

(10) DOMAIN: A/1= race, B/2= ethnicity C/3 = gender-sex D/4 = food or drink

E/5 = other consumer F/6= political G/7 = drugs or tobacco

H/8 = self esteem I/9= personality/self K/10 = clinical

L/11= relationships M/12= other? (not a tony category)

(11) BEHAVIOR: single=1, average=2

(12) IAT TYPE attitude=1, belief=2, self=3, not reported = 4

(13) EM TYPE: attitude=1, belief=2, self=3, not reported = 4

(14) OVERALL METHOD: not=0, observed=1

(15) METHOD: RepPast=1, future=2, emotion=3, judge=4, obs=5, neuro=6, other=7

(16) SCORE: millisecond=0, log=1, algorithm=2, NotReported=3

(17) words=0, pictures=1, NotReported=2

(18) number of IATs: 1

(19) IAT ORDER: NotReported=0, iatfirst=1, iatsecond=2, iatthird=3

(20) EXPLICIT ORDER: NotReported=0, explicitfirst=1, expsecond=2, explthird=3

(21) BEHAVIOR ORDER: NotReported=0, behfirst=1, behsecond=2, behthird=3

(22) IAT vs. behavior: NotReported=0, before=1, after=2, counter=3

(23) EXPLICIT vs. beh: NotReported=0, explicitfirst=1, expsecond=2, counter=3

(24) IAT SESSION: same=0, different=1

(25) EXPLICIT SESSION: same=0, different=1

(26) IAT SOCIAL DESIRABILITY 1-7

(27) EXPLICIT SOCIAL DESIRABILITY 1-7

(28) BEHAVIOR CONTROLLABLE: 1-10

(29) IAT SPECIFIC 1-7

(30) EXPLICIT SPECIFIC 1-7

(31) OPPOSITION 1-5

(32) RACIAL, 0=not, 1=racial

(33) type of iat: single=1, dual=2, personalized=3

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Stalking the Perfect Measure of Implicit Self-Esteem: The Blind Men and the Elephant Revisited?

[Personality Processes and Individual Differences]

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test-retest = 0.72

http://gateway1.ma.ovid.com/ovidweb.cgi

EM $\alpha = .87, .87, .64$
 behavioral $\alpha = .88, .63, .53$
 IAT $\alpha = .88$

4/3/2004

themselves. We expected participants' essays to reveal their underlying feelings of self-esteem in a manner perceptible to outside judges. Note that these criterion measures were not intended to represent the full spectrum of traits that might conceivably relate to implicit self-esteem; instead, we chose them because, theoretically, each measure should capture some aspect of people's attitudes toward the self. Moreover, although two of the criterion variables involve self-reports, our judges' ratings of participants' essays should provide a measure of people's nonconscious behaviors.

Finally, for exploratory purposes, we related implicit self-esteem to a number of variables that have been shown to relate to explicit self-esteem such as gender (Major, Barr, Zubek, & Babey, 1999), mood (e.g., Dua, 1993; Tarlow & Haaga, 1996), academic achievement (Khalid, 1990; Newbegin & Owens, 1996), and physical health (e.g., Antonucci & Jackson, 1983; Carroll & Buhrow, 1994; O'Connor & Vallerand, 1998; Vingilis, Wade, & Adlaf, 1998). We also related implicit self-esteem to participants' use of the word *I*, which is thought to indicate self-focused attention (e.g., Kernis, Grannemann, Richie, & Hart, 1988; Mullen, Chapman, & Peaugh, 1989; Wegner & Giuliano, 1980).

Method

Participants and Procedure

A total of 40 male and 44 female undergraduates at the University of Texas at Austin participated in two sessions in exchange for course credit. One participant's data were excluded from analyses because she failed to follow instructions.

At Time 1, participants reported to the lab individually and learned that we were studying the effectiveness of several different types of personality assessment techniques. A female experimenter stressed the confidentiality of participants' responses, as well as the importance of their honest and genuine reactions to all tasks. After signing informed consent forms, participants sat in small cubicles equipped with a PC and began the experimental tasks.

Order of implicit and explicit task presentation was a between-subjects variable: Approximately half of the participants completed all of the explicit measures before they completed the implicit measures (*explicit-first* condition), and the remaining participants completed the implicit measures first (*implicit-first* condition). The specific ordering of the measures is shown in Table 1.2 Because we did not counterbalance the order of task presentation within the block of implicit measures, we attempted to administer these measures in an order that would minimize participants' awareness of what was being assessed. The implicit task series thus proceeded from most indirect (the subliminal attitude-prime task) to most direct (the supraliminal attitude-prime task).

