

# Discrepancies Between Implicit and Explicit Self-Esteem: Implications for Narcissism and Self-Esteem Instability

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**ABSTRACT** There appear to be two forms of high self-esteem: secure high self-esteem (which is often linked with psychological health) and fragile high self-esteem (which is generally associated with poor psychological adjustment and impaired interpersonal relationships). Discrepant high self-esteem is a form of fragile self-esteem characterized by high explicit self-esteem and low implicit self-esteem. The present study examined whether discrepant high self-esteem was associated with narcissism and self-esteem instability in an undergraduate sample. Using multiple measures of implicit self-esteem, two basic findings emerged from the present study. First, participants with discrepant high self-esteem possessed the highest levels of narcissism. Second, participants with high explicit self-esteem and high implicit self-esteem displayed the most stable self-esteem. Findings are discussed in terms of secure and fragile high self-esteem.

The meaning of high self-esteem is currently under close empirical scrutiny. High self-esteem is typically viewed as beneficial for individuals due to its association with markers of psychological adjustment (Diener, 1984; Kaplan, 1975; Robins, Hendin, & Trzesniewski, 2001; Tennen & Affleck, 1993). Despite these apparent benefits, there is also a “dark side” to high self-esteem that has been linked

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to prejudice (Crocker, Thompson, McGraw, & Ingerman, 1987; Verkuyten, 1996; Verkuyten & Masson, 1995), aggression (Baumeister, Smart, & Boden, 1996; Papps & O'Carroll, 1998), and a variety of self-protective or self-enhancement strategies (Baumeister, Heatherton, & Tice, 1993; Baumeister, Tice, & Hutton, 1989; Blaine & Crocker, 1993; Fitch, 1970; Miller & Ross, 1975; Tice, 1991). In an effort to understand this apparent contradiction better, contemporary theorists (e.g., Deci & Ryan, 1995; Kernis, 2003) propose that there are actually two forms of high self-esteem: secure and fragile. Secure high self-esteem, which can be traced to the work of Carl Rogers (1959, 1961), reflects positive attitudes toward the self that are realistic, well-anchored, and resistant to threat. Fragile high self-esteem, on the other hand, reflects feelings of self-worth that are vulnerable to challenge, need constant validation, and frequently require some degree of self-deception.

Currently, there are at least four ways to distinguish between secure and fragile high self-esteem: defensive self-esteem (Horney, 1950; Schneider & Turkat, 1975), contingent self-esteem (Crocker & Wolfe, 2001; Deci & Ryan, 1995), unstable self-esteem (Kernis, Cornell, Sun, Berry, & Harlow, 1993; Kernis, Grannemann, & Barclay, 1989; Kernis, Grannemann, & Mathis, 1991), and discrepant implicit and explicit self-esteem (Bosson, Brown, Zeigler-Hill, & Swann, 2003; Brown & Bosson, 2001; Jordan, Spencer, Zanna, Hoshino-Browne, & Correll, 2003; see Kernis & Paradise, 2002 for a review of fragile high self-esteem). The present study will focus on discrepancies between implicit and explicit self-esteem.

Whereas explicit self-esteem is often defined as conscious feelings of self-liking, self-worth, and acceptance (e.g., Brown, 1993; Kernis, 2003; Rosenberg, 1965), implicit self-esteem is typically believed to consist of nonconscious, automatic, and overlearned self-evaluations (Greenwald & Banaji, 1995; Pelham & Hetts, 1999). Although the similarities and differences between implicit and explicit self-esteem have yet to be fully examined, dual-process models provide a useful framework for considering both forms of self-esteem (e.g., Epstein, 1994; Epstein & Morling, 1995; Smith & DeCoster, 2001; Wilson, Lindsey, & Schooler, 2000). In general, dual-process models propose that humans possess two modes of information processing, one of which is cognitive (rational, deliberative, and conscious), the other experiential (affective, automatic, and nonconscious). Explicit self-esteem may largely be a product of the cognitive system, which is

based to some extent on logical analyses of self-relevant feedback and information, whereas implicit self-esteem may have its origins in the experiential system and be derived primarily from the automatic and holistic processing of affective experiences (Bosson et al., 2003; Epstein & Morling, 1995). This suggests that even though individuals experience the self as unitary, it is possible that multiple subsystems (e.g., cognitive and experiential modes) are operating simultaneously (Epstein, 1994; Kuhl, 2000; Martin & Tesser, 1996). Consistent with dual-process models, researchers have often assumed that implicit associations with the self are more primitive and develop earlier than their explicit counterparts (e.g., Bosson et al., 2003; Hetts & Pelham, 2001; Koole, Dijksterhuis, & van Knippenberg, 2001). Preliminary findings are generally supportive of the idea that implicit self-esteem is derived, at least in part, from early social interactions in an individual's life (DeHart, 2002).

### **IMPLICIT SELF-ESTEEM**

Measures of implicit self-esteem hold a great deal of promise for increasing the understanding of self-esteem by overcoming the limitation of explicit measures that individuals must be both able and willing to accurately report their self-evaluations (Schimmack & Diener, 2003). For example, Spalding and Hardin (1999) found that implicit self-esteem, unlike explicit self-esteem, predicted uncontrolled behavior (e.g., nonverbal anxiety) during a threatening interview. One of the more important functions of implicit self-esteem may be to protect individuals from events that may be threatening to the self-concept (Dijksterhuis, 2004; Greenwald & Farnham, 2000; Jones, Pelham, Mirenberg, & Hetts, 2002; Shimizu & Pelham, 2004; Spalding & Hardin, 1999). As suggested by Dijksterhuis (2004), the buffering effect of high implicit self-esteem may make it unnecessary for these individuals to engage in undesirable strategies to maintain their self-esteem (e.g., aggression, out-group derogation, self-deception) following threatening events (e.g., social rejection or failure).

