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Is Implicit Self-Esteem Really Unconscious?: Implicit Self-Esteem Eludes Conscious Reflection

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The current work examined the untested assumption that implicit self-esteem is nonconscious and cannot be assessed consciously. Participants completed measures of implicit and explicit self-esteem. Later, they guessed their level of implicit or unconscious self-esteem. Results indicated that participants were largely unable to assess consciously their implicit self-esteem. Estimations of implicit self-esteem were correlated moderately-strong with explicit self-esteem but negligibly with actual implicit self-esteem. These results indicate that implicit self-esteem is indeed nonconscious. In addition, participants high (vs. low) in explicit self-esteem more severely overestimated their implicit self-esteem, and participants low (vs. high) in implicit self-esteem seemed more uncertain about their implicit self-esteem, as indicated by a larger absolute difference between their explicit self-esteem and estimated implicit self-esteem.

The power of the unconscious mind was asserted by Freud (1914) nearly 100 years ago, and since that time it has become abundantly clear that unconscious or automatic processes play an important role in most of human thought and behavior (e.g., Bargh, 1994). Likewise, many researchers have turned their attention toward unconscious processes. One line of research on unconscious processes that seems potentially revealing is the study of implicit self-esteem. Implicit self-esteem refers to unconscious evaluations of oneself and objects closely associated with oneself (Greenwald & Banaji, 1995). Implicit self-esteem appears to be distinct from explicit self-esteem, or the extent to which a person consciously and explicitly considers oneself as valuable and worthy. For example, at an unconscious level, people with high implicit self-esteem exhibit positivity toward themselves and objects associated with themselves (e.g., the letters in their name), whereas people with low implicit self-esteem exhibit relatively less positivity for themselves and associated objects. Further, these unconscious evaluations of self and self-related objects are only modestly correlated with explicit self-evaluations and self-esteem (e.g., Bosson, Swann, & Pennebaker, 2000).

Research suggests that implicit self-esteem, much like explicit self-esteem, is a significant and meaningful component of personality, cognition, and behavior (e.g., Adler, 1930; Horney, 1937). For instance, implicit self-esteem influences how people cope with negative feedback (Dijksterhuis, 2004; Greenwald & Farnham, 2000), interpersonal stressors (Hetts & Pelham, 2001; Spalding & Hardin, 1999), and unpleasant thoughts or feelings (Jordan, Spencer, Zanna, Hoshino-Browne, & Correll, 2003; McGregor & Marigold, 2003), such as thoughts about death (Gailliot, Schmeichel, & Baumeister, 2005). Implicit self-esteem has also been found to predict the emotions people experience in their day to day lives (Conner & Barrett, in press). Insofar as implicit and explicit self-esteem are distinct phenomena (e.g., Bosson, Swann, & Pennebaker, 2000), the study of implicit self-esteem should contribute to a deeper understanding of self-esteem beyond the study of explicit self-esteem alone.

The study of implicit self-esteem is a relatively recent development, however, and a range of conceptual questions have yet to be answered (see Schimmack & Diener, 2003). In particular, while it is clear that implicit self-esteem and explicit self-esteem are independent constructs, it is largely unknown whether implicit self-esteem is indeed nonconscious. To our knowledge, it has not been empirically demonstrated that people are consciously unaware of their implicit self-esteem. People appear to be unaware that measures of implicit self-esteem are intended to assess their self-esteem (e.g., Nuttin, 1985), yet this does not mean that people are consciously unaware of their implicit self-esteem. The fact that a construct is implicit does not mean that it is also nonconscious (Fazio & Olson, 2003). Thus, it remains plausible that implicit and explicit self-esteem might reflect two distinct yet conscious forms of self-esteem. The current work examined whether implicit self-esteem is nonconscious such that people cannot consciously assess their implicit self-esteem. Specifically, participants completed measures of implicit and explicit self-esteem and then later estimated their implicit self-esteem. By examining the correspondence between conscious estimations of implicit self-esteem and actual (measured) levels of implicit self-esteem, we were able to determine to what extent people can assess consciously their implicit self-esteem.

