

# The Implicit Association Between Pride and Social Status in Japan

Ye-Yun Yu<sup>1</sup>, Yohsuke Ohtsubo<sup>1,\*</sup>

<sup>1</sup>Department of Psychology, Graduate School of Humanities, Kobe University, Kobe, 657-8501, Japan.

\*Author for correspondence (yohtsubo@lit.kobe-u.ac.jp)

Pride is considered to be an emotion related to the attainment of status. People (at least in Canada and Fiji) implicitly associate the pride expression with high status. In a series of four implicit association test (IAT) studies, we explored the implicit association between the pride expression and high status in Japan. Study 1 showed that Japanese participants readily associate the pride expression with high status, and the shame/embarrassment expression with low status. Study 2a, furthermore, confirmed that the pride-high status association is not driven by the shame-low status association, while Study 2b revealed that the pride-high status association cannot be explained by a simple association of pride with general positivity. Finally, Study 3 demonstrated that Japanese participants readily associate the pride expression with high status jobs, and thus conceptually replicated Study 1. Collectively, these studies provide evidence that East Asian people associate the expression of pride with high status.

## Keywords

pride expression, implicit association test (IAT), status

## Introduction

Pride is theorized to be an evolved emotion that is associated with the attainment of status (Tracy, Weidman, Cheng, & Martens, 2014, for a review). This notion is conjointly supported by several lines of evidence: Pride has a distinct, readily recognizable expression characterized by “a small smile, with head tilted slightly back, visibly expanded posture, and arms raised above the head or hands on hips” (Tracy & Robins, 2004, p. 194). The pride expression has been shown to be accurately recognized by Westerners and the inhabitants of an isolated village in Burkina Faso (Tracy & Robins, 2008). Other studies have shown that it is spontaneously displayed both by 3-year-old children after successful experiences (Belsky, Domitrovich, & Crnic, 1997) and by congenitally blind athletes after winning a match in the Paralympic games (Tracy & Matsumoto, 2008). Moreover, Tracy and colleagues have revealed that people (in Canada and Fiji)

implicitly associate the pride expression with high status (Shariff & Tracy, 2009; Tracy, Shariff, Zhao, & Henrich, 2013).

Although some of the aforementioned evidence was obtained in non-Western countries (i.e., Burkina Faso, Fiji), the association between the pride expression and status has not yet been tested in East Asian countries. It is important to verify the presence of this association in East Asian countries because people in collectivistic countries do not endorse emotional expressivity (Matsumoto et al., 2008). In Japan in particular, the pride expression may be suppressed as it disturbs within-group harmony (Markus & Kitayama, 1991). Therefore, to further explore the implicit association between the pride expression and high status, we conducted a series of four studies in Japan, which are conceivable as direct and conceptual replications of Shariff and Tracy’s (2009) Study 1.

The implicit association test (IAT) was developed to assay the strength of association between two constructs (Greenwald, McGhee, & Schwartz, 1998). Applying the IAT to the pride-high status association, Shariff and Tracy (2009) conducted the following experiment. On each trial, participants were presented a stimulus (i.e., a photograph or word) randomly chosen from one of the following four categories (see also the first row of Figure 1): photographs of a person displaying the pride expression, photographs of a person displaying the shame/embarrassment expression, words conceptually related to high status (e.g., dominant), or words conceptually related to low status (e.g., submissive). Participants’ task was to categorize these stimuli by pressing one of two keys. In the so-called congruent trials, participants responded to pride photos and high status words with the same key, while responding to shame/embarrassment photos and low status words with the other key. In the incongruent trials, participants had to respond to pride photos and low status words with the same key. If the putative pride-high status association exists, participants should find the congruent trials (i.e., responding to the conceptually similar categories with the same key) easier than the incongruent trials. Shariff and Tracy compared reaction time in these two types of trials, and found that the mean reaction time was faster in the congruent trials. This result implies the presence of the pride-high status implicit association.

## Method

### (a) Participants

Participants were 14 (5 males, 9 females), 25 (12 males, 13 females), 12 (7 males, 5 females), and 18 (8 males, 10 females) undergraduate students in Studies 1, 2a, 2b, and 3, respectively. Mean  $\pm$  *SD* age was 19.74 $\pm$ 1.26 years-old. All participants took part in this experiment in exchange for a small monetary reward.









*(b) Emotion expression photographs*

We asked seven male Japanese undergraduate students to pose in a manner consistent with pride, shame, embarrassment, and neutral expressions, and then photographed them. The instructions for the pride expression were adapted from Tracy and Robins's (2004) descriptions. The instructions for the shame and embarrassment expressions were adapted from Keltner's (1995) descriptions. The seven models belonged to a different university from the one where the main studies were conducted.

