

## Gender moderates the relation between implicit and explicit self-esteem

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### Abstract

Relative to men, women are more strongly socialized to trust their feelings and intuitions. We thus expected that the association between implicit and explicit self-esteem would be stronger for women than for men. That is, if implicit self-esteem contains a large intuitive, experiential or affective component, then people who are in touch with their feelings and intuitions should be more likely to report explicit self-esteem scores that are congruent with their implicit self-esteem scores. Six studies supported this idea by showing that the association between implicit and explicit self-esteem is indeed stronger for women than for men. This finding held in three different cultures and for two different measures of implicit self-esteem. We discuss the implications of this finding for debates regarding the nature and validity of implicit self-esteem.

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In virtually every culture in the world, men and women are treated very differently. Sex typing and sex-role socialization begin at birth, and they continue unabated well into adulthood. For instance, new parents (especially fathers) perceive their baby daughters as smaller, weaker, and cuter than their baby sons—even when daughters and sons are identical in size, weight, and activity level (Rubin, Provenzano, & Luria, 1974). As children mature, socialization based on gender expands to include a wide range of thoughts, feelings, and behaviors (Meyer & Sobieszek, 1972). For instance, whereas boys are typically encouraged to be competitive and independent, if not aggressive, girls are more typically encouraged to be cooperative and interdependent, if

not deferent. Boys and girls are not merely socialized to *behave* differently; they are also socialized to deal with their *feelings* and *intuitions* in different ways. Relative to boys and men, girls and women are encouraged to attend to and trust their feelings and intuitions. Phrases such as “a mother’s love” and “a woman’s intuition” have no masculine translations.

Although every man and woman is unique, these differential socialization practices should influence the ways in which most men and women deal with their feelings. In support of this idea, research on close relationships shows that women are more willing than men to confront painful feelings during conflict (Christiansen & Heavey, 1990; Gottman, 1994). Research has also show that, relative to women, men are more likely to report experiencing emotions that are at odds with emotionally charged situations. Hess et al. (2000) found

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that men reported less sadness and more happiness than women did when describing negative personal events. Relative to women, men also reported that they would be more likely to laugh or be relaxed in difficult situations. In comparison with women, men also appear to be both less emotionally expressive and less skillful at decoding the emotional expressions of others (Goldshmidt & Weller, 2000; Lakoff, 1990; Shields, 1987; but cf. King & Emmons, 1990). Finally, research shows that women are more likely than men to prefer to base their judgments and decisions on their intuitions and gut impressions (Pacini & Epstein, 1999). Collectively, these findings suggest that there may be an important sense in which the average woman has more emotional self-insight than does the average man.

If this is true, it could have important implications for debates regarding implicit self-esteem. Implicit self-esteem refers to people's automatic, and presumably unconscious, affective associations about the self (Greenwald & Banaji, 1995; Hetts, Sakuma, & Pelham, 1999; Spalding & Hardin, 1999). Thus, implicit self-esteem stands in sharp contrast to explicit self-esteem. As interest in implicit self-esteem has grown, researchers have begun to ask whether measures of implicit self-esteem are related to traditional measures of explicit self-esteem. The consensus thus far is that implicit and explicit self-esteem are only weakly correlated. In light of the established dissociations between implicit and explicit measures of other constructs (e.g., memory, stereotypes; see Banaji & Hardin, 1996; Schacter, 1996; Wilson, Lindsey, & Schooler, 2000; but cf. Wittenbrink, Judd, & Park, 1997), it should come as no surprise that measures of implicit and explicit self-esteem are only weakly related (for a review see Koole & Pelham, 2003).

Nonetheless, critics of research on implicit self-esteem have duly noted that if implicit measures of self-esteem do not correlate with anything, they may not be measuring what they are designed to measure (Bosson, Swann, & Pennebaker, 2000). From this perspective, it is disconcerting that measures of implicit self-esteem are so poorly correlated with explicit measures of the *same construct*. Barring a dramatic change in how researchers measure implicit self-esteem, it is unlikely that researchers will soon learn that implicit and explicit measures of self-esteem are highly correlated. Thus, we think productive questions regarding implicit and explicit self-esteem include not *whether* they are correlated but *when* and *why* they might be correlated. To answer this question, one might begin by asking why implicit and explicit self-esteem might often prove to be uncorrelated.