Research on self-esteem suggests at least four possible hypotheses regarding whether implicit self-esteem is consciously accessible. Specifically, past researchers have typically assumed that implicit self-esteem is nonconscious and that people cannot estimate or

consciously assess their level of implicit self-esteem. Therefore, one (null) hypothesis is that participants will be unable to assess consciously their implicit self-esteem. If this hypothesis is correct, then estimations of implicit self-esteem should not correlate or correlate only negligibly with actual levels of implicit self-esteem. Perhaps estimations of implicit self-esteem will be based simply upon explicit (i.e., conscious) self-esteem. Because implicit and explicit self-esteem are independent constructs, this strategy would produce small and nonsignificant correlations between actual and estimated implicit self-esteem.

Another possibility is that the common assumption that implicit self-esteem is nonconscious is an incorrect assumption. Therefore, a second hypothesis is that participants can accurately assess their implicit self-esteem at a conscious level. If this hypothesis is correct, then estimations of implicit self-esteem should correlate strongly with actual levels of implicit self-esteem. This result would indicate that implicit self-esteem is not necessarily unconscious but instead that people are capable of consciously reflecting upon their implicit self-esteem.

A third possibility is that only some participants will estimate accurately their implicit self-esteem. Specifically, this hypothesis predicts that participants with high explicit self-esteem will be relatively accurate in estimating their implicit self-esteem. Compared to individuals with low self-esteem, those with high self-esteem possess well-defined images of themselves and are more certain about their self-views (Campbell & Lavalley, 1993). For instance, individuals with high versus low self-esteem are more confident when rating themselves on various dimensions (Baumgardner, 1990). Thus, it seems plausible that participants with high explicit self-esteem will be more accurate in estimating their implicit self-esteem.

A fourth hypothesis is that participants with defensive (low implicit but high explicit) self-esteem will be highly inaccurate in estimating their implicit self-esteem, whereas all other groups of participants (i.e., those with non-defensive self-esteem) will be relatively accurate. People are highly motivated to seek and obtain high levels of self-esteem (e.g., Allport, 1955; Baumeister, 1998), and low self-esteem is often seen as a threat that people are motivated to avoid. Individuals with defensive self-esteem appear to be the most threatened by aversive or unpleasant circumstances (e.g., Jordan et al., 2003; McGregor & Marigold, 2003). Consequently, they might overestimate their level of implicit self-esteem so as to deny having low implicit self-esteem, whereas participants with non-defensive self-esteem will not avoid acknowledging their actual level of implicit self-esteem and hence should be more accurate.

Method

Participants

Participants were 257 undergraduates (155 women, 1 unknown) who completed a mass testing survey at the start of the semester and another, smaller survey later in the semester. Participants received partial course credit for completing the mass survey and some received course credit for the latter surveys. The other participants completed the latter surveys on a voluntary basis.

Measures

Implicit self-esteem was assessed using initial-letter preferences. Preferences for

the letters in one's initials over other letters has been shown to be among the most valid and reliable measures of implicit self-esteem (Bosson et al., 2000; Greenwald & Banaji, 1995; Hoorens, 1990; Kitayama & Karasawa, 1997; Koole et al., 2001; Nuttin, 1985, 1987). Specifically, participants rated the attractiveness of each of the 26 letters in the English alphabet, using a scale from 1 (*not at all beautiful*) to 7 (*extremely beautiful*). Implicit self-esteem levels were derived from the extent to which participants rated the letters in their own initials as being attractive, while controlling for baseline ratings of those letters (i.e., ratings made by participants whose initials did not contain those letters; see Kitayama & Karasawa, 1997; Koole, Dijksterhuis, & van Knippenberg, 2001). Higher scores on this measure indicate having higher implicit self-esteem.

Explicit self-esteem was assessed using the Rosenberg self-esteem scale (Rosenberg, 1965). The Rosenberg contains 10 items (e.g., "On the whole, I am satisfied with myself.") answered on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Higher scores on this measure indicate having higher explicit self-esteem.

To assess participants' conscious awareness of their implicit self-esteem, we created a 12-item questionnaire. For the first 2 items, participants indicated to what extent they felt unconsciously that they liked themselves and that they were a valuable person, using scales from 1 (*not at all*) to 9 (*very much*). For the next 10 items, participants completed a modified version of the Rosenberg self-esteem scale (Rosenberg, 1965) in which each item assessed participants' estimations of their unconscious feelings (e.g., "On the whole, at an unconscious level, I am satisfied with myself.") The final measure of estimated implicit self-esteem was obtained by standardized (z-scoring) and averaging the 12 items (Cronbach's $\alpha = .91$). Higher scores on this measure indicated that a participant felt that he or she had higher implicit or unconscious self-esteem.