Despite the potential utility of implicit self-esteem measures, there are significant concerns about these measures. Although explicit self-esteem can be adequately captured by a number of self-report measures (cf. Farnham, Greenwald, & Banaji, 1999), the nonconscious

nature of implicit self-esteem makes the assessment of this construct extremely difficult. Because the measurement of implicit self-esteem is still in its earliest stages, there is no clear consensus as to which, if any, of the methods currently in use accurately measures implicit self-esteem. For example, it is possible that some of the current implicit measures are actually reflecting nonconscious associations with the self (i.e., measuring implicit self-esteem), whereas other measures are tapping conscious self-evaluations which individuals are reluctant to report on explicit measures (i.e., implicitly measuring explicit self-esteem; see Fazio & Olson, 2003).

Another important concern about measures of implicit self-esteem is that these measures do not typically correlate with each other (e.g., Bosson, Swann, & Pennebaker, 2000). This is problematic because it is usually expected that multiple measures of the same construct will have some relationship with each other. There are at least three possible explanations for the lack of correlation between measures of implicit self-esteem. First, implicit self-esteem may not be a single, unitary construct (Koole & Pelham, 2003). If the various measures of implicit self-esteem are tapping different facets of this construct, then the lack of convergent validity between the measures may merely reflect the complexity of implicit self-esteem. Second, the lack of convergence between the implicit self-esteem measures may be due to their reliance on different cognitive processes (Koole & Pelham, 2003). Third, the low test-retest reliability of the various implicit self-esteem measures (e.g., Bosson et al., 2000) almost certainly contributes to their low convergence (Fazio & Olson, 2003).

### **DISCREPANT HIGH SELF-ESTEEM**

It appears that individuals are capable of simultaneously holding attitudes toward the self at the implicit and explicit levels that are inconsistent with each other (e.g., Bosson et al., 2003; Jordan et al., 2003). This discrepancy between implicit and explicit self-esteem occurs even though similar events, such as social rejection and failure, are believed to affect both forms of self-esteem. It seems likely that discrepancies may emerge because of differences in how these events are processed. If implicit self-esteem is formed primarily through the automatic processing and acceptance of evaluative feedback at a nonconscious level, then, unlike explicit self-esteem, it may

be relatively insensitive to conscious correction (Hetts & Pelham, 2001). That is, implicit self-esteem may simply reflect accumulated social evaluations, whereas explicit self-esteem is the result of conscious interpretations or, in many cases, reinterpretations of these experiences. This difference in the cognitive processing of experiences may lead to discrepancies between implicit and explicit self-esteem. For example, an alcoholic father screaming, "You are worthless!" at his young son may be devastating for the child's implicit self-esteem because the child automatically processes and accepts, at least on a nonconscious level, the message conveyed by his father as being indicative of his self-worth. However, the child's explicit self-esteem may be somewhat less affected by this experience because he is able to make a conscious correction for his father's behavior that accounts for the fact that his father is often volatile when he has been drinking and probably does not really think that he is worthless.

Discrepancies in self-esteem may take either of two forms: discrepant low self-esteem or discrepant high self-esteem. Individuals with discrepant low self-esteem possess low explicit self-esteem and high implicit self-esteem. Although this particular form of discrepant self-esteem is believed to be less common than its counterpart (Epstein, 1983), discrepant low self-esteem may be indicative of current psychological distress. In contrast, individuals with discrepant high self-esteem possess high explicit self-esteem and low implicit self-esteem. This is the form of discrepant self-esteem that has garnered the vast majority of theoretical and empirical attention (e.g., Bosson et al., 2003; Brown & Bosson, 2001; Jordan et al., 2003). Individuals with discrepant high self-esteem are believed to possess positive attitudes toward the self that are fragile and vulnerable to threats because of the underlying insecurities and self-doubts associated with low implicit self-esteem. This pattern of overt grandiosity concealing unacknowledged negative attitudes toward the self is consistent with classic views concerning narcissism (Kernberg, 1970; Kohut, 1971; Morf & Rhodewalt, 2001; Raskin, Novacek, & Hogan, 1991; Wink & Gough, 1990), and it is possible that discrepant high self-esteem and narcissism may share similar developmental origins (e.g., inconsistent parenting). Although there has been speculation that narcissists would possess discrepant high self-esteem (e.g., Brown & Bosson, 2001), it was only recently that empirical support was found for this idea (Jordan et al., 2003, Study 1). Con-

sistent with the view that narcissists possess discrepant high self-esteem, previous research has also shown that individuals with discrepant high self-esteem tend to display increased self-enhancement tendencies (Bosson et al., 2003) and defensive behavior (Jordan et al., 2003, Studies 2 & 3), which are hallmarks of narcissism.

