

SUPPLEMENTARY ONLINE MATERIALS

The Implicit Association Test

The Implicit Association Test (IAT, Greenwald, McGhee, & Schwartz, 1998; see Lane, Banaji, Nosek, & Greenwald, 2007, for a user-friendly guide for those who are not familiar with the IAT) is a method for indirectly assessing the strengths of associations among concepts. The IAT should be properly called a “procedural format” because it is not a single standardized test: it is a procedure that can be used to assess the attitudes toward various kinds of psychological concepts, like gender identity, racism, attitudes toward food, phobias, etc. (see Lane et al., 2007).

Reliability and validity

The validity of this procedural format as a measure of implicit attitudes and its reasonably good internal consistency have been demonstrated by several studies. In particular, in a meta-analysis conducted by Hofmann, Gawronski, Gschwender, Le, and Schmitt (2005), in which 50 studies were considered, an average internal reliability of .79 emerged. Many experimental results evidenced the validity of the IAT (for a review, see Lane et al., 2007). In particular, numerous indications were provided that IAT measures can predict a variety of different behaviours. For instance, in the field of implicit prejudice toward Blacks, it was shown that implicit prejudice, as measured through the IAT, predicted more negative judgments of ambiguous behaviours performed by a Black target (Rudman & Lee, 2002), and more negative nonverbal behaviours in an interaction with a Black experimenter (McConnell & Leibold, 2001); White participants with higher prejudice scores on a race-IAT further showed higher levels of cognitive decrements after an interaction with a Black confederate (Richeson & Shelton, 2003). It was also revealed that physicians with stronger anti-Black attitudes were less likely to prescribe thrombolysis for Black as compared to White

patients with acute coronary syndromes (Green, Carney, Pallin, Ngo, Raymond, Iezzoni, & Banaji, 2007).

The procedure

In a series of **five different blocks of trials**, participants are presented with stimuli on the monitor of a computer. These stimuli belong to **four different categories** as, for example, pictures of White persons, pictures of Black persons, positive words and negative words.

In each trial, participants are presented with one of these stimuli on the center of the computer monitor, and are requested to categorize this stimulus by pressing one of two keys of the keyboard, as fast and accurately as possible.

Three blocks serve to learn the correct response keys whereas the other two blocks are critical for measuring implicit attitudes. In the trials of the **learning blocks**, participants are requested to classify stimuli belonging to two categories (e.g., they are requested to discriminate between pictures of White persons and pictures of Black persons) and each category is associated with one of the two response keys. In the **critical blocks**, participants are requested to perform a double categorization task: When a picture appears on the monitor, they are asked to classify it as portraying a Black vs. White person, and when a word appears, they have to classify it as positive or negative.

Importantly, **only two response keys** are available for these classification tasks. Therefore in one of the critical blocks, participants classify Black persons and positive words with one key, and White persons and negative words with the other key. In the other critical block an opposite association is introduced and participants have to classify Black persons and negative words with one key, and White persons and positive words with the other key. The whole procedure as employed in the current study is schematized in the Table 1.

The logic of the IAT rests on the idea that the performance in a critical block will be easier (i.e., faster responses and less errors) if the racial category and evaluative words that share the same

response key are already associated in memory. The performance in the two critical blocks is compared: If a participant has a better performance in the block associating White targets and positive words, as compared to the other block associating Black targets and positive words, this is an indication of a more positive attitude toward the category of White, as opposed to Black persons.

The IAT index of differential implicit attitude is usually computed for each participant following the procedure proposed by Greenwald, Nosek, and Banaji (2003). Accordingly, in the present study (1) the latency of each wrong categorization was substituted with the average latency of the critical block to which the wrong answer belonged, adding a 600 ms penalty; (2) the average latency for each critical block was computed; (3) the average latency of responses in the block in which positive words and White faces were associated, as computed at point 2, was subtracted from the average latency of responses the block in which positive words and Black faces were associated; and (4) such difference was divided by the standard deviation of the latencies of the two critical blocks. Hence, more positive scores indicated a higher preference for White, as compared to Black targets.

In order to test the reliability of the IAT, for each participant we computed a separate IAT index for each type of stimulus: After substituting latencies for mistakes with the mean of the block + a penalization of 600 ms., we computed the difference between the mean latency associated with each type of stimulus in the third and fifth block. Analyses based on these separate IAT indexes revealed a very good internal consistency for the IAT (Cronbach's Alpha=.93).

References

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Table 1: the IAT procedure

Block number:	1	2	3	4	5
Block description:	Initial target-concept discrimination (Learning block)	Attribute discrimination (Learning block)	Initial combined task (Critical block)	Reversed target-concept discrimination (Learning block)	Reversed combined task (Critical block)
Stimuli appearing on the monitor belong to the following categories:	Photographs of Black and White male faces	Pleasant and unpleasant words	Photographs of Black and White male faces; pleasant and unpleasant words	Photographs of Black and White male faces	Photographs of Black and White male faces; pleasant and unpleasant words
Press 'D' key for:	Black	Pleasant	Black, Pleasant	White	White, Pleasant
Press 'K' key for:	White	Unpleasant	White, Unpleasant	Black	Black, Unpleasant
Number of trials	20	20	40	20	40

NOTE: The order of the critical blocks (and, as a consequence, the order of the learning blocks 1 and 4) was counterbalanced between participants.