**Non-technical Summary of the meta-analysis of the IAT's predictive validity
(appearing in the July 2009 issue of *Journal of Personality and Social Psychology*)**

Greenwald, A. G., Poehlman, T. A., Uhlmann, E., & Banaji, M. R. (2009). Understanding and using the
Implicit Association Test: III. Meta-analysis of predictive validity. *Journal of Personality and Social
Psychology*, *97*, 17–41.

For the past decade, the Implicit Association Test (IAT) has been the focus of much attention by
social scientists — due to its repeatedly finding that an automatic form of race bias is widespread in the
United States. The estimated pervasiveness of "implicit" preference for racial European American
(White) relative to racial African American (Black) is approximately 70% — much above the level of race
preference estimated in well-done recent scientific surveys (approximately 15%). Despite its youth
(invented in the mid 1990s), the IAT has already been used to conduct research on many social attitudes
and beliefs. Nevertheless, it is the IAT's use to measure attitudes and stereotypes related to race that
has uniquely drawn controversy. The new meta-analysis, which summarizes research conducted during
the last 10 years, now resolves this controversy.

Instead of assessing attitudes and beliefs directly by asking for a statement of belief, the IAT
provides an "indirect" measure. The indirect measure is obtained by comparing response speeds in two
tasks that request rapid classification of images (for example, Black vs. White faces) and words (for
example, words with pleasant vs. unpleasant meaning). The IAT asks respondents to press one of two
keys on a computer keyboard. If you are noticeably faster when you must give the same response to
White faces and pleasant words than when giving the same response to Black faces and pleasant words,
you will be classified as having an automatic preference for White relative to Black.

This "implicit" type of measure contrasts with "explicit" (or self-report) measures of attitudes and
beliefs, which have long been the major type of race attitude measure in survey studies. Examples of
both types of measures are available, in multiple languages, on Project Implicit's Internet site
(http://implicit.harvard.edu/). Since the opening of that site in September, 1998, Project Implicit has
administered more than 10 million IATs to visitors.

The key *validity* question is: Are the IAT's findings of widespread preference for White relative to
Black scientifically valid or, alternately, are they uninteresting artifacts of the IAT's novel indirect
method. The meta-analytic review focused on a central aspect of this validity question: Do IAT
measures significantly *predict* social behavior, judgment, and decision making.

The meta-analytic review statistically analyzed and summarized findings of 99 published articles and
23 unpublished reports. In combination, these 122 reports included 184 research studies. Because 85
percent of these studies also included self-report (explicit) measures, it was possible to compare the
IAT's success in predicting social behavior and judgment with that achieved by explicit (self-report)
measures. In order of number of studies included, the review included studies in the domains of
consumer preferences (40), Black–White interracial behavior (32), personality differences (24), clinical
phenomena (19), alcohol and drug use (16), non-racial intergroup behavior (15), gender and sexual
orientation (15), close relationships (12), and political preferences (11).

Four observations were striking:

1. Across all nine domains and combined (statistically) across all 184 studies, IAT measures were
found to be useful predictors of social behavior and judgment. (Some examples of individual studies
are briefly summarized below.)

2. Both types of measure, IAT (implicit) and self-report (explicit), had "predictive validity"
independently of the other type. That is, both types of measure were useful and they were not
mere duplicates of one another. This suggests the desirability of using both types of measures in
surveys and applied research studies.

3. In several domains, especially consumer preferences and political preferences, IAT and self-report methods provided similar and highly correlated measures. In these domains, both types of measure — implicit and explicit — effectively predicted behavior, and explicit measures had greater predictive validity.

4. In the more socially sensitive domains of interracial and other intergroup behavior, IAT and self-report measures produced *dissimilar* measures that were only weakly correlated. This led to **the most significant finding of the meta-analysis**. In these socially sensitive domains, *IAT measures had significantly greater predictive validity than did explicit measures*.   This is the result that establishes the value of using IAT measures in research designed to explore roots of racial discrimination.

Examples of studies showing predictive validity of IAT measures

Interracial/Employment: **An IAT measure of race preference predicted discrimination in a simulated hiring study when the climate of the work situation suggested that management endorsed White race preference.**

Ziegert, J. C., & Hanges, P. J. (2005). Employment discrimination: The role of implicit attitudes, motivation, and a climate for racial bias. *Journal of Applied Psychology, 90,* 554-562.

Interracial/medical: **Emergency and GIM resident physicians' IAT-measured Black–White race preference predicted fewer recommendations for desirable thrombolysis treatment for Black than White myocardial infarction patients.**

Green, A.R., Carney, D.R., Pallin, D.J., Ngo, L.H., Raymond, K.L., Iezzoni, L.I., & Banaji, M.R. (2007). The presence of implicit bias in physicians and its prediction of thrombolysis decisions for black and white patients. *Journal of General Internal Medicine*, *22*, 1231–1238.

Interethnic/Employment: **An IAT measure of Swedish vs. Arab–Muslim ethnic preference correlated with hiring managers' bias in inviting Swedish vs. Arab–Muslim job applicants for job interviews.**

Rooth, D-O. (2009). Automatic associations and discrimination in hiring: Real world evidence. *Labour Economics*, in press.

Interracial/Political: **IAT-measured White race preference, assessed in the last week before the U.S. 2008 Presidential Election, significantly predicted intention to vote for John McCain, and did so independently of political conservatism.**

Greenwald, A. G., Smith, C. T., Sriram, N., Bar-Anan, Y., & Nosek, B. A. (in press). Race attitude measures predicted vote in the 2008 U. S. Presidential Election. *Analyses of Social Issues and Public Policy*.

Interracial/Social Behavior: **White college students whose IAT measures revealed stronger White racial preference had more negative social interactions with a Black than a White experimenter.**

McConnell, A. R., & Leibold, J. M. (2001). Relations among the Implicit Association Test, discriminatory behavior, and explicit measures of racial attitudes. *Journal of Experimental Social Psychology, 37*, 435-442.

Mental health: A suicide-ideation IAT differentiated among adolescents who were nonsuicidal, suicide ideators and suicide attempters.

Nock, M. K., & Banaji, M. R. (2007). Prediction of suicide ideation and attempts among adolescents using a brief performance-based test. *Journal of Consulting and Clinical Psychology*, *75*, 707–715.

Mental health: An IAT measure of phobic reactions to spiders differentiated spider-phobics from controls and also showed reduction in phobic associations following exposure therapy to treat the phobia.

Teachman, B., & Woody, S. (2003). Automatic processing in spider phobia: Implicit fear associations over the course of treatment. *Journal of Abnormal Psychology, 112,* 100–109.