Individuals with discrepant high self-esteem are believed to possess underlying negative associations with the self that are inconsistent with their conscious attitudes. Thus, it seems likely that these individuals would experience temporal fluctuations in their explicit self-esteem (i.e., self-esteem instability; Kernis, 2003). Self-esteem instability has been shown to be associated with a heightened degree of ego-involvement in daily activities (Kernis, Brown, & Brody, 2000; Kernis et al., 1993; Waschull & Kernis, 1996), stronger reactions to events (Kernis, Greenier, Herlocker, Whisenhunt, & Abend, 1997), and higher levels of anger and hostility (Kernis et al., 1989). The proposed association between discrepant high self-esteem and self-esteem instability is due to the fact that individuals with low implicit self-esteem may be more responsive to evaluative events than individuals with high implicit self-esteem.<sup>1</sup> This increased responsiveness may be due to negative events activating underlying negative associations with the self. Individuals with low implicit self-esteem may have considerably more of these negative associations and be more vulnerable to their activation than individuals with high implicit self-esteem.

The purpose of the present study was to examine whether discrepant high self-esteem was associated with narcissism and self-esteem instability. There were two basic hypotheses. The first hypothesis was that individuals with discrepant high self-esteem would possess high levels of narcissism because it is often believed that the grandiose self-beliefs of narcissists act to conceal underlying negative beliefs about the self (Brown & Bosson, 2001; Kernberg, 1970; Kohut, 1971). The second hypothesis was that individuals with discrepant high self-esteem would display unstable self-esteem because these

1. Although Kernis and his colleagues (e.g., Kernis et al., 1989) view the tendency to experience fluctuations in one's self-esteem as a dispositional characteristic that interacts with the immediate environment to produce a specific pattern of fluctuations, it is important to recognize that self-esteem instability does not directly account for the covariation between state self-esteem and environmental events (i.e., self-esteem lability; Barnett & Gotlib, 1988; Butler, Hokanson, & Flynn, 1994).

individuals would be vulnerable to the activation of their underlying negative associations with the self.

## OVERVIEW

In order to examine whether discrepant high self-esteem was associated with narcissism and self-esteem instability, participants completed two measures of implicit self-esteem, a measure of explicit self-esteem, and a measure of narcissism during a laboratory session. Participants also completed a third measure of implicit self-esteem and a measure of state explicit self-esteem at 12-hour intervals for 14 consecutive days.

## METHOD

### *Participants*

Participants were 129 undergraduates enrolled in introductory psychology who participated in exchange for partial course credit. Of the 129 participants who began the study, 9 participants were excluded due to failure to complete daily measures for 10 or more days. Analyses were conducted using the 120 remaining participants (37 men and 83 women). Daily measures were provided for all 14 days by 93% of these final participants.

## MEASURES

### *Explicit Self-Esteem*

Participants completed the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965), a well-validated measure of global self-regard (Blaskovich & Tomaka, 1991; Demo, 1985). Test-retest correlations greater than .80 have previously been reported (Rosenberg, 1965; Silber & Tippett, 1965). Participants were instructed to complete the scale according to how they typically or generally feel about themselves. Responses were made on scales ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). For the current sample, the internal consistency of this measure was high,  $\alpha = .82$ .

### *Implicit Self-Esteem*

Three measures of implicit self-esteem were included in the present study in order to compare their observed effects. Measures of implicit self-

esteem were selected for inclusion based on their demonstrated utility in the existing literature.

*Implicit Association Test.* The self-esteem Implicit Association Test (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. Participants were asked to categorize, as quickly and accurately as possible, target words that appeared in the center of their computer screens. Participants made categorizations between self- and not-self-words as well as between pleasant and unpleasant words.<sup>2</sup> There were seven blocks of trials. Blocks 1, 2, and 5 were practice blocks concerning single categorizations (e.g., self vs. not-self). The remaining blocks contained combined judgment trials. Blocks 3 and 6 contained 25 practice trials, while blocks 4 and 7 contained 40 experimental trials. Within each category, items were randomly selected without replacement until all items were selected, and then the entire pool was refilled. This was repeated as often as necessary to complete each block of trials. The order of combined judgment blocks has been found to affect IAT scores such that the IAT effect is consistently larger when the blocks of congruent trials (self and pleasant vs. not-self and unpleasant) are presented before the blocks of incongruent trials (self and unpleasant vs. not-self and pleasant; e.g., Greenwald, McGhee, & Schwartz, 1998). Typically, between-subjects counter-balancing is used to compensate for this order effect at the group level when the magnitude of the IAT effect is the primary consideration (see Nosek, Greenwald, & Banaji, 2003). However, between-subjects counter-balancing does not compensate for this order effect at the level of individual differences that is the focus of the present research (see Aidman & Carroll, 2003 for a similar argument). Therefore, each participant in the present study completed the congruent blocks followed by the incongruent blocks in an effort to control this order effect at the level of the individual rather than randomly distorting it through between-subjects counter-balancing. The

2. The lists of stimuli were taken from Greenwald and Farnham (2000). Pleasant stimuli: sunshine, smile, happy, paradise, pleasure, and joy. Unpleasant stimuli: grief, tragedy, sickness, pain, agony, and death. Self stimuli: myself, mine, me, my, myself, and self. Not-self stimuli: other, them, their, they, them, and other. The self and not-self categories show some items listed twice because these items appeared twice as often as items listed only once. Because the not-self stimuli were clearly other-related words, high IAT scores may reflect positive associations with the self, negative associations with others, or some combination of the two (Jordan et al., 2003).



