-R and TDA scores were averaged to form a composite measure of the Big Five.

All participants also completed the Creative Achievement Questionnaire (CAQ; Carson et al., 2005), in which creative achievements are assessed in 10 domains: visual arts, music, dance, architectural design, creative writing, humor, inventions, scientific discovery,

theatre and film, and culinary arts. Points are awarded in each domain based on both level and number of concrete achievements, and the domains are summed to yield a total creative achievement score, which was transformed logarithmically to reduce skewness.

In addition to questionnaire measures, IQ was assessed for 174 participants who came in to the lab (119 female, 55 male). Five WAIS-III subtests were used (Wechsler, 1997): vocabulary, similarities, block design, arithmetic, and digit-symbol coding. Ward and Ryan (1996) found this shortened version of the WAIS to afford a time savings of approximately 55% compared to the full WAIS, while maintaining a .97 correlation with full-scale IQ and a reliability coefficient of .96.

One hundred and sixty-nine of these participants (115 female, 54 male) also submitted their academic transcripts. This allowed the calculation of cumulative grade point average (CGPA) as an index of academic achievement. Student's CGPA was calculated by averaging GPA across valid years. A valid year was defined as one in which three to five academic courses were taken in both semesters, with no failing grades.[3] In order to improve the internal reliability of the CGPAs, grades from activity and summer courses were excluded, as were those from all years past the undergraduate level and those of any student not enrolled in the faculty of arts and sciences. Following these exclusions, CGPA was available for 131 participants (91 females and 40 males).

Results

Scale reliabilities.   The SDE scale had a Cronbach's alpha of .72; the self-evaluation scales demonstrated higher reliabilities, Self-Competence: $\alpha = .88$; Self-Liking: $\alpha = .94$; RSES: $\alpha = .90$. Reliabilities for the personality measures were high in all cases: (1) Goldberg's TDA. Extraversion/Surgency: $\alpha = .92$; Agreeableness: $\alpha = .90$; Conscientiousness: $\alpha = .93$; Emotional Stability: $\alpha = .92$; Openness/Intellect: $\alpha = .87$. (2) NEO PI-R. Extraversion: $\alpha = .91$; Agreeableness: $\alpha = .88$; Conscientiousness: $\alpha = .93$; Emotional Stability: $\alpha = .95$; Openness:

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3. Years with failing grades were excluded because a mark of failure is also given to students whose work in a course is incomplete. There is no easy way to distinguish a failing grade in a completed course from one indicating an incompleted course (which may additionally indicate a disruption of the student's academic work for nonacademic reasons).

$\alpha = .90$. (3) NEO PI-R/TDA Composite scores. Extraversion: $\alpha = .95$; Agreeableness: $\alpha = .92$; Conscientiousness: $\alpha = .96$; Emotional Stability: $\alpha = .96$; Openness: $\alpha = .92$.

Relations between the RSES, Self-Liking, and Self-Competence.   We predicted that the RSES ($M = 3.01$, $SD = 0.53$) would be more highly correlated with Self-Liking ($M = 3.46$, $SD = 0.83$) compared to Self-Competence ($M = 3.94$, $SD = 0.58$), and this was indeed the case to a statistically significant degree, Self-Liking: $r(243) = .88$, $p < .001$; Self-Competence: $r(243) = .81$, $p < .001$, $t(242) = 3.38$, $p < .001$. Disattenuated correlations revealed the same pattern of associations, Self-Liking: $r(243) = .96$; Self-Competence: $r(243) = .91$. Additionally, simultaneous linear regression of the RSES on Self-Liking and Self-Competence demonstrated that Self-Liking and Self-Competence account for most of the variance in RSES scores, with Self-Liking serving as the greater predictor ($R^2 = .85$), Self-Liking: $\beta = .62$, $t(242) = 17.74$, $p < .001$; Self-Competence: $\beta = .37$, $t(242) = 10.67$, $p < .001$. Despite the fairly strong correlation between the two predictors ($r = .69$, $p < .001$), collinearity diagnostics did not reveal problems with this regression according to the guidelines described above, VIF < 2, CI < 21.