Presumably, the reason why implicit and explicit self-esteem are not highly correlated is that most people have limited introspective access to their automatic associations about the self. In fact, many researchers have *defined* implicit belief systems as those that operate outside of conscious awareness (Greenwald & Banaji,

1995). Nonetheless, implicit self-associations, like many other implicit attitudes, presumably constitute a potent set of affective associations (Fazio, Sanbonmatsu, Powell, & Kardes, 1986; Hetts et al., 1999; Perdue, Dovidio, Gurtman, & Tyler, 1990). If automatic belief systems are laden with affect, it is possible that people who are keenly attuned to their intuitions and emotions do have some access to their implicit self-associations. Furthermore, if such emotionally insightful people rely disproportionately on their emotions when evaluating themselves, then we might expect to see that, for such people, measures of implicit and explicit self-esteem are positively associated.

In short, for people who are socialized to wear their hearts on their sleeves, implicit and explicit self-esteem may be more likely than usual to go hand in hand. The patterns of gender socialization described earlier thus suggest that implicit and explicit self-esteem might be more strongly correlated among women than among men. We tested this hypothesis in three different cultures using two different measures of implicit self-esteem.

## Method

### Participants

Participants were drawn from six samples in which we administered pencil and paper measures of implicit and explicit self-esteem to participants who also reported their gender. Sample A consisted of adult health care workers enrolled in a continuing education seminar. Sample B consisted of UCLA undergraduates enrolled in introductory psychology or social psychology courses. Sample C consisted of UCLA freshmen in a longitudinal study of relationship development. Sample D consisted of undergraduates at the Free University, Amsterdam. Sample E consisted of Singaporean undergraduates at either the National University of Singapore (Microbiology Department) or the Nanyang Technological University (School of Education). Finally, Sample F consisted of UB undergraduates enrolled in research methods or social psychology classes. Students in Amsterdam were surveyed in Dutch. Students in Singapore were surveyed in English (the official language of Singapore). The number of women and men in each sample can be found in Table 1.

### Self-concept measures

#### Explicit self-esteem

In all six samples, we assessed explicit self-esteem using the Rosenberg (1965) self-esteem scale. This 10-item measure is the most frequently used measure of explicit self-esteem. A typical item is "I feel that I am a person of worth, at least on an equal basis with others."

Table 1  
Implicit self-esteem as a function of gender and explicit self-esteem

Sample	Gender	Explicit self-esteem	Interaction
(a) Health care workers ( $n = 406$ )	$B = -.563, p = .088$	$B = .057, p = .009$	$B = .087, p = .232$
(b) UCLA students ( $n = 962$ )	$B = -.016, p = .822$	$B = .170, p < .001$	$B = .186, p = .016$
(c) UCLA freshmen ( $n = 84$ )	$B = .479, p = .098$	$B = .039, p = .062$	$B = .118, p = .005$
(d) Dutch students ( $n = 99$ )	$B = 1.01, p = .014$	$B = 1.03, p = .069$	$B = 1.41, p = .015$
(e) Singaporean students ( $n = 119$ )	$B = -.016, p = .958$	$B = .214, p = .168$	$B = .660, p = .066$
(f) UB students ( $n = 642$ )	$B = .159, p = .228$	$B = .154, p = .010$	$B = .017, p = .891$

Notes. Values are unstandardized simultaneous multiple regression coefficients. Gender was coded male = 1, female = 2. All  $p$  values are two-tailed. Both gender and explicit self-esteem were centered prior to analyses by subtracting the appropriate sample mean (Aiken and West, 1991).