Inquisit computer program (Millisecond Software, 2000) controlled presentation of items, order of blocks, and recording of response latencies. IAT scores reflect the ease with which participants associate pleasant versus unpleasant words with the self and were computed in accordance with Greenwald, Nosek, and Banaji (2003). The three primary differences between this improved algorithm and the conventional scoring procedure are: (a) the use of data from practice blocks 3 and 6, (b) use of error penalties, and (c) basing the measure's scale unit on the participant's standard deviation.

*Initials-preferences.* Based on the procedure developed by Nuttin (1985, 1987), participants evaluated each letter of the alphabet using response scales ranging from 1 (*I dislike this letter very much*) to 7 (*I like this letter very much*). Initials-preference scores were calculated by subtracting the normative rating of each participant's first and last initial (averaged across participants whose names did not contain that letter) from each participant's rating of his or her own initials (see Koole et al., 2001 for further details on the computation of initials-preferences). Initials-preferences reflect the degree to which participants evaluate their initials more positively than other participants evaluate these letters. Previous research has demonstrated the reliability and validity of initials-preferences (Bosson et al., 2000; Jones et al., 2002; Koole et al., 2001; Koole & Pelham, 2003; Koole, Smeets, van Knippenberg, & Dijksterhuis, 1999). The correlation between participants' preferences for their first and last initials served as a measure of internal consistency,  $r = .42, p < .001$ .

*Implicit Self-Evaluation Survey.* The Implicit Self-Evaluation Survey (ISES; Pelham & Hetts, 1999) measures the accessibility of pleasant versus unpleasant words following a priming statement concerning the self. Participants were asked to indicate their level of agreement with priming statements (e.g., "I am very sensitive to my inner thoughts and feelings") on scales ranging from 1 (*not at all true*) to 7 (*very true*). Following each priming statement, participants completed three word fragments by providing a different beginning letter for each word fragment (e.g., 1. \_\_ICE 2. \_\_ICE 3. \_\_ICE). The word fragments are designed so that it is possible to create four pairs of pleasant-unpleasant antonyms: love-hate, good-bad, nice-mean, and fair-poor. For the present study, the ISES contained four priming statements and four sets of word fragments with two of the target word completions being pleasant (e.g., love and good) and two being unpleasant (e.g., mean and poor). Both members of an antonym pair never appeared as target words in the same version of the ISES. The serial position in which the target word was formed is the measure of

accessibility of pleasant versus unpleasant words. For example, if the target word was formed first, then it was given a score of 1. On those occasions when the target word was not listed for a particular word fragment, it was assigned a score of 4. Scores were calculated by subtracting the value associated with the serial positions of the pleasant target word completions from the values associated with the serial positions of the unpleasant target word completions. Higher scores reflect greater accessibility of pleasant than unpleasant words following the priming statement. Because the ISES has been shown to possess low test-retest reliability ( $r = .38$ ; Bosson et al., 2000), the ISES was administered on multiple occasions and the average of those multiple assessments served as the individual's average level of implicit self-esteem (see Cunningham, Preacher, & Banaji, 2001 for a conceptually similar approach).<sup>3</sup> Participants were asked to complete different versions of the ISES at 12-hour intervals (at approximately 10 a.m. and 10 p.m.) for 14 consecutive days. Different versions of the ISES containing various combinations and orders of the priming statements and word fragments were presented at each administration in an effort to minimize contamination from previous assessments. The reliability coefficient for the repeated measurements of the ISES was .86.<sup>4</sup>

### *Narcissism*

Narcissism was measured using the Narcissistic Personality Inventory (NPI; Raskin & Hall, 1979). The version of the NPI used in the present research contains 37 true-false statements that Morf and Rhodewalt (1993) adapted from a psychometric analysis of the NPI by Emmons (1987). Because the 37-item NPI consists only of items with factor loadings higher than .35 (Emmons, 1987) and eliminates most duplicate items, this version is assumed to be a better measure of narcissism than the original instrument from which it is derived. Previous research has demonstrated the reliability and validity of the NPI (e.g., Emmons, 1987; Raskin & Terry, 1988). For the current sample, the internal consistency of this measure was high,  $\alpha = .84$ .

3. The IAT and initials-preferences were not assessed on multiple occasions because each has been found to possess acceptable test-retest reliability,  $r_s > .60$  (Bosson et al., 2000).
4. The within-subject standard deviation of ISES scores across the 14 days (i.e., implicit self-esteem instability) was found to be negatively correlated with average ISES scores and positively correlated with explicit self-esteem instability,  $|r_s| > .22$ ,  $p_s < .02$ . Further, the association between implicit self-esteem instability and narcissism approached conventional levels of significance,  $r = .15$ ,  $p < .10$ .

*Self-Esteem Instability*

Following the general procedure outlined by Kernis and his colleagues for measuring self-esteem instability (e.g., Kernis et al., 1993), participants were asked to complete a modified version of the RSES at 12-hour intervals (at approximately 10 a.m. and 10 p.m.) for 14 consecutive days. The RSES was modified so that participants were instructed to give the response that best reflected how they felt at the moment they completed the form. Responses were made on scales ranging from 1 (*strongly disagree*) to 10 (*strongly agree*). For each participant, the within-subject standard deviation across the repeated assessments served as the index of self-esteem instability, with higher standard deviations indicating more unstable self-esteem ( $M = 6.32$ ,  $SD = 4.48$ ). Similar to previous studies (e.g., Kernis, Granneman, & Barclay, 1989, 1992), the correlation between level of self-esteem and self-esteem instability approached conventional levels of significance,  $r = -.17$ ,  $p < .07$ .