Relations between self-deception and self-evaluation.   Consistent with the hypothesis that SDE ($M = 4.03$, $SD = 0.65$) would be more similar to the RSES and Self-Liking than it would be to Self-Competence, higher correlations were observed for SDE with the RSES and Self-Liking than with Self-Competence, RSES: $r(243) = .60$, $p < .001$; Self-Liking: $r(243) = .64$, $p < .001$; Self-Competence: $r(243) = .53$, $p < .001$. These difference in association were statistically significant, RSES: $t(242) = 2.15$, $p < .05$; Self-Liking: $t(242) = 2.75$, $p < .01$. Disattenuated correlations revealed the same pattern of association, RSES: $r(243) = .75$; Self-Liking: $r(243) = .78$; Self-Competence: $r(243) = .67$. In a simultaneous linear regression, both Self-Liking and Self-Competence contributed significantly to the prediction of SDE, but Self-Liking was by far the greater contributor ($R^2 = .42$), Self-Liking: $\beta = .52$, $t(242) = 7.62$, $p < .001$; Self-Competence: $\beta = .17$, $t(242) = 2.49$, $p < .05$; VIF < 2, CI < 21.

Trait profiles.   Correlation trait profiles for the RSES and SLCS subscales appear in Figure 2. As in Study 1, the RSES was predicted
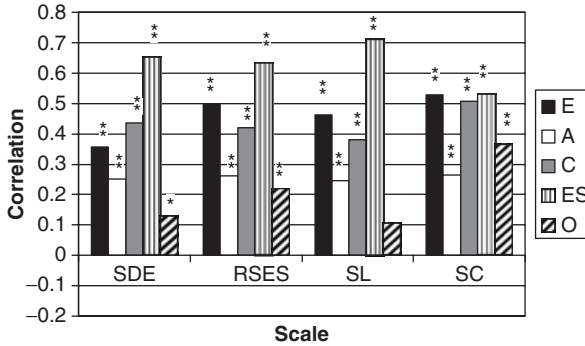
Figure 2
Study 2. Profiles of personality correlations for self-deception and self-esteem measures ($N = 245$).

to exhibit a profile of personality associations more similar to Self-Liking than Self-Competence. Visual inspection confirms this hypothesis, as the RSES and Self-Liking are typified by high correlations with Emotional Stability and moderate correlations with Conscientiousness and Extraversion, whereas Self-Competence exhibits a more balanced profile, with stronger relations to Openness and Conscientiousness and a weaker relation to Emotional Stability. There were some statistically significant divergences between the RSES and Self-Liking in this sample: Self-Liking was more strongly related to Emotional Stability than was the RSES, $t(242) = 3.37$, $p < .001$, but had a weaker association with Openness, $t(242) = 3.81$, $p < .001$. Disattenuated correlations revealed that the former finding is not likely to be a function of differences in reliability, Self-Liking: $r(243) = .75$; RSES: $r(243) = .68$.

Correlation profiles of personality associations were expected to reveal that the profile for SDE is more similar to Self-Liking than to Self-Competence, and this was indeed the case (see Figure 2). Once again, SDE is similar to the RSES and Self-Liking in its associations (described above), whereas Self-Competence displays a marked departure from this profile. There was a significant difference between SDE and Self-Liking in this sample, as Extraversion was more strongly related to the latter than to the former, $t(242) = 2.20$, $p < .05$. This difference in association was approximately halved, however, when differences in scale reliability were taken into account through disattenuated correlations, Self-Liking: $r(243) = .49$; SDE: $r(243) = .43$.

As in Study 1, we hypothesized that Self-Competence would have greater associations with Openness and Conscientiousness. Tests for the equality of correlations (Steiger, 1980) indicated that Openness was more strongly correlated with Self-Competence than it was with Self-Liking, the RSES, or SDE; Self-Liking: $t(242) = 5.70$, $p < .001$; RSES: $t(242) = 3.91$, $p < .001$; SDE: $t(242) = 4.04$, $p < .001$. Conscientiousness was more strongly correlated with Self-Competence than it was with Self-Liking or the RSES, but this difference was not statistically significant for SDE, Self-Liking: $t(242) = 2.93$, $p < .005$; RSES: $t(242) = 2.51$, $p < .05$; SDE: $t(242) = 1.36$, $p > .15$.