*(c) IAT in Study 1*

Participants performed the following seven blocks of categorization tasks (Greenwald, Nosek, & Banaji, 2003). In Block 1, which consisted of 20 trials, one of the pride or shame/embarrassment photographs was presented. Participants categorized the pride photos and the shame/embarrassment photos with the LEFT and RIGHT keys, respectively. In Block 2 (20 trials), participants categorized

high status and low status words with the LEFT and RIGHT keys, respectively. In Block 3 (20 trials), either a pride photo, a shame/embarrassment photo, a high status word, or a low status word was presented on each trial. Participants categorized pride photos and high status words with the LEFT key, and shame/embarrassment photos and low status words with the RIGHT key. Block 4 was the same as Block 3, except it consisted of 40 trials. In Block 5 (20 trials), participants categorized pride and shame/embarrassment photos with the RIGHT and LEFT keys, respectively (the response rule was switched). In Block 6 (20 trials) and Block 7 (40 trials), again, one of the four types of stimuli was presented. Participants categorized shame/embarrassment photos and high status words with the LEFT key, and pride photos and low status words with the RIGHT key. Blocks 3 and 4 comprised the congruent condition, and Blocks 6 and 7 comprised the incongruent condition. To counterbalance the order effect of congruity, half of participants underwent this test in a different order (i.e., Blocks 5, 2, 6, 7, 1, 3, and 4).

<b>Study 1</b>	Photo	<b>Pride</b> 	<b>Shame/Embarrassment</b> 
	Word	<b>High Status Words</b> (e.g., <i>dominant</i> )	<b>Low Status Words</b> (e.g., <i>submissive</i> )
<b>Study 2a</b>	Photo	<b>Pride</b> 	<b>Neutral</b> 
	Word	<b>High Status Words</b> (e.g., <i>dominant</i> )	<b>Low Status Words</b> (e.g., <i>submissive</i> )
<b>Study 2b</b>	Photo	<b>Pride</b> 	<b>Neutral</b> 
	Word	<b>Desirable Words</b> (e.g., <i>good</i> )	<b>Undesirable Words</b> (e.g., <i>bad</i> )
<b>Study 3</b>	Photo	<b>Pride</b> 	<b>Shame/Embarrassment</b> 
	Word	<b>High Status Jobs</b> (e.g., <i>Diet member</i> )	<b>Low status Jobs</b> (e.g., <i>coal miner</i> )

**Figure 1.** Summary of the stimuli used in Studies 1 to 3. In each study, the combination of the left-hand stimuli (e.g., pride photos and high status words in Study 1) and the right-hand stimuli (e.g., shame/embarrassment photos and low status words in Study 1) represents the congruent combination.

(d) Four studies

The three other studies were variations of Study 1 (see Figure 1 for the differences among the four studies).

Study 2a replaced the shame/embarrassment photos with neutral expression photos so as to eliminate an alternative explanation that the apparent pride-status association was caused by the shame-low status association.

In order to eliminate an alternative explanation that the pride expression is not uniquely associated with high status per se, but with any positive concept, Study 2b paired the pride and neutral photos with socially desirable (e.g., good, warm) and undesirable words (e.g., bad, ugly). A pilot study confirmed the five desirability-related words were rated as more desirable (the mean desirability scores ranged from 1.07 to 1.73) than the five undesirability-related words (the mean scores ranged from -0.80 to -1.73) on a 5-point scale (-2 = "very undesirable" to +2 = "very desirable").

In order to generalize the finding of Study 1, Study 3 replaced the high status and low status words with job titles associated with high and low status in Japan. Referring to the Japanese occupational prestige scores (Tsuzuki, 1995), we created a set of five high status jobs (Diet member, government official, professor, medical doctor, prosecutor) and five low status jobs (construction worker, part-time worker, coal miner, janitor, street vendor). A pilot study confirmed that the high status jobs were rated as more prestigious (the mean prestige scores ranged from 1.25 to 2.54) than the low status jobs (the mean scores ranged from -0.92 to -1.48) on a 7-point scale (-3 = "very low status" to +3 = "very high status").