**PROCEDURE**

Along with other measures not relevant to the present study, participants completed the IAT, initials-preferences, RSES, and NPI, in that order, during the laboratory session. Participants then completed the ISES followed by the modified version of the RSES at 12-hour intervals (at approximately 10 a.m. and 10 p.m. each day) for 14 days. To enhance compliance, participants received enough forms for 1 week during the laboratory session and were instructed to return the completed measures to a designated location every 3–4 days. At the end of the first week, participants received forms for the second week and were again instructed to return the completed forms every 3–4 days.

**RESULTS**

Table 1 presents the means, standard deviations, and intercorrelations for all of the measures in the current study. Consistent with previous findings (e.g., Bosson et al., 2000), the various measures of implicit self-esteem employed in the present study were not correlated with each other. In addition, the implicit self-esteem measures were not correlated with the measure of explicit self-esteem level.<sup>5</sup> This result is consistent with previous research showing that implicit

**Table 1**  
**Intercorrelations and Descriptive Statistics for Measures of Explicit Self-Esteem, Implicit Self-Esteem, Narcissism, and Self-Esteem Instability**

	1	2	3	4	5	6
1. Rosenberg Self-Esteem Scale	–					
2. Implicit Association Test	.01	–				
3. Implicit Self-Evaluation Survey	.13	–.01	–			
4. Initials-Preferences	.09	–.05	.00	–		
5. Narcissistic Personality Inventory	.36***	.03	.01	.03	–	
6. Self-Esteem Instability	–.17 <sup>†</sup>	–.04	–.25**	–.04	.12	–
Mean	43.05	.89	.73	2.13	19.85	6.32
Standard Deviation	6.14	.37	.52	2.52	6.29	4.48

<sup>†</sup> $p < .10$ . \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

and explicit self-esteem are, at best, only moderately correlated with each other (e.g., Bosson et al., 2000; Farnham et al., 1999; Greenwald & Farnham, 2000; Hetts, Sakuma, & Pelham, 1999; Jordan et al., 2003; Koole et al., 2001; Pelham & Hetts, 1999).<sup>6</sup>

### DISCREPANT HIGH SELF-ESTEEM AND NARCISSISM

Hypotheses concerning discrepant high self-esteem were tested through the use of hierarchical multiple regression analyses. All pre-

5. Even though there was not a significant correlation between explicit self-esteem and the average level of implicit self-esteem as measured by the ISES, it is possible to examine whether a within-person relationship exists between state explicit self-esteem and the ISES across their 28 administrations. Because the daily measures comprise what is referred to as a multilevel data structure with observations at one level (i.e., days) being nested within another level (i.e., individuals), a two-level multilevel random coefficient model was conducted using the program HLM (Bryk, Raudenbush, & Congdon, 1998). This analysis found a positive association between the daily measures of the ISES and state explicit self-esteem,  $B = .44$ ,  $p < .03$ .

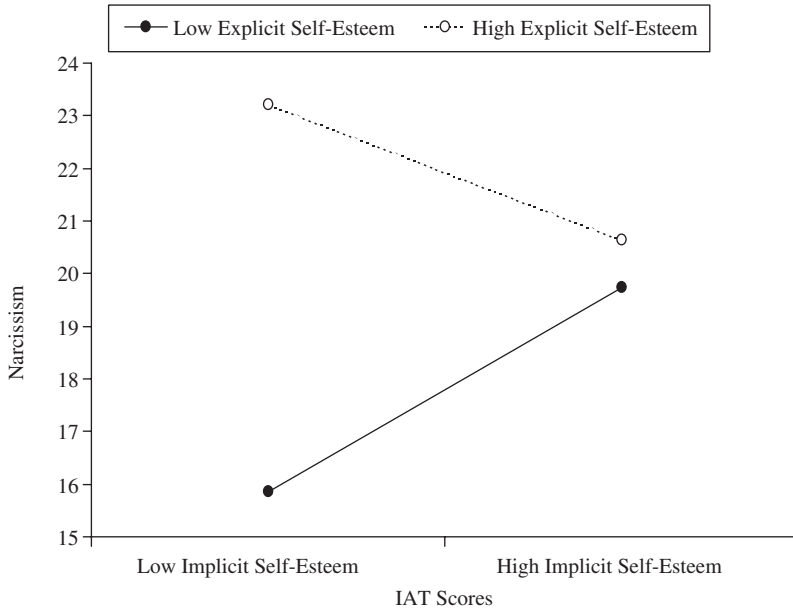
6. Although previous research (i.e., Rhodewalt, Madrian, & Cheney, 1998) has shown a significant zero-order correlation between narcissism and self-esteem instability, a significant association only emerged between these two variables in the present study when explicit self-esteem was controlled,  $\beta = .19$ ,  $p < .03$ .

dictors were first centered on their respective means (Aiken & West, 1991). On Step 1, the main effect terms for implicit self-esteem and explicit self-esteem were entered. On Step 2, the interaction of implicit self-esteem and explicit self-esteem was entered. Because hypotheses concerned the interaction of implicit and explicit self-esteem, these regression analyses were followed by the simple slopes tests recommended by Aiken and West (1991) to describe the interaction of two continuous variables.