Table 1 Order of Administration of the Implicit and Explicit Measures

Table 1
Order of Administration of the Implicit and Explicit Measures

Implicit measures first (N = 47)	Explicit measures first (N = 46)
Subliminal attitude-prime task	SI
RSES	RSE
Intuitive and thinking preference task	MI
SAQ	SAQ
SLC	Writing task
Writing task	Subliminal attitude-prime task
Subliminal attitude-prime task	RSES
SC	Intuitive and thinking preference task
RSE	SAQ
MI	SLC
SAQ	Writing task
Writing task	Subliminal attitude-prime task
PANAS	PANAS

Note. IAT = Implicit Association Test; RSES = Implicit Self-Evaluation Scales; PANAS = Positive and Negative Affect Scale; RSE = Rosenberg Self-Esteem Scale; SAQ = Self-Attributes Questionnaire; SC and SI = Self-Competence and Self-Liking subscales of the Self-Liking and Competence Scale.

[Help with image viewing]

After completing all tasks, participants scheduled a follow-up session with the experimenter. Time 2 sessions occurred at the same time of day as the participant's first session; the mean length of time that elapsed between Times 1 and 2 was 31.23 days (minimum = 22 days, maximum = 38 days). When they returned at Time 2, participants completed the same series of measures as shown in Table 1, with the exception of the Self-Attributes Questionnaire and the Self-Liking and Self-Competence subscales, which were excluded due to time constraints. At the end of the Time 2 session, participants completed two criterion measures—the Feedback-Seeking Questionnaire and the Ambiguous Statements Task—in that order. Finally, participants were debriefed about the purpose of the tasks and were thanked for their help.

Measures

Explicit Self-Esteem Measures

Rosenberg Self-Esteem Scale (RSES).

Rosenberg's (1965) RSES is a 10-item scale that measures people's feelings of global self-worth. All responses are made on scales ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). Cronbach's alpha for the RSES was .87.

Self-Liking and Competence Scale (SLC).

Tafarodi and Swann's (1995) SLC is a measure of the self-liking and self-competence components of global self-esteem. The SLC contains two 10-item subscales, which we administered separately. A sample self-liking (SL) item is "I feel good about who I am," and a sample self-competence (SC) item is "I perform well at a number of things." Participants rate all items on scales ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Cronbach's alphas were .87 and .89 for the SL and SC subscales.

Self-Attributes Questionnaire (SAQ).

Pelham and Swann's (1989) SAQ measures participants' beliefs about their standing, relative to other college students their age and gender, on five self-concept domains: intellectual competence, social competence, artistic/musical ability, athletic ability, and physical attractiveness. Participants rate themselves on scales ranging from 0 (*bottom 5%*) to 9 (*top 5%*). Cronbach's alpha was .64 for the SAQ.

Writing task.

Participants spent 20 min writing about their "very deepest thoughts and feelings" about themselves (e.g., Pennebaker, 1997). We encouraged participants to reflect honestly about themselves, to write in a stream-of-consciousness format, and to refrain from editing their work as they wrote.

Implicit Self-Esteem Measures¹ Implicit Association Test (IAT).¹

The self-esteem IAT (Greenwald & Farnham, 2000) is a computerized categorization task that measures automatic associations of self-relevant and non-self-relevant words with pleasant and unpleasant words. Prior to the task, respondents generate lists of *me* and *not me* words; an example *me* word is the respondent's city of origin, whereas a *not me* word is a city that the respondent does not associate with herself and neither strongly likes nor strongly dislikes.⁴ During the task, respondents press one of two keys to categorize target words that appear in the middle of the screen. Each target word is taken from the *me* or *not me* lists, or from preexisting lists of *pleasant* (e.g., *glory*, *snuggle*) or *unpleasant* (e.g., *vomit*, *torture*) words. For one block of 40 trials, the *me* and *pleasant* category labels appear on the same side of the computer screen; thus, correct categorization of *me* and *pleasant* target words is accomplished by pressing the same key. For a subsequent block of 40 trials, the *me* and *unpleasant* category labels appear on the same side of the screen, forcing respondents to categorize self-relevant and unpleasant words together.