### Implicit self-esteem

We used two different measures of implicit self-esteem. In Samples A–C we assessed implicit self-esteem using Hetts et al.'s (1999) Implicit Self-Evaluation Scale (ISES). This measure asks participants to respond to items designed to prime the self (e.g., "It's important to me to understand myself as well as possible,"). Immediately after reporting their degree of agreement with each priming item, participants complete a series of three identical word fragments—creating three different words in the order in which they come to mind (e.g., 1. \_\_\_OOD, 2. \_\_\_OOD 3. \_\_\_OOD). Participants' implicit self-esteem scores are calculated by considering how quickly they make positive (e.g., GOOD) versus negative (e.g., BAD) words after being primed to think about the self (see Hetts et al., 1999). Hetts et al. showed that this measure is sensitive to early socialization experiences in ways that traditional, explicit measures are not. For example, they found that Eastern immigrants to US score lower on this measure of implicit self-esteem, despite having Rosenberg scores that are indistinguishable from those of US natives (see also Hetts & Pelham, 2001).

In Samples D–F, our measure of implicit self-esteem was based on research on the *name-letter effect* (Kitayama & Karasawa, 1997; Nuttin, 1985, 1987). Most people like letters that appear in their own names more than they like letters that do not. Building on this idea, researchers interested in name-letter preferences ask people to report their liking for all of the letters in the alphabet. By assessing how much people like the letters that appear in their own names—relative to how much other people like these same letters—it is possible to compute a simple index of name-letter liking. Following this logic, Koole, Dijksterhuis, and van Knippenberg (2001) (see also Kitayama & Karasawa, 1997) calculated implicit self-esteem by first identifying all of the specific letters that occurred in a given participant's name. For each of these specific letters, they subtracted (1) each participant's preference score for that letter from (2) the mean preference score for that letter provided by participants whose name did not include the letter. They then aver-

aged these relative preferences across all of the letters in each participant's full name. We followed this approach exactly except that in the UB sample, participants reported only their first and last initials rather than their full names (to protect their anonymity). In the Singaporean sample participants also reported only their first and last initials. However, these participants also reported their liking for their birthday numbers (day and month). Our measure of implicit self-esteem in the Singaporean sample was thus the mean of each participant's name-letter and birthday number preferences.

### Results and discussion

Table 1 contains the results of six separate simultaneous multiple regression analyses (one for each sample). In these analyses, the predictors of implicit self-esteem were always (1) a dummy-coded, centered gender score, (2) a centered explicit self-esteem score, and (3) a gender  $\times$  self-esteem cross product. As shown in the first column of Table 1, gender was not consistently associated with implicit self-esteem. Two samples suggested that men are higher in implicit self-esteem, one suggested that women are higher, and three yielded null effects. If there is a relation between implicit self-esteem and gender, it is moderated by unknown factors. In contrast, all six samples suggested that implicit and ex-

Table 2  
Correlations between implicit and explicit self-esteem for women and men in six samples

Sample	Women	Men
(a) Health care workers	$r(353) = .16, p = .002$	$r(49) = -.03, p = .814$
(b) UCLA students	$r(502) = .21, p < .001$	$r(456) = .06, p = .204$
(c) UCLA freshmen	$r(40) = .51, p = .001$	$r(40) = -.10, p = .540$
(d) Dutch students	$r(63) = .36, p = .003$	$r(32) = -.13, p = .486$
(e) Singaporean students	$r(83) = .25, p = .024$	$r(32) = -.15, p = .387$
(f) UB students	$r(410) = .11, p = .024$	$r(228) = .09, p = .195$

Note. The number of women and men in each sample can be determined by adding 2 to the degrees of freedom for each specific correlation.

Table 3  
Means and standard deviations for implicit and explicit self-esteem for women and men in six samples

Sample	Women		Men	
	Implicit SE	Explicit SE	Implicit SE	Explicit SE
(a) Health care workers	2.18 (2.03)	3.13 (0.48)	1.50 (2.29)	3.32 (0.42)
(b) UCLA students	0.97 (1.13)	−0.02 (0.90)	0.98 (1.14)	0.03 (0.91)
(c) UCLA freshmen	1.06 (1.36)	2.77 (0.68)	0.64 (1.40)	2.97 (0.57)
(d) Dutch students	0.33 (0.47)	7.84 (1.66)	0.27 (0.56)	8.33 (1.69)
(e) Singaporean students	0.92 (1.52)	5.17 (0.88)	0.95 (1.27)	5.52 (0.83)
(f) UB students	1.86 (1.55)	5.48 (1.08)	1.71 (1.70)	5.53 (1.02)

Note. SE, self-esteem. Standard deviations appear in parenthesis. Means vary widely across samples because of scaling factors (e.g., use of 4-point vs. 7-point response scales).

implicit self-esteem go hand in hand (albeit weakly so). In five samples, this effect was at least marginally significant. Finally, as shown in the last column of Table 1, five of these six samples suggested that the association between implicit and explicit self-esteem is moderated by gender. In four of these samples, this effect was significant, or nearly so. The associations between implicit and explicit self-esteem for women and men in each of these samples are summarized in Table 2.