Previous research has found individuals with discrepant high self-esteem to have the highest levels of narcissism using the IAT (Jordan et al., 2003) as the measure of implicit self-esteem. The first set of analyses was intended to replicate these previous results using multiple measures of implicit self-esteem. For the analysis using the IAT as the measure of implicit self-esteem, the main effect for the RSES was significant,  $\beta = .36$ ,  $p < .001$ . However, this effect was qualified by the interaction of the IAT and RSES,  $\beta = -.23$ ,  $p < .01$ . The predicted values for this interaction are presented in Figure 1. Simple slopes tests found that for participants with low implicit self-esteem, explicit self-esteem was associated with narcissism,  $\beta = .58$ ,  $p < .001$ . For participants with high implicit self-esteem, there was no association between explicit self-esteem and narcissism,  $\beta = .07$ , *ns*. For participants with high explicit self-esteem, there was a marginal association between implicit self-esteem and narcissism,  $\beta = -.20$ ,  $p < .10$ . For participants with low explicit self-esteem, implicit self-esteem was associated with narcissism,  $\beta = .31$ ,  $p < .03$ . These results are consistent with those of Jordan and his colleagues, who found individuals with discrepant high self-esteem to possess the highest levels of narcissism.

To examine whether the interaction of implicit and explicit self-esteem would emerge when using a measure of implicit self-esteem other than the IAT, the previous analyses were replicated using initials-preferences. For this analysis, the main effect of the RSES was significant,  $\beta = .36$ ,  $p < .001$ . Unlike the previous analyses, however, the interaction of initials-preferences and RSES did not approach conventional levels of significance,  $\beta = -.01$ , *ns*.

The previous analyses were replicated a final time using the ISES as the measure of implicit self-esteem. As before, the main effect of the RSES was significant,  $\beta = .36$ ,  $p < .001$ . This main effect was also qualified by the interaction of the ISES and RSES,  $\beta = -.18$ ,  $p < .05$ . The predicted values for this interaction are presented in Figure 2. As with the previous analysis using the IAT



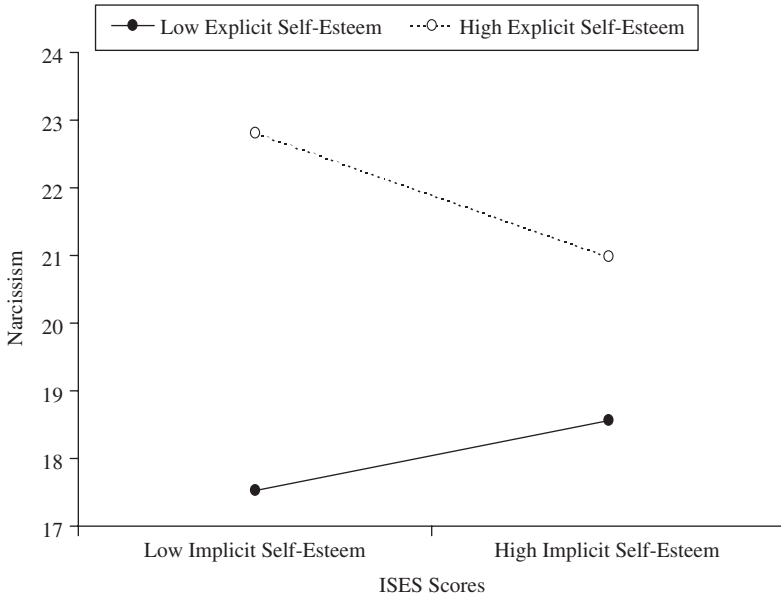
**Figure 1**

Adjusted predicted values for narcissism, illustrating the interaction of implicit self-esteem (as measured by the Implicit Association Test) and explicit self-esteem at values that are 1 *SD* above and below the means.

as the measure of implicit self-esteem, simple slopes tests found that for participants with low ISES scores, explicit self-esteem was associated with narcissism,  $\beta = .47$ ,  $p < .001$ . For participants with high implicit self-esteem, there was no association between explicit self-esteem and narcissism,  $\beta = .15$ , *ns*. For participants with high explicit self-esteem, the association between implicit self-esteem and narcissism approached conventional levels of significance,  $\beta = -.20$ ,  $p < .10$ . For participants with low explicit self-esteem, there was no association between implicit self-esteem and narcissism,  $\beta = .11$ , *ns*. As with the IAT results, this pattern also suggests that individuals with discrepant high self-esteem possess the highest levels of narcissism.