Procedure

During a mass testing session at the start of the semester, participants completed the letter rating task as a measure of implicit self-esteem and the Rosenberg Self-Esteem Scale (1965) as a measure of explicit self-esteem. These measures were embedded in a 20-page packet of questionnaires. The measure of implicit self-esteem was on the third page of the packet and the measure of explicit self-esteem, completed approximately 30-40 minutes later, was on the last page.

Approximately 3 months later, participants completed a questionnaire on which they estimated their implicit self-esteem. This questionnaire was completed either prior to or at the end of an introductory psychology course. Prior to completing the questionnaire, participants received written instructions that explained what was meant by unconscious self-esteem (e.g., "self-esteem that is beyond conscious awareness", "how you feel about yourself deep, deep, inside of you") and that they were to take their best guess as to how they felt unconsciously. Upon completing the questionnaire, participants were thanked and debriefed.

Results

Can people consciously assess their implicit self-esteem? We first tested the hypotheses regarding whether participants could estimate accurately their level of implicit self-esteem. Analysis provided some evidence that participants estimated accurately their implicit

self-esteem. Specifically, participants' estimations of their implicit self-esteem correlated positively and significantly with their actual level of implicit self-esteem, although the strength of the relationship was weak, $r(257) = .15, p < .05$. This provides modest support for the idea that people can estimate consciously their implicit self-esteem.

An alternative possibility, however, was that participants' estimations of their implicit self-esteem were based largely upon their explicit self-esteem. This would suggest that participants did not actually assess consciously their implicit self-esteem but rather estimated their implicit self-esteem by relying on their conscious, explicit self-esteem. Analyses provided strong support for this possibility. Specifically, estimations of implicit self-esteem correlated significantly and moderately-strong with explicit self-esteem, $r(257) = .62, p < .05$. This suggests that participants simply relied on their consciously available, explicit self-esteem when trying to estimate their unconscious, implicit self-esteem.

To assess this possibility more directly, we examined the relationship between estimated and actual implicit self-esteem while controlling for explicit self-esteem. Results indicated that estimated implicit self-esteem did not significantly predict actual implicit self-esteem when controlling for explicit self-esteem, $r(254) = .10, p = .11$. Considering the large sample size and the already weak relationship between estimated and actual implicit self-esteem, the non-significance of this relationship indicates that, without relying on explicit self-esteem, participants were largely unable to estimate consciously their implicit self-esteem. Consistent with this idea, the strength of the relationship between explicit self-esteem and estimated implicit self-esteem did not change when controlling for implicit self-esteem, $r(254) = .62, p < .001$. In sum, these analyses indicate that implicit self-esteem is indeed nonconscious.

Are some people able to consciously assess their implicit self-esteem? The results thus far indicate that people cannot consciously assess their implicit self-esteem. It is still possible, however, that some participants were able to assess their implicit self-esteem whereas others were not. Specifically, it seemed plausible that participants with high explicit self-esteem might be able to assess their implicit self-esteem more accurately than those with low self-esteem, and that participants with non-defensive self-esteem would be more accurate than those with defensive self-esteem.

To test these hypotheses, we computed two measures of accuracy in estimating implicit self-esteem. For the first, we created difference scores by subtracting participants' standardized implicit self-esteem score from their standardized estimation of their implicit self-esteem.¹ This score indicates both the size and direction of the discrepancy between estimated and actual implicit self-esteem scores. A higher positive score indicated that a participant overestimated his or her implicit self-esteem, whereas a lower negative score indicated that a participant underestimated his or her implicit self-esteem. Second, we created a measure of the magnitude (and not the direction) of the discrepancy between estimated and actual implicit self-esteem scores by taking the absolute value of the difference score.² Lower scores on this measure indicate that a participant was more accurate in

1 We also examined a conceptually similar measure by regressing actual implicit self-esteem on estimated implicit self-esteem and computing the residuals. Analyses of this measure produced nearly identical results as the analyses based on difference scores.