Confirming our prediction regarding Emotional Stability, this trait was significantly more weakly correlated with Self-Competence than it was with Self-Liking, the RSES, and SDE, Self-Liking: $t(242) = 4.96$, $p < .001$; RSES: $t(242) = 3.28$, $p < .005$; SDE: $t(242) = 2.59$, $p < .05$. This pattern of associations could not be attributed to differences in scale reliability according to correlations corrected for attenuation, Self-Competence: $r(243) = .58$; Self-Liking: $r(243) = .75$; RSES: $r(243) = .68$; SDE: $r(243) = .78$. Lastly, in line with previous observations, Extraversion was more related to one of the self-evaluation scales, Self-Competence, relative to the self-deceptive enhancement measure, $t(242) = 3.24$, $p < .005$. Once again, this difference in association could not be attributed to a difference in scale reliability, Self-Competence: $r(243) = .58$; SDE: $r(243) = .43$.

Facet-level analysis. The differences between trait profiles were explored at a more fine-grained level using the facets of the NEO PI-R; correlations between the facets and the self-evaluation and self-deception scales appear in Table 1. A number of facets exhibited larger correlations than their encompassing Big Five traits. For example, all three self-evaluation scales were significantly more correlated with the Depression facet than with overall Neuroticism. In line with our hypotheses, Self-Liking had a significantly stronger correlation with Depression than did Self-Competence, $t(242) = 5.53$, $p < .001$. This did not appear to be a function of differences in scale reliability, as indicated by disattenuated correlations, Self-Competence: $r(243) = .74$; Self-Liking: $r(243) = .90$. Moreover, a simultaneous linear regression demonstrated that Self-Liking and Self-Competence predict independent variance in Depression, with the former serving as a much stronger predictor ($R^2 = .67$), Self-Liking: $\beta = -.70$, $t(242) = -13.62$, $p < .001$; Self-Competence: $\beta = -.17$, $t(242) =$

Table 1

Study 2. Facet-Level Correlations for Self-Esteem and Self-Deception Scales

	Warmth	Gregarious.	Assertive.	Activity	Excite.-seeking	Positive emotions
				Extraversion		
SDE	0.23**	0.09	**0.43****	0.29**	0.03	0.28**
RSES	0.35***	0.23**	0.43***	0.43**	0.15*	**0.46****
SL	0.30***	0.22**	0.35**	0.38**	0.15*	**0.45****
SC	0.35***	0.24**	0.47**	**0.53****	0.18**	0.46**

	Trust	Strt-forward	Altruism	Compliance	Modesty	Tender-minded.
				Agreeableness		
SDE	**0.30****	0.04	**0.23****	0.05	*−0.14**	−0.04
RSES	**0.33****	0.00	**0.28****	0.10	*−0.34***	−0.04
SL	**0.33****	0.01	**0.22****	**0.13**	*−0.30***	−0.05
SC	**0.30****	−0.02	**0.36****	0.07	*−0.33***	−0.04

	Competence	Order	Dutifulness	Achiev. Strive.	Self-discipline	Deliberation
				Conscientiousness		
SDE	**0.55****	0.20**	0.30**	0.23**	0.40**	0.26**
RSES	**0.59****	0.16*	0.24**	0.26**	**0.40****	0.13*
SL	**0.51****	0.17**	0.22**	0.21**	**0.38****	0.11
SC	**0.69****	0.17**	0.36**	0.41**	0.49**	0.17**

(*Continued*)

Table 1 (Cont.)

	Anxiety	Angry Host.	Depression	Neuroticism Self-conscious.	Impulsiveness	Vulnerability
SDE	− 0.55**	− 0.43**	− 0.61**	− 0.59**	− 0.46**	− 0.63**
RSES	− 0.55**	− 0.45**	− **0.78****	− 0.62**	− 0.34**	− 0.63**
SL	− 0.62**	− 0.53**	− **0.81****	− 0.66**	− 0.36**	− 0.63**
SC	− 0.45**	− 0.38**	− **0.65****	− 0.52**	− 0.29**	− 0.61**

	Fantasy	Aesthetics	Feelings	Openness to Experience Actions	Ideas	Values
SDE	− 0.11	0.01	− 0.07	**0.15***	**0.19****	0.02
RSES	0.02	0.08	0.06	**0.26****	0.11	0.12
SL	− 0.05	0.03	− 0.07	**0.24****	0.09	0.04
SC	0.03	0.14*	0.15*	**0.26****	0.22**	0.23**

*p<0.05. **p<0.01.