### **DISCREPANT SELF-ESTEEM AND SELF-ESTEEM INSTABILITY**

To examine the hypothesis that discrepant self-esteem was associated with self-esteem instability, a series of hierarchical multiple regres-



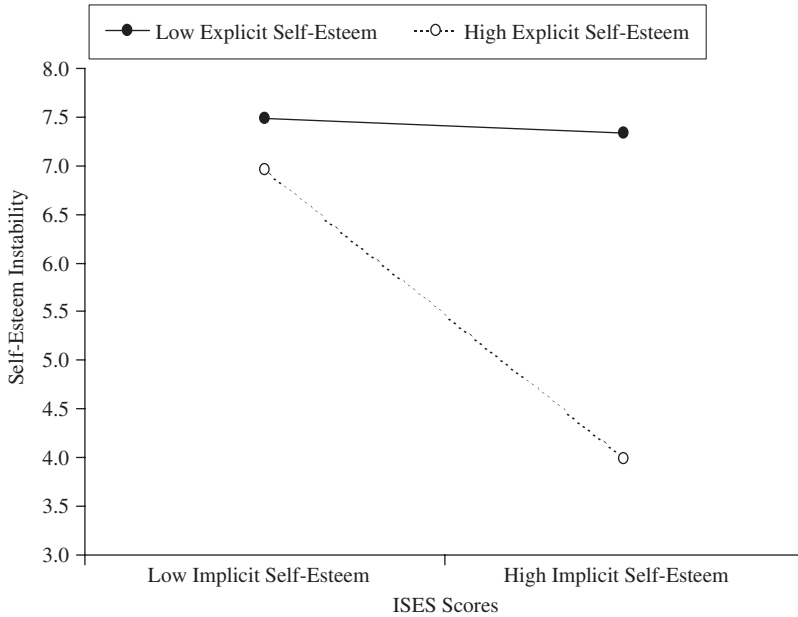
**Figure 2**

Adjusted predicted values for narcissism, illustrating the interaction of implicit self-esteem (as measured by the Implicit Self-Evaluation Survey) and explicit self-esteem at values that are 1 *SD* above and below the means.

sions was conducted. As with previous analyses, main effect terms for measures of implicit and explicit self-esteem were entered on Step 1 with the interaction term entered on Step 2. The first analysis concerned the interaction of the IAT and RSES. The main effect for explicit self-esteem approached conventional levels of significance,  $\beta = -.17, p < .07$ . However, neither the main effect for the IAT nor the interaction of the IAT and RSES approached conventional levels of significance,  $|\beta_s| < .11, ns$ .

A similar hierarchical multiple regression was conducted with initials-preferences as the measure of implicit self-esteem. The main effect of the RSES approached conventional levels of significance,  $\beta = -.17, p < .08$ . However, neither the main effect for the initials-preferences nor the interaction of initials-preferences and the RSES approached significance,  $|\beta_s| < .03, ns$ .

This analysis was repeated a final time with the ISES as the measure of implicit self-esteem. A main effect of implicit self-esteem emerged such that low implicit self-esteem was related to unstable



**Figure 3**

Adjusted predicted values for self-esteem instability, illustrating the interaction of implicit self-esteem (as measured by the Implicit Self-Evaluation Survey) and explicit self-esteem at values that are 1 *SD* above and below the means.

self-esteem,  $\beta = -.23$ ,  $p < .02$ . However, this main effect was qualified by the interaction of the ISES and RSES,  $\beta = -.25$ ,  $p < .01$ . The predicted values for this interaction are presented in Figure 3. Simple slopes tests revealed that for individuals with high implicit self-esteem, explicit self-esteem was associated with self-esteem instability,  $\beta = -.44$ ,  $p < .001$ . For individuals with low implicit self-esteem, explicit self-esteem was not associated with self-esteem instability,  $\beta = .00$ , *ns*. For individuals with high explicit self-esteem, implicit self-esteem was associated with self-esteem instability,  $\beta = -.43$ ,  $p < .001$ . For participants with low explicit self-esteem, implicit self-esteem was not related to self-esteem instability,  $\beta = -.06$ , *ns*. Taken together, these results show that individuals with congruent high self-esteem possessed self-esteem that was more stable than individuals with low explicit self-esteem or discrepant high self-esteem.



It should be noted that although participants returned their daily measures to a designated location every 3–4 days, there is no means for verifying the exact time each daily measure was completed during that period. This may be problematic for the results concerning self-esteem instability based on previously documented problems with noncompliance (e.g., completing multiple responses at one time and then backdating or forward-dating their responses as appropriate; Broderick, Schwartz, Shiffman, Hufford, & Stone, 2003; Gable, Reis, & Elliott, 2000; Litt, Cooney, & Morse, 1998). One of the problems associated with participant noncompliance is that participants may rely on their own implicit theories to reconstruct how they felt in the past (e.g., people feel better on the weekend or people have higher self-esteem on days when good things occur; Tennen & Affleck, 2002). However, participants in the present study returned their daily measures every 3–4 days, which resulted in each participant having four distinct sets of daily measures that were returned at separate times. Although the time of completion for the specific daily measures comprising each set cannot be verified, the returning of the entire set can serve as a time-stamp for that particular set of daily measures. Therefore, it is possible to create an alternative measure of self-esteem instability based on these sets of daily measures by averaging the state-explicit self-esteem scores within each set and using the within-subject standard deviation of these four average self-esteem scores. The results of the hierarchical multiple regressions using this alternative measure of self-esteem instability were similar to those previously reported. The interaction of implicit self-esteem and explicit self-esteem failed to reach conventional levels of significance when implicit self-esteem was measured using the IAT ( $\beta = -.15$ , *ns*) or initials-preferences ( $\beta = .03$ , *ns*); the interaction of implicit self-esteem and explicit self-esteem was significant, however, when the ISES served as the measure of implicit self-esteem ( $\beta = -.20$ ,  $p < .04$ ).