(e) Dependent variable

The dependent variable was a standardized difference

between the congruent and incongruent conditions: the *D* measure proposed by Greenwald et al. (2003). After confirming that no data needed to be eliminated according to their elimination criteria, we first computed the average reaction time for the correct trials for Blocks 3, 4, 6, and 7, separately. Second, the pooled standard deviations (*SD*) for "Blocks 3 and 6" and "Blocks 4 and 7" were computed. Third, reaction times on incorrect trials were replaced by the mean reaction time (computed in step 1) plus 600 ms, and the error-corrected means for Blocks 3, 4, 6, and 7 were recalculated. Fourth, the differences in the mean reaction times were computed: (Block 6 - Block 3) and (Block 7 - Block 4). Fifth, each difference score was divided by its corresponding pooled *SD*. Finally, the two resultant scores were averaged to obtain the *D* measure. In the results section, instead of testing the significant difference between the two reaction times, we simply tested whether the *D* was significantly greater than zero. Raw data are available in the online supplementary materials.

Results

(a) Study 1

As shown in Figure 2, the mean reaction time in milliseconds was faster in the congruent condition ( $M \pm SD = 935.75 \pm 218.92$ ) than in the incongruent condition ( $1349.71 \pm 319.23$ ). The mean *D* measure ( $0.67 \pm 0.31$ , 95% Confidence Interval [0.49, 0.84]) was significantly greater than zero,  $t(13) = 8.09, p < .001$ , Cohen's  $d = 2.16$ . Therefore, Shariff and Tracy's (2009) result was replicated in Japan.

(b) Study 2a

Study 2a used neutral photographs instead of shame/

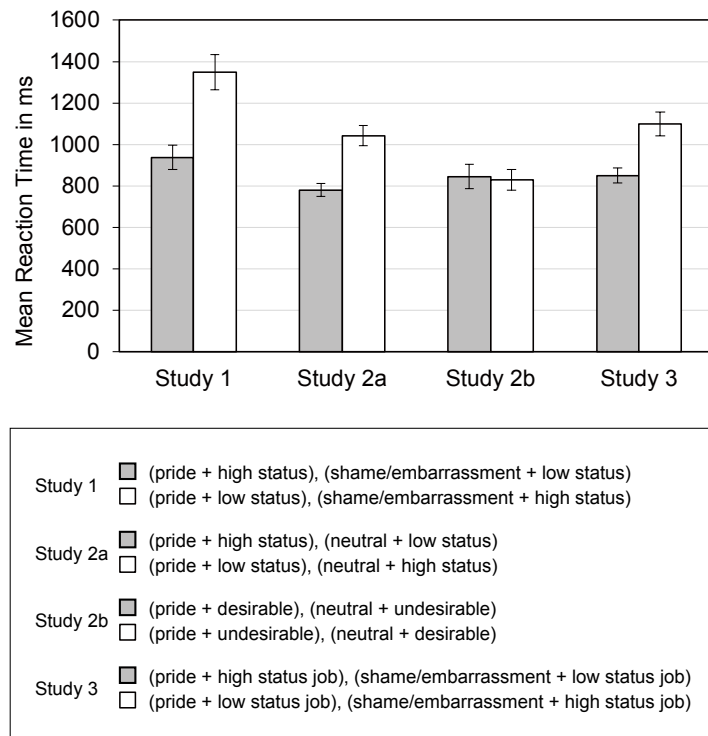


Figure 2. Mean reaction time in the four studies as a function of congruity.

embarrassment photographs. Again, the mean reaction time was faster in the congruent condition (780.33±154.82) than in the incongruent condition (1042.41±242.64). The mean *D* measure (0.60±0.72, 95% *CI* [0.31, 0.90]) was significantly greater than zero,  $t(24) = 4.20$ ,  $p < .001$ , Cohen's  $d = 0.84$ . Therefore, the observed pride-high status association cannot be accounted for as the byproduct of an association between shame/embarrassment and low status.

### (c) Study 2b

Study 2b used socially desirable and undesirable words instead of high and low status words. The mean reaction times were 845.63±199.60 and 828.90±170.63 in the putative congruent and incongruent conditions, respectively. The mean *D* measure (0.02±0.53, 95% *CI* [-0.32, 0.36]) was not significantly different from zero,  $t(11) = 0.14$ , *ns*. Therefore, people do not necessarily perceive the pride expression as something positive.

### (d) Study 3

Study 3 was a conceptual replication of Study 1, replacing high and low status words with high and low status job titles. The mean reaction time was faster in the congruent condition (849.96±150.79) than in the incongruent condition (1099.50±239.02). The mean *D* measure (0.60±0.53, 95% *CI* [0.35, 0.84]) was significantly greater than zero,  $t(17) = 4.74$ ,  $p < .001$ , Cohen's  $d = 1.12$ . This result provided further support for the pride-high status implicit association in Japan.