As shown in Table 2, the correlation between implicit and explicit self-esteem was stronger for women than for men (at least slightly so) in each of these six samples. The average unweighted correlation between implicit and explicit self-esteem for women was  $r = .27$ . For men, it was  $r = -.04$ . To assess the overall significance of this gender difference, we conducted a meta-analysis of the interaction effects across each of these six samples (using Stouffer's method of adding  $z$ s; Rosenthal, 1991). The gender difference in the magnitude of the association between implicit and explicit self-esteem was highly significant,  $z = 4.42$ ,  $p < .00001$  (one-tailed). This difference was not an artifact of restriction of range in men's self-esteem scores. Table 3 shows that the standard deviations for both implicit and explicit self-esteem were highly similar for women and men.<sup>1</sup>

This gender difference replicated across an extremely diverse set of samples, including several ethnically di-

verse samples of college students, three different cultures, and a sample of adult health care workers. The results also held for two different measures of implicit self-esteem. These findings suggest that women may, in fact, have somewhat more self-insight than men when it comes to their basic affective self-associations. Along these lines, it is worth noting that in the one sample in which this gender difference did not replicate (UB), it was the women rather than the men who seemed to differ from their same-gender counterparts elsewhere. Although it is impossible to know for certain why this was the case, data collected from the same pool of UB participants suggests that UB women are a very unusual group. For example, Rose (2002) observed that the average female student at UB scores higher than the average male student at UT Austin on the Buss Aggression Inventory (even on the physical aggression subscale).

## General discussion

We hope that the present findings will prompt researchers to pay more attention to the important questions of when and why implicit and explicit self-esteem are associated. Research is beginning to suggest some likely answers to these questions. For instance, research on ethnic prejudice has shown that among people who are highly motivated to hide their prejudice, there is actually a *negative* association between people's implicit and explicit prejudice scores. In contrast, among people who are less motivated to hide their prejudice, measures of implicit and explicit ethnic prejudice are positively correlated (Fazio, Jackson, Dunton, & Williams, 1995; see also Nosek, Banaji, & Greenwald, 2001). In addition to gender socialization, other early life experiences might also moderate the association between implicit and explicit self-esteem. For instance, it is possible that emotionally distant or highly unpredictable parents might often produce children whose implicit and explicit self-esteem scores are at odds (see Pomerantz & Newman, 2000).

Whether measures of implicit and explicit self-esteem are correlated also appears to depend heavily on people's psychological states at the time that they fill out

<sup>1</sup> We chose these six samples based on convenience and pragmatic concerns, including all large samples ( $n = 80$  or greater) to which we had access at the time of this writing, except for one sample in which we made use of a potent experimental manipulation (a self-concept threat; Jones, Pelham, Mirenberg, & Hetts, 2002). To our knowledge, the only published study that assessed implicit and explicit self-esteem and gender was Bosson et al. (2000). Bosson et al. did not assess whether gender moderated the relation between implicit and explicit self-esteem. However, Bosson (personal communication, 2002) re-analyzed her original data for us. In the case of the Hetts et al. word completion measure of implicit self-esteem, Bosson observed a weak replication of our findings. The respective correlations between implicit and explicit self-esteem for women and men were  $+ .17$  and  $-.01$ . In the case of the name-letter and birthday number measures, the results were more compelling. Averaging these two related measures together, the respective correlations between implicit and explicit self-esteem for women and men were  $+ .20$  and  $-.23$ .