Note. Boldface type significant correlations are greater than that expressed at the five-factor level. Italicized correlations are in the opposite direction as the five-factor correlation and significant. SL = Self-Liking, SC = Self-Competence, Angry Host. = Angry Hostility, Self-conscious. = Self-consciousness, Strt-forward = Straight-forwardness, Tender-minded. = Tender-mindedness, Achieve. = Achieve. Strive. = Achievement-striving, Gregarious. = Gregariousness, Assertive. = Assertiveness, Excite.-seeking = Excitement-seeking.

− 3.24, $p < .005$; VIF < 2, CI < 21. The self-evaluation scales and SDE had significant negative correlations with every other facet of Neuroticism, and the same pattern, but in the positive direction, held for Conscientiousness and Extraversion (with the exception of only 3 correlations out of 48). Consistent with the Big Five analyses, Self-Competence showed stronger correlations with Conscientiousness facets and weaker correlations with Neuroticism facets, relative to Self-Liking. This pattern also applied to Self-Competence relative to SDE, with the exception of the Depression facet and two Conscientiousness facets (Order and Deliberation).

More complicated patterns appeared for Agreeableness and Openness. The self-evaluation scales and SDE were positively correlated with the Agreeableness facets Trust and Altruism, but significantly negatively correlated with Modesty. Self-Competence was correlated with five of the six Openness facets. Self-Liking and the RSES, in contrast, were correlated only with the Actions facet, and SDE was correlated only with Actions and Ideas.

IQ, grades, and creative achievement. We predicted that only Self-Competence would show associations with concrete measures of intelligence and achievement (both academic and creative). Table 2 displays intercorrelations between the self-evaluation measures,

Table 2
Study 2. Scale Intercorrelations for Self-Esteem, Self-Deception and
Achievement and Ability Measures

	IQ	CGPA	CAQ
SDE	0.09	0.01	0.15*
RSES	0.18*	0.22*	0.10
SL	0.05	0.09	0.09
SC	0.16*	0.24**	0.19**
IQ	–	0.38**	0.34**
CGPA		–	0.18*
CAQ			–
Mean	13.4	2.9	1.3
S. D.	1.7	0.6	0.2

*$p < 0.05$. **$p < 0.01$.
Note. SL = Self-Liking, SC = Self-Competence.

SDE, IQ, grades, and creative achievement scores. Self-Competence was significantly correlated with all three of these measures whereas Self-Liking was not related to any of them, and these differences were statistically significant, IQ: $t(171) = 2.00$, $p = .05$; Grades: $t(128) = 2.17$, $p < .05$; CAQ: $t(171) = 2.00$, $p = .05$. The RSES was significantly correlated with IQ and grades, and SDE had a low correlation with creative achievement scores.

Regressions were performed to determine whether the other self-evaluation scales predicted these outcome measures independently of Self-Competence. A simultaneous linear regression of creative achievement on SDE and Self-Competence demonstrated that only Self-Competence was a unique predictor ($R^2 = .04$), Self-Competence: $\beta = .15$, $t(242) = 2.03$, $p < .05$; SDE: $\beta = .07$, $t(242) = .93$, $p > .35$; VIF < 2, CI < 18. When IQ was regressed on the RSES and Self-Competence, neither was a unique predictor ($R^2 = .03$), RSES: $\beta = .14$, $t(242) = 1.11$, $p > .25$; Self-Competence: $\beta = .04$, $t(242) = .36$, $p > .70$; VIF < 3, CI < 27. Similarly, when grades were linearly regressed on the RSES and Self-Competence simultaneously, neither uniquely predicted CGPA ($R^2 = .06$), RSES: $\beta = .07$, $t(242) = .48$, $p > .60$; Self-Competence: $\beta = .18$, $t(242) = 1.18$, $p > .20$; VIF < 4, CI < 28. Lastly, a simultaneous linear regression indicated that IQ, grades, and creative achievement cumulatively predicted Self-Competence to a greater degree than any of these variables individually ($R = .35$, $R^2 = .12$), CAQ: $\beta = .18$, $t(242) = 2.04$, $p < .05$; IQ: $\beta = .15$, $t(242) = 1.65$, $p = .10$; CGPA: $\beta = .15$, $t(242) = 1.64$, $p = .10$; VIF < 2, CI < 24. This suggests that intelligence and achievement in both academic and creative domains all contribute independently to a sense of competence.