## Discussion

Utilizing both direct and conceptual replications of Shariff and Tracy's (2009) study of pride, our four studies conjointly confirmed the existence of the implicit association between the pride expression and high status in Japan, an East Asian country where explicit displays of pride are generally frowned upon. It is considered that the human pride expression is homologous to other primates' dominance displays, such as chimpanzees' bluff display (Tracy et al., 2014). However, humans achieve their social status not only through dominance hierarchies but also through competence and prosociality (i.e., prestige hierarchies: Henrich & Gil-White, 2001). By investigating whether the pride expression may have been exapted to communicate displayers' prestige as well as their dominance, this line of research could foster our understanding of human status striving.

## Acknowledgements

We are grateful to Daisuke Nakanishi and Kunihiro Yokota for their assistance in preparing the photographs used in the reported studies. We thank Sae Kamada for her assistance in data collection. We also thank Adam Smith for his helpful comments on earlier drafts. This research was generously supported by the John Templeton Foundation.

## References

Belsky, J., Domitrovich, C., & Crnic, K. (1997). Temperament and parenting antecedents of individual

differences in three-year-old boys' pride and shame reactions. *Child Development*, 68, 456-466. (doi: 10.2307/1131671)

Greenwald, A. G., McGhee, D. E., & Schwartz, J. L. K. (1998). Measuring individual differences in implicit cognition: The implicit association test. *Journal of Personality and Social Psychology*, 74, 1464-1480. (doi: 10.1037/0022-3514.74.6.1464)

Greenwald, A. G., Nosek, B. A., & Banaji, M. R. (2003). Understanding and using the Implicit Association Test: I. An improved scoring algorithm. *Journal of Personality and Social Psychology*, 85, 197-216. (doi: 10.1037/0022-3514.85.2.197)

Henrich, J., & Gil-White, F. J. (2001). The evolution of prestige: Freely conferred deference as a mechanism for enhancing the benefits of cultural transmission. *Evolution and Human Behavior*, 22, 165-196. (doi: 10.1016/S1090-5138(00)00071-4)

Keltner, D. (1995). Signs of appeasement: Evidence for the distinct displays of embarrassment, amusement, and shame. *Journal of Personality and Social Psychology*, 68, 441-454. (doi: 10.1037/0022-3514.68.3.441)

Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, 98, 224-253. (doi: 10.1037/0033-295X.98.2.224)

Matsumoto, D., Yoo, S. H., Fontaine, J., Anguas-Wong, A. M., Arriola, M., Ataca, B.,...Grossi, E. (2008). Mapping expressive differences around the world: The relationship between emotional display rules and individualism versus collectivism. *Journal of Cross-Cultural Psychology*, 39, 55-74. (doi: 10.1177/0022022107311854)

Shariff, A. F., & Tracy, J. L. (2009). Knowing who's boss: Implicit perceptions of status from the nonverbal expression of pride. *Emotion*, 9, 631-639. (doi: 10.1037/a0017089)

Tracy, J. L., & Matsumoto, D. (2008). The spontaneous expression of pride and shame: Evidence for biologically innate nonverbal displays. *Proceedings of the National Academy of Sciences of the U.S.A.*, 105, 11655-11660. (doi: 10.1073/pnas.0802686105)

Tracy, J. L., & Robins, R. W. (2004). Show your pride: Evidence for a discrete emotion expression. *Psychological Science*, 15, 194-197. (doi: 10.1111/j.0956-7976.2004.01503008.x)

Tracy, J. L., & Robins, R. W. (2008). The nonverbal expression of pride: Evidence for cross-cultural recognition. *Journal of Personality and Social Psychology*, 94, 516-530. (doi: 10.1037/0022-3514.94.3.516)

Tracy, J. L., Shariff, A. F., Zhao, W., & Henrich, J. (2013). Cross-cultural evidence that the nonverbal expression of pride is an automatic status signal. *Journal of Experimental Psychology: General*, 142, 163-180. (doi: 10.1037/a0028412)

Tracy, J. L., Weidman, A. C., Cheng, J. T., & Martens, J. P. (2014). Pride: The fundamental emotion of success, power, and status. In M. M. Tugade, M. N. Shiota, & L. D. Kirby (Eds.), *Handbook of positive emotions* (pp. 294-310). New York: Guilford Press.

Tsuzuki, K. (Ed.). (1995). Occupational evaluations and prestige scores. (<http://srdq.hus.osaka-u.ac.jp/metadata.cgi?page=refs&rid=11&lang=jp&open=5#open>)