2 We also examined a conceptually similar measure by computing the standard deviation between estimated and actual implicit self-esteem for each participant. Analyses of this measure produced nearly identical results as the analyses based on the absolute value of the difference scores.

estimating his or her implicit self-esteem (i.e., the discrepancy between estimated and actual implicit self-esteem scores was smaller).

To examine whether accuracy in estimating implicit self-esteem differed as a function of implicit or explicit self-esteem, we regressed participants' accuracy scores (i.e., the difference scores and absolute values of the difference scores, respectively) on the standardized implicit and explicit self-esteem scores and their interaction. In predicting the magnitude and direction of accuracy (i.e., the difference score), analyses indicated a significant main effect for implicit self-esteem, $\beta = -.69$, $t = -17.76$, $p < .001$. As can be seen from Figure 1, high implicit self-esteem was associated with more severely underestimating one's implicit self-esteem, whereas low implicit self-esteem was associated with more severely overestimating one's implicit self-esteem. This finding is perhaps not surprising considering that implicit self-esteem scores were used to compute accuracy scores. As a result, accuracy should have differed as a function of implicit self-esteem.

The main effect of explicit self-esteem was also significant, $\beta = .48$, $t = 12.56$, $p < .001$. Participants with higher vs. lower explicit self-esteem more severely overestimated their implicit self-esteem. This result is consistent with past research showing that people with high vs. low explicit self-esteem overestimate or exaggerate positive qualities about themselves (for a review, see Baumeister, Campbell, Krueger, & Vohs, 2003). Apparently, people with high self-esteem overestimate their level of implicit self-esteem as well.

The interaction between implicit and explicit self-esteem was non-significant, $t < 1$, n.s. As can be seen from Figure 1, it is clear that participants with congruent implicit and explicit self-esteem were relatively accurate in estimating their implicit self-esteem, whereas participants with incongruent implicit and explicit self-esteem had biased estimations in the direction of their explicit self-esteem. This again suggests that participants relied primarily on their explicit self-esteem to estimate their implicit self-esteem. As a result, those with congruent self-esteem (whose level of explicit self-esteem matched their level of implicit self-esteem) were fairly accurate.

Further, the nonsignificant interaction contradicts the possibility that participants with non-defensive self-esteem would be more accurate than participants with defensive (high explicit but low implicit) self-esteem. Although participants with defensive self-esteem did overestimate their implicit self-esteem more than any other group of participants, participants with high implicit but low explicit self-esteem underestimated their implicit self-esteem to an equal extent. This suggests that any systematic discrepancies between estimated and actual implicit self-esteem scores were the direct result of the discrepancy between implicit and explicit self-esteem, rather than participants with defensive self-esteem being the only participants who estimated inaccurately their implicit self-esteem.

In examining the magnitude of participants' accuracy in estimating their implicit self-esteem (i.e., the absolute value of the difference between estimated and actual implicit self-esteem scores), there were significant main effects for implicit self-esteem, $\beta = -.15$, $t = -2.71$, $p < .01$, and explicit self-esteem, $\beta = -.22$, $t = -3.94$, $p < .001$. Both of these main effects were qualified by their significant interaction, $\beta = -.34$, $t = -6.03$, $p < .001$. As can be seen from Figure 2, participants with high implicit and high explicit self-esteem were the most accurate in estimating their implicit self-esteem, whereas all other combinations of explicit and implicit self-esteem were less accurate and approximately equally to each other. If participants relied largely upon their explicit self-esteem when estimating their implicit self-esteem, then this explains why participants with high implicit and high explicit self-

esteem were accurate in estimating their implicit self-esteem - their levels of implicit and explicit self-esteem were similar. Likewise, participants with incongruent (i.e., high implicit and low explicit or low implicit and high explicit) self-esteem were probably inaccurate in estimating their implicit self-esteem because their levels of implicit and explicit self-esteem were very dissimilar. Participants with low implicit and low explicit self-esteem, on the other hand, should have been relatively accurate because their levels of implicit and explicit self-esteem were similar. However, these participants were among the most inaccurate. Participants with low implicit and explicit did not systematically over- or underestimate their implicit self-esteem (see Figure 1), yet the magnitude of their inaccuracy was relatively large.