Study 2 Discussion

This study successfully replicated the results of Study 1, using more thoroughly elaborated personality measures and a larger sample. Zero-order correlations, regressions, and correlation trait profiles indicated that Self-Liking, the RSES, and SDE form a cluster more strongly related to each other than to Self-Competence (although the RSES does appear to tap elements of Self-Competence in addition to Self-Liking). The replication of this pattern of association affords us greater confidence in the accuracy and stability of these relations. As before, Self-Liking, the RSES, and SDE were

all characterized by strong associations with Emotional Stability and weak associations with Openness, whereas Self-Competence was primarily distinguished by stronger relations to Conscientiousness and Openness and a weaker relation to Emotional Stability. Study 2 revealed that this pattern holds at the facet level of the NEO PI-R, again strengthening our confidence in the qualitative differences between these scales.

Consistent with previous research, but inconsistent with our results in Study 1, SDE was less strongly associated with Extraversion than were the self-evaluation scales. However, Extraversion did not have a weaker correlation with SDE in Study 2 relative to Study 1; rather, it was more strongly correlated with the self-evaluation scales. Although this inconsistency might be due to the fact that different personality measures were used in each study, it is interesting to note that of the few positive outcomes that appear to be truly associated with self-esteem, many seem to be a function of Extraversion (e.g., speaking out in groups and initiating interpersonal behaviour; Baumeister et al., 2003).

The facet-level analysis revealed some unique findings, not evident at the Big Five level. First, the strong negative correlation between self-esteem measures and the Depression facet of Neuroticism (D. Watson et al., 2002) appears to obtain most strongly for the self-liking dimension of self-evaluation. Second, although the self-evaluation scales and SDE were positively associated with the Trust and Altruism facets of Agreeableness, they were negatively related to Modesty. Admittedly, this is not particularly surprising, because modesty and public positive self-evaluations are naturally in conflict, but nonetheless this observation may explain the relatively low associations between self-esteem and Agreeableness. Third, and perhaps most germanely, Self-Competence was positively related to five of the six Openness facets (the exception being Fantasy), whereas the RSES, Self-Liking, and SDE were only related to Actions (and, in the case of SDE, Ideas). DeYoung and colleagues (2005) found that Actions is the Openness facet least strongly related to Openness and most strongly related to Extraversion. Conceptually, it also deviates most from the central qualities of Openness, which emphasize cognitive, rather than behavioral, flexibility (DeYoung et al., 2005). The unique nature of this facet serves to emphasize the difference between Self-Competence and the other scales in relation to Openness.

The associations between Self-Competence and objective measures of ability and achievement appear to highlight the importance of the traits that distinguish this form of self-evaluation: Openness and Conscientiousness. Association with these traits is consistent with the conceptualization of Self-Competence as a self-evaluation based on successful goal pursuit. The fact that Self-Competence was more strongly associated with these desirable traits than was SDE may also help allay fears about response biases associated with the latter; biased responding should strengthen associations with desirable traits and would not lead to the pattern observed. Importantly, the magnitudes of association between Self-Competence and the ability measures are not marginal. Empirically derived guidelines for interpreting correlations when variables do not share method indicate that associations with IQ and the creative achievement scores fall at the top of the lower third of effect sizes reported in psychology, and the association with academic grades falls within the middle third (Hemphill, 2003).

GENERAL DISCUSSION

Across two studies, Self-Competence was shown to be distinct from Self-Liking and the RSES in its lesser association with SDE. The subjective foundation of self-liking may make it more vulnerable to contamination with self-deceptive enhancement, whereas the more objective evaluations of successful goal-pursuit that theoretically lead to self-competence may render it less vulnerable to this sort of overconfidence. Whereas the personality correlates of self-liking and self-deceptive enhancement imply a strong focus on avoiding negative affect, self-competence is associated not only with emotional stability but also with those aspects of personality associated with task focus, responsibility, intelligence, and creativity. Overall, this latter form of self-evaluation appears to accompany a more balanced and adaptive personality profile. The validity of these personality associations is corroborated by the association of Self-Competence with achievement in academia and various creative domains and with higher IQ scores (which index both raw ability [fluid IQ] and learning [crystallized IQ]; Jensen, 1998); nonetheless, future research employing observer ratings of personality in addition to self-reports would provide an opportunity to futher test our findings.