measures of implicit and explicit self-esteem. Both Dodgson and Wood (1998) and Hetts et al. (1999) found that when people high versus low in explicit self-esteem were exposed to mild self-concept threats, their scores on measures of implicit self-associations prove to be strongly associated with their chronic levels of explicit self-esteem. A study by Jones et al. (2002) yielded similar findings. Jones et al. assessed participants' global self-esteem levels and then asked some participants to write about an important personal flaw. In this self-threat condition, the correlation between people's explicit self-esteem and their score on a name-letter measure of implicit self-esteem was  $r(45) = .50, p < .001$ . In each of two non-threatening control conditions, this correlation completely disappeared. Presumably, people who are high in explicit self-esteem do possess a reservoir of positive implicit associations about themselves. However, these associations may frequently lay dormant until people encounter self-concept threats.

In addition to self-regulatory mechanisms, basic cognitive processes may also determine whether measures of implicit and explicit self-esteem are correlated. Koole et al. (2001) found that when people reported their explicit beliefs about themselves while they were cognitively taxed, there was a substantial correlation between people's name letter scores and their explicit self-evaluations. In contrast, when people were *not* cognitively taxed while reporting explicit self-evaluations, Koole et al. observed the typical lack of an association between implicit and explicit self-evaluations. Furthermore, consistent with research on how thinking carefully can sometimes disrupt automatic preferences (Wilson & Schooler, 1991), Koole et al. showed that asking participants to think carefully about the reasons for their letter preferences eliminated an otherwise substantial correlation between name-letter and birthday number preferences. It is worth noting that the default instructions in most name-letter measures ask people to rely on their gut impressions or intuitions when reporting their liking for different letters. Thus, instructions to be highly analytical may place people (regardless of gender) in a mindset that reduces the correlation between implicit and explicit measures (or between different implicit measures).

Another important question regarding implicit self-esteem has to do with what measures of implicit self-esteem actually measure in the first place. Consider the name-letter measure. Are name-letter preferences indicators of the valence of people's unconscious associations to the self? Or do name-letter measures merely assess people's conscious beliefs about the self—albeit in an indirect (i.e., unobtrusive) way? That is, do measures of implicit self-esteem tell us about what participants might prefer to hide? Or do they tell us about what remains forever hidden, even to participants themselves? As Fazio and Olson (2003) recently noted, this question is notoriously difficult to answer. On the other hand, this

tricky question may not prove to be completely intractable. A starting point might be to determine whether experiences to which people are extremely unlikely to have conscious access *ever* influence people's implicit self-evaluations. This much appears to be true. Dijksterhuis (2004) recently showed that it is possible to increase people's name-letter implicit self-esteem scores by means of a subliminal conditioning procedure. By repeatedly presenting the Dutch word "ik" ("I") for 14 ms, and following it with pleasant Dutch words (also for 14 ms), Dijksterhuis boosted participants' name-letter preferences. Further work along these lines should eventually give us a much better sense of what measures of implicit self-esteem do and do not measure (see also Jones, Pelham, Carvallo, & Mirenberg, *in press*). Nonetheless, we take it as a given that we cannot yet make strong statements about exactly what is being measured by name-letter or word-completion measures of implicit self-esteem. Crucial validity data are desperately needed.

The present findings also raise questions regarding the role of gender in self-evaluation. Exactly what aspect of gender is responsible for the fact that implicit and explicit self-esteem are typically more congruent for women than for men? Do women truly have greater insight into their overlearned associations about themselves? Are there meaningful experimental manipulations that might make the average man pay more attention than usual to his gut feelings? Are there some gut feelings to which the average man chronically has greater access than does the average woman? Questions such as these await future research.

Although we have emphasized socialization as a likely source of our findings, it is possible that these findings reflect true sex differences. That is, perhaps women's elevated levels of self-insight are grounded in biology or evolution rather than socialization (see Foy, Henderson, Berger, & Thompson, 2000; Lieberman, 2000; Zarate, Sanders, & Garza, 2000). Future research should tackle the difficult problem of disentangling social and biological explanations. To return to our general theme about self-evaluation, one thing now seems reasonably certain: researchers should take a closer look at implicit self-esteem. From this perspective, the most important implication of the present findings is that we should no longer ask whether measures of implicit and explicit self-esteem are correlated. Future research should focus on the more intriguing questions of when and why.

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