2023 06 19 IAT Research Plan

Research plan to examine the reliability of implicit bias
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Background

The Implicit Association Test, IAT, came into being in the late 1990s, Greenwald et al. 1998. It is a visual and speed reaction test where the subject associates words and pictures. It purports to measure unconscious bias of some sort, e.g. race, gender, obesity, social status, etc.

IAT has become one of the most popular subjects of psychology research. A Google Scholar search on 19June2023 found over 40,000 papers with the words “Implicit Association Test” in the paper.

Several researchers have called into question the entire IAT scientific enterprise. There are two points of view. On one side, in favor of the IAT, are the originators of the test, Drs. Anthony Greenwald and Mahzarin Banaji, Greenwald et al. 2009. On the other side, calling the test into question, are Drs Philip E. Tetlock, Gregory Mitchell, Oswald et al. 2013, and Ulrich Schimmack 2019.

The IAT stands alone and by construction and declaration claims to measure what it is said to measure. For example, pictures of black and white faces along with words in a reaction time test are declared to measure unconscious racial bias and it is alleged that that bias is responsible for real-world behaviors/actions, Greenwald et al. 1998.

There are explicit questionnaires, instruments in the psychology trade, that measure racial bias. Then there are real-world behaviors/actions that might be driven by racial bias. For example, in a single paper used in a meta-analysis, researchers present results for the race IAT to medical professionals, explicit bias information, and real-world treatment decisions based on medical vignettes - given a medical situation, what would you do? Haider et al. 2014.

Evaluation Methods

There are three elements to the problem, the Implicit Association Test, Explicit questionnaires, and real-world actions, A, B, C. How reliable are each of these elements and what are the correlations amongst them?

Meta-analyses can be used to examine the consistency of an element and relationships. Our plan is to use p-value plots to evaluate the reliability of a meta-analysis (Young and Kindzierski 2019) of published studies using IAT. Briefly, a p-value plot is constructed by rank ordering p-values and plotting them against the integers:

- If the p-values are mostly less than 0.05 forming a flat line, there is evidence for a treatment effect.

- If they form a roughly 45-degree line suitably scaled, there is evidence for randomness (no effect).

- If the line is bilinear, the results are ambiguous.

Most of our work will be on examining meta-analyses of published studies using IAT. We also plan to examine and discuss informative single studies where there is evidence related to correlations among A, B, and C. For example, both the IAT and Explicit questionnaires purport to measure racial bias and so they should be correlated. Also, if racial bias is an important determinant of a real-world result, then they should be correlated with the real-world results.

Data availability

In the case of meta-analyses, we will use data from the published studies. We will make our analysis datasets public. In the case of single studies, we will ask the author for a copy of the analysis data set used in their study. Our experience is that data is usually not made available.

Initial Impression of likely results.

Our research hypothesis is that IAT results purporting to measure the same bias will be positive and consistent across studies. In this regard, we expect correlations of IAT with explicit and real-world results to be low in line with claims of Tetlock, Oswald et al. 2013, and Schimmack, 2019.

If the IAT is not correlated with explicit or real-world results, the validity of the IAT is called into question.

Key References

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