Self-esteem is one of the most common topics of psychological inquiry, and researchers overwhelmingly turn to the RSES for measurement—a potentially problematic situation in light of the current evidence, as well as that previously gathered by Tafarodi and his colleagues. The bias toward assessment of self-liking in the RSES may render Rosenberg's (1965) scale vulnerable to contamination with self-deception. Self-competence is a form of self-evaluation less related to self-deception, but this construct is undersampled and not discriminated by the RSES (Tafarodi & Milne, 2002). Measurement of self-competence appears useful for a number of reasons, as this form of self-evaluation appears: (a) less likely to be contaminated by self-deceptive enhancement, (b) associated with more advantageous personality characteristics, and (c) associated with actual ability and achievement in cognitive and creative domains. Continued reliance on the RSES may lead to confusing and incomplete conclusions, due to its inability to distinguish between self-liking and self-competence. These two aspects of self-evaluation, though strongly related, appear distinct enough to warrant separate examination and measurement. As a whole, therefore, the SLCS-R may be a better choice for assessing self-esteem than the RSES, as the former accounts for most of the variance associated with the latter while also providing a measure of self-efficacy. The SLCS-R also retains the major advantages of the RSES, such as brevity and ease of administration.

Our findings should not encourage psychologists to regard self-competence or self-efficacy as the only useful form of self-evaluation or to eliminate self-liking or self-esteem from consideration. Rather, by pointing out the potentially problematic similarity between measures of self-liking and self-deceptive enhancement, we hope to encourage researchers to consider self-competence *in addition* to self-liking. Further, self-liking should not be considered identical to self-deceptive enhancement from a conceptual standpoint, even if the two constructs are confounded to some degree in common measurement. Far from claiming that self-liking is a maladaptive form of self-evaluation, we presume that it is generally desirable, provided that it is not founded on self-deception. The problem, however, is that the current findings, together with the work reviewed in our introduction, suggest that some proportion of high scores on the Self-Liking scale or the RSES are likely to stem from self-deception. If self-deceptive enhancement were assessed more

regularly in research on self-esteem, regression (and other techniques) could be used to examine self-liking independently of self-deception (e.g., Johnson, Vincent, & Ross, 1997). Examined in this way, self-liking might well have benefits relating to social and emotional adjustment. Indeed, one limitation of our study was that we did not have any concrete measure related to the social domain to compare with the achievement indices.

The one positive correlate of self-liking in the current investigations, a very strong negative association between self-liking and Neuroticism, bears closer examination. Although freedom from negative affect is obviously desirable in most cases, the observed relation should not be considered unequivocally healthy, nor representative of unbiased self-liking, given what is known about self-deception. Peterson and colleagues (2002, 2003) have argued that self-deceivers may experience less negative affect because they ignore evidence that they are in error. Negative affect appears to serve a corrective function, which self-deception may circumvent. Interestingly, Self-Competence was associated with variance in the Depression facet of Neuroticism not predicted by Self-Liking, suggesting that the buffering from negative affect provided by these two constructs is partially non-overlapping. The exact nature of these independent contributions remains to be specified. Future research should also be directed toward testing experimentally whether self-liking and self-competence are associated with the same behaviors and outcomes as self-deceptive enhancement. One other potentially fruitful and relevant avenue of research not touched upon by these studies is an investigation of how narcissism relates to the constructs we examined. It is known, for example, that narcissism has a different Big Five profile than the self-esteem and self-deception measures (Bradlee & Emmons, 1992; Campbell, Rudich, & Sedikides, 2002).

With respect to broader, societal implications, our results seem to support recent arguments that positive self-evaluation is most likely to be useful when it is contingent on objective, verifiable actions and capabilities (Baumeister et al., 2003; Twenge & Cambell, 2003). Researchers have begun to conclude that if interventions designed to improve self-esteem were predicated on the notion of fostering genuine competence rather than mere positive self-regard even in the face of incompetence, they might be a good deal more valuable (Baumeister et al., 2003; Twenge & Cambell, 2003). Self-Competence appears to be a promising indicator of outcome in the kind of

interventions these researchers are recommending. Given the high correlation between self-competence and self-liking, a program specifically designed to improve self-competence is also likely to raise self-liking, while perhaps avoiding the production of self-regard founded on overconfidence.

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