One possible explanation for this pattern of results is that participants with low explicit self-esteem relied on their explicit self-esteem when estimating their implicit self-esteem, yet they were uncertain about their explicit self-esteem. People with low vs. high explicit self-esteem are typically uncertain and unsure about their explicit self-views (Campbell & Lavallee, 1993), and so it seems plausible that this uncertainty extended to their estimations of implicit self-esteem as well.

To test this possibility, we examined the discrepancy between explicit self-esteem and estimated implicit self-esteem by computing the absolute value of the difference between the two measures. A larger difference score indicates a larger discrepancy between explicit self-esteem and estimated implicit self-esteem. We then regressed this measure on standardized implicit and explicit self-esteem scores and their interaction. Results indicated a significant main effect of explicit self-esteem, $\beta = -.27$, $t = -4.49$, $p < .001$. Participants with low vs. high explicit self-esteem exhibited a larger discrepancy between their explicit self-esteem and their estimations of their implicit self-esteem. The effect of implicit self-esteem and its interaction with explicit self-esteem were non-significant, both t s < 1 , both p s $> .34$. This suggests that participants low vs. high in self-esteem were more uncertain regarding their level of implicit self-esteem. Participants with high explicit self-esteem indicated having high implicit self-esteem. Participants with low explicit self-esteem, however, appeared uncertain as to their level of implicit self-esteem such that their estimations deviated relatively strongly from their explicit self-esteem.

Discussion

The current work examined an untested assumption in previous work on nonconscious processes: whether implicit self-esteem is consciously assessable. The results support the notion that implicit self-esteem is nonconscious. Participants seemed largely unable to guess their level of implicit self-esteem. This work also examined whether some individuals were more able to assess their implicit self-esteem than others. For the most part, all participants relied on their consciously accessible, explicit self-esteem when making such judgments. For instance, people with congruent implicit and explicit self-esteem were the most accurate in determining their implicit self-esteem, and those with incongruent self-esteem overestimated or underestimated their implicit self-esteem in the direction of their explicit self-esteem. It therefore appears that implicit self-esteem is a nonconscious form of self-esteem, whereas explicit self-esteem is consciously accessible.

Another finding was that participants with low explicit self-esteem seemed uncertain about their level of implicit self-esteem, compared to those with high explicit self-esteem.

Several studies suggest that people with low self-esteem are uncertain about themselves and what they are like (Campbell & Lavalley, 1993). To our knowledge, however, no studies have examined whether people with low self-esteem are uncertain about their implicit or unconscious self-evaluations. The current work indicates that the uncertainty of those with low self-esteem extends even to their implicit self-esteem. Participants' judgments of their implicit self-esteem were based primarily on their explicit self-esteem, yet those with low self-esteem seemed unsure of whether even their explicit self-esteem reflected these inner, nonconscious self-evaluations. For them, the absolute discrepancy between their explicit self-esteem and estimated implicit self-esteem was relatively large. For people with low self-esteem, the self-concept appears to be a puzzle indeed.

People high in self-esteem overestimated how high their implicit self-esteem actually was. This is consistent with previous research on self-esteem (e.g., Baumeister et al., 2004) insofar as people high in self-esteem exaggerate the extent to which they possess a broad array of desirable traits, such as physical attractiveness (e.g., Harter, 1993) and popularity (Battistich, Solomon, & Delucchi, 1993). Based on the current work, it seems that they also inflate the extent to which they feel positively about themselves at an unconscious level.

The current work is not without its limitations. We assessed implicit self-esteem using preferences for the letters in one's initials (Nuttin, 1985, 1987). It would have been beneficial had we assessed implicit self-esteem using a variety of measures. To be sure, initial-letter preferences are among the most valid and reliable measures of implicit self-esteem (e.g., Bosson et al., 2000; Koole et al., 2001), and so it seemed reasonable to use initial-letter preferences as a measure of implicit self-esteem. Still, different measures of implicit self-esteem are uncorrelated with one another (e.g., Bosson et al., 2000), and it is plausible that people might be able to consciously estimate their implicit self-esteem as assessed by other measures. Such a finding, however, would suggest that three forms of self-esteem exist (i.e., an explicit and a conscious and nonconscious form of implicit self-esteem), which seems unlikely. Therefore, given the reliability and validity of name-letter preferences as a measure of implicit self-esteem (e.g., Bosson et al., 2000), we think it reasonable to conclude that people are probably incapable of estimating consciously their implicit self-esteem.