## DISCUSSION

The results of the present study provide further evidence that high self-esteem can be either secure or fragile in nature depending on the discrepancy between implicit and explicit feelings of self-worth. In the present study, individuals with discrepant high self-esteem, which is characterized by high explicit self-esteem but low implicit self-esteem, possessed the highest levels of narcissism and reported

unstable explicit self-esteem. The finding that individuals with discrepant high self-esteem possess the highest levels of narcissism is consistent with classic views of narcissists as possessing self-doubts and insecurities underlying their grandiosity. This finding also offers initial support for the idea proposed by Brown and Bosson (2001) that discrepant high self-esteem may be the reason that narcissists are characterized as fragile and volatile.

Perhaps more important than the replication of previous findings concerning discrepant high self-esteem and narcissism was the finding that individuals with congruent high self-esteem possess state explicit self-esteem that is more stable than individuals with either low self-esteem or discrepant high self-esteem. This finding extends previous research in this area by demonstrating an association between discrepant high self-esteem and unstable self-esteem, which would be expected given that both are considered to be forms of fragile high self-esteem (Kernis, 2003). This finding complements recent evidence that individuals with discrepant high self-esteem show greater self-enhancement tendencies (more unrealistic optimism, stronger preference for positive personality descriptions, and smaller actual-ideal discrepancies; Bosson et al., 2003) and defensive behaviors (more in-group bias and dissonance reduction; Jordan et al., 2003, Studies 2 & 3). Together, these findings support the contention that individuals with discrepant high self-esteem possess insecurities and self-doubts on a nonconscious level that may lead them to bolster their fragile feelings of self-worth with explicit grandiosity. However, as shown by the present results, these individuals are often unable to maintain their distorted self-images over time. The extreme levels of explicit positivity displayed by individuals with discrepant high self-esteem may depend to a large extent on their current circumstances. When things are going relatively well for these individuals, they may feel exceptionally good about themselves. However, when something goes wrong in the life of someone with discrepant high self-esteem, their bloated feelings of self-worth may be lost very quickly. Of course, this loss of self-worth may only last until their circumstances change and they are given the opportunity to return their feelings of self-worth back to their previously tenuous heights.

The finding that individuals with discrepant high self-esteem are characterized by high levels of narcissism was found when both the IAT and the ISES served as the measure of implicit self-esteem. Importantly, the pattern of effects for narcissism were very similar

between these two measures of implicit self-esteem and were also similar to previous findings (Jordan et al., 2003). This is an important validation for these measures because it demonstrates that effects concerning implicit self-esteem can be replicated and that the IAT and ISES interact with explicit self-esteem in similar ways to predict narcissism. Interestingly, the proposed relationship between discrepant high self-esteem and self-esteem instability only emerged when the ISES served as the measure of implicit self-esteem. Although it is unclear why the IAT would produce results similar to those of the ISES for narcissism but fail to do so for self-esteem instability, this may serve as initial support for the repeated measurement strategy employed in the present study. If implicit self-esteem does possess both state and trait properties (e.g., Hetts & Pelham, 2001), then it may be necessary to take these properties into account when attempting to measure implicit self-esteem. For example, if the ISES is measuring the state property of implicit self-esteem, then averaging across multiple assessments would appear the most direct means for gauging the trait property of implicit self-esteem with this particular measure. The results of the present study suggest that averaging across multiple measurements of implicit self-esteem may be a viable strategy for capturing an individual's average level of implicit self-esteem and appears to warrant further research.

As mentioned previously, a potential limitation of the present results concerning self-esteem instability is the inability to verify the time at which each measure of state explicit self-esteem was actually completed. However, there are two reasons it is unlikely that the present results concerning self-esteem instability were due to participant noncompliance (e.g., batching, backdating, or forward-dating). First, individuals with congruent high self-esteem had more stable self-esteem than individuals with low self-esteem or discrepant high self-esteem even when an alternative measure of self-esteem instability based on the average state self-esteem scores within each set of daily measures was employed. Second, in order for participant noncompliance to have influenced the present results, it would have been necessary for individuals with congruent high self-esteem to have engaged in more batching, backdating, and forward-dating than other participants; however, there is no reason to expect that individuals with congruent high self-esteem would be less compliant than individuals with low self-esteem or discrepant high self-esteem.

Although it is surprising that initials-preferences failed to interact with explicit self-esteem to predict either narcissism or self-esteem instability, there are at least two likely explanations for these results. First, the fact that the measure of initials-preferences followed the IAT (and its repeated pairing of the self and valenced stimuli) may have distorted scores for initials-preferences. This would not be surprising given the susceptibility of initials-preferences to evaluative conditioning (Baccus, Baldwin, & Packer, 2004; Dijksterhuis, 2004). Second, it is possible that initials-preferences may capture an aspect of implicit self-esteem that is different from that measured by the IAT or ISES.

Recent findings have demonstrated that implicit self-esteem (or, more precisely, current measures of implicit self-esteem) is susceptible to conditioning, at least in the short-term (Baccus et al., 2004; Dijksterhuis, 2004). This conditioning is accomplished by repeatedly pairing the self with valenced stimuli (e.g., an individual's name with a smiling face). An exciting possibility for future research is the possibility of reducing discrepant high self-esteem by increasing low implicit self-esteem to a level that is consistent with the individual's level of explicit self-esteem. This heightened level of implicit self-esteem may make it unnecessary for the individual to engage in the undesirable self-esteem maintenance strategies that characterize narcissists and individuals with unstable self-esteem (e.g., aggression and self-deception).

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