Following Greenwald, McGhee, and Schwartz (1998), scores on this task are calculated by recoding response latencies that fall below 300 ms as 300 ms, and those that fall above 3000 ms as 3000 ms. In addition, the responses of participants who make more than 20% errors are deleted (we deleted two people's data). Next, log transformations are performed on the raw reaction-time data, and mean response latencies are calculated separately for the two blocks (excluding the first two trials from each block). Finally, the mean response latency for the *me-pleasant* block is subtracted from the mean response latency for the *me-unpleasant* block. Thus, scores reflect the ease with which participants associate pleasant versus unpleasant words with the self. Cronbach's alpha was .88 for the IAT in the current sample.⁵

Supraliminal attitude-prime task.¹

Hetts et al. (1999) adopted a procedure commonly used in research on the automatic attitude activation effect (e.g., Bargh et al., 1992; Fazio et al., 1986) to measure the accessibility of positively and negatively valenced words following the presentation of self-relevant or non-self-relevant attitude primes. During this task, participants see a series of attitude primes flashed on the center of the computer screen for 200 ms; following each attitude prime, respondents must press one of two keys to identify, as quickly and accurately as possible, whether the next word that appears on the screen is *good* or *bad*. Each of the five attitude primes—one self-relevant (*me*) and four non-self-relevant (*it*, *them*, *us*, *that*)—is paired twice with each of the two target words (*good* and *bad*), for a total of 20 trials. The trials are presented in random order and are preceded by eight practice trials in which the primes *at*, *how*, *when*, and *with* are each paired twice with the two target words.

Scores are calculated by first recoding response latencies that fall above 1500 ms as 1500 ms, and then performing log transformations on the raw data. Next, the two response latencies for each prime-target pair are averaged (in cases of error, the error trial is discarded and only the remaining latency is used). Final scores are calculated by subtracting peoples' average response

Feedback-Seeking Questionnaire (FSQ).¹¹

Swann, Wenzlaff, Krull, and Pelham's (1992) FSQ instructs participants to imagine that a close friend is going to answer five pairs of questions about them, pertaining to the five self-concept domains on the SAQ. Within each self-concept domain, respondents choose the two questions (out of a pool of six) that they most want their friend to answer about them; three of the six questions are worded positively (e.g., "What is some evidence you have seen that your friend has good social skills?"), and three are worded negatively (e.g., "What academic subjects would you expect to prove difficult for your friend?"). Each choice of a positively worded question is coded as 1, and each choice of a negatively worded question is coded as -1; responses to all 10 questions are then summed so that high scores indicate a stronger preference for positive than negative feedback. Cronbach's alpha was .53 for the FSQ.

Ambiguous Statements Task (AST).¹¹

Tafarodi (1998) designed a procedure that determines participants' tendency to interpret ambiguous statements in a positive versus negative manner. Participants are first asked to vividly imagine an acquaintance directing a series of 13 ambiguous, everyday phrases (e.g., "Is this how you want it?") at them. Next, they indicate whether each phrase reflects positive or negative feeling toward them. Finally, participants rate, on scales ranging from 1 (*very slightly intense*) to 7 (*extremely intense*), the intensity of feeling that is expressed by the imagined speaker. The intensity rating for each phrase is assigned a positive sign if the phrase is interpreted in a positive manner and a negative sign if the phrase is interpreted in a negative manner; scores are calculated by computing the average intensity rating across all 13 phrases. Higher scores reflect a tendency to interpret ambiguous phrases in a positive manner. Cronbach's alpha was .63 for this measure.

Independent ratings of self-esteem.¹¹

Six anonymous raters "played therapist" by evaluating the content of the self-esteem essays that participants wrote during the two experimental sessions. Raters read each essay and then rated, on scales ranging from 1 (*strongly disagree*) to 9 (*strongly agree*), their agreement with two statements that pertained to the essay writer's self-liking (e.g., "I believe that this person feels very lovable and worthy of affection"), two self-competence statements (e.g., "I believe that this person feels competent, skillful, and capable"), three global self-esteem statements (e.g., "Overall, I believe that this person feels good about himself"), and two self-certainty statements (e.g., "I believe that this person is very sure of her feelings about herself"). All items demonstrated good interrater reliability (all intraclass r s > .70). We created indices of essay writers' self-liking, self-competence, global self-esteem, and self-certainty by averaging across the items that pertained to each of these factors (all Cronbach's [alpha]s > .88).

Ancillary Measures¹¹

PANAS.¹¹

Watson, Clark, and Tellegen's (1988) PANAS measures participants' experience of 20 different positive (e.g., *excited*, *proud*) and negative (e.g., *hostile*, *guilty*) emotions. Instructions for this task request participants to rate how strongly they are feeling each emotion "right now" on a scale of 1 (*very slightly or not at all*) to 5 (*very much*). Cronbach's alphas were .87 and .69 for the Positive Affectivity (PA) and Negative Affectivity (NA) subscales.