Research on implicit self-esteem seems to hold great promise. Some researchers have argued that the benefits of high explicit self-esteem might be limited (Baumeister et al., 2003), and it seems plausible that implicit self-esteem might prove to be of greater worth. A large body of research demonstrates that automatic or nonconscious processes are a vital component of the self and have a powerful influence on thought and behavior (e.g., Bargh, 1994; Bargh & Chartrand, 1999; Devine, 1989; Dijksterhuis & Bargh, 2001; Fazio, 1990; Greenwald & Banaji, 1995; Wegner & Bargh, 1998), and so implicit self-esteem might also be highly influential. Despite its potential importance, however, much remains to be learned about implicit self-esteem, and some researchers have highlighted the need for further validation of implicit self-esteem as a construct (Schimmack & Diener, 2003). The current findings represent one step toward establishing the theoretical credibility of implicit self-esteem, and perhaps toward unlocking its potential.

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Figure 1



Figure 1. The difference between actual and estimated implicit self-esteem as a function of implicit and explicit self-esteem. A larger positive score indicates overestimating implicit self-esteem to a greater extent, and a larger negative score indicates underestimating implicit self-esteem to a greater extent.

Figure 2

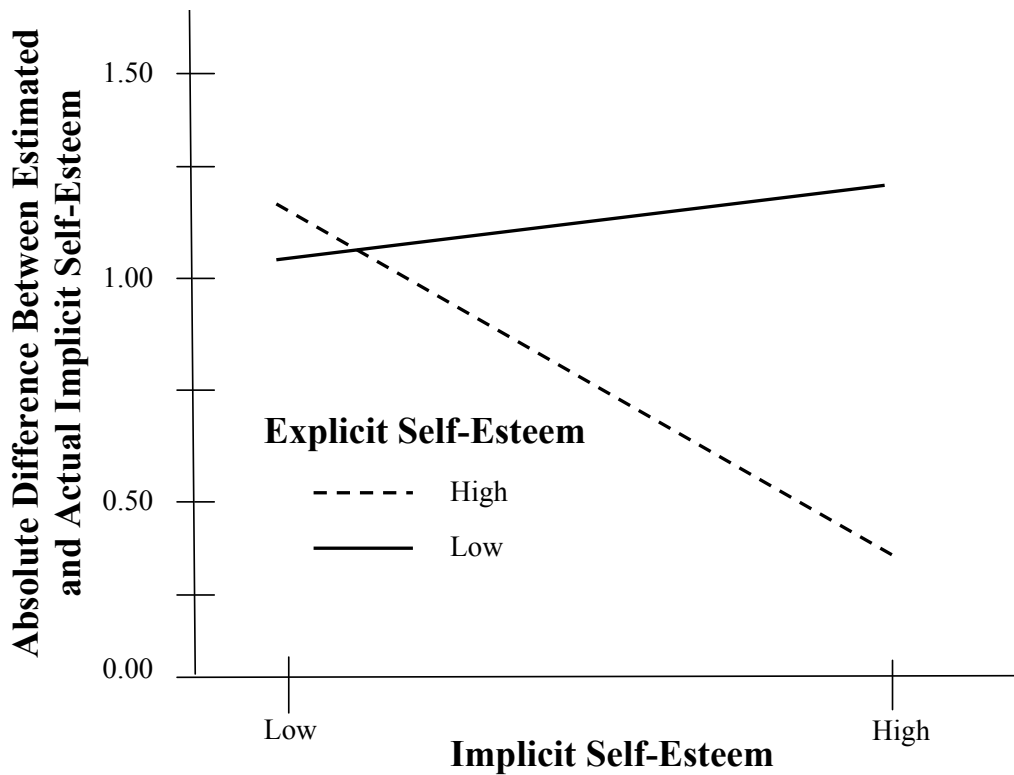


Figure 2. The absolute difference between actual and estimated implicit self-esteem as a function of implicit and explicit self-esteem. A smaller scores indicates a smaller absolute difference between actual and estimated implicit self-esteem and hence, greater accuracy.

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