

Brand, T, C, & G - exp 1

(10) DOMAIN: A/1 = race, B/2 = ethnicity, C/3 = gender-sex, D/4 = food or drink

E/5 = other consumer, F/6 = political, G/7 = drugs or tobacco

H/8 = self esteem, I/9 = personality/self, K/10 = clinical

L/11 = relationships, M/12 = other? (not a tony category)

(11) BEHAVIOR: single=1, average=2

sub-brand IAT

(12) IAT TYPE: attitude=1, belief=2, self=3, not reported = 4

(13) EM TYPE: attitude=1, belief=2, self=3, not reported = 4

(14) OVERALL METHOD: not=0, observed=1

(15) METHOD: RepPast=1, future=2, emotion=3, judge=4, obs=5, neuro=6, other=7

(16) SCORE: millisecond=0, log=1, algorithm=2, NotReported=3

(17) words=0, pictures=1, NotReported=2

(18) number of IATs: 2

(19) IAT ORDER: NotReported=0, iatfirst=1, iatsecond=2, iatthird=3

(20) EXPLICIT ORDER: NotReported=0, explicitfirst=1, expsecond=2, explthird=3

(21) BEHAVIOR ORDER: NotReported=0, behfirst=1, behsecond=2, behthird=3

(22) IAT vs. behavior: NotReported=0, before=1, after=2, counter=3

(23) EXPLICIT vs. beh: NotReported=0, explicitfirst=1, expsecond=2, counter=3

(24) IAT SESSION: same=0, different=1

(25) EXPLICIT SESSION: same=0, different=1

(26) IAT SOCIAL DESIRABILITY 1-7

(27) EXPLICIT SOCIAL DESIRABILITY 1-7

(28) BEHAVIOR CONTROLLABLE: 1-10

(29) IAT SPECIFIC 1-7

(30) EXPLICIT SPECIFIC 1-7

(31) OPPOSITION 1-5

(32) RACIAL: 0=not, 1=racial

(33) type of iat: single=1, dual=2, personalized=3

see table 4 for breakdown & correlations

0.0605 (had a not rep (2) but could be 2 if cat as pic)

Updated once

110ⁿ

Implicit Measures of Marketing Constructs With the Implicit Association Test

Abstract

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This paper discusses the need for implicit measurements in marketing research, the shortcomings of current measures, and uses the Implicit Association Test (IAT) in a marketing context, specifically in the measurement of brand attitudes, brand relationships, and attitude toward the ad (Aad). First, Study 1 validates the IAT in a general marketing context and demonstrates significant correlations between explicit measures of brand attitudes, ownership, usage behavior, and IAT-based measures of implicit brand attitudes and brand relationship strength. In Study 2, IAT measures of implicit attitudes towards sportswear advertisements (implicit Aad) portraying African-American (black) and European-American (white) athlete-spokespersons revealed a more positive attitude towards ads with white spokespeople versus ads with black spokespeople, but explicit measures of Aad did not, confirming that when social desirability might be at play, implicit and explicit measures do not correlate. Together, these studies demonstrate that the IAT enhances understanding of consumer responses to marketing stimuli, particularly when consumers are either unable or unwilling to identify the sources of influence on their behaviors. Implications of this research are both theoretical and practical.

measuring the relative strength of the association between advertisements with spokespeople of different ethnicities and the valence attribute concept (pleasant vs. unpleasant).

Although explicit measures of brand attitudes, brand relationships, and Aad have already been developed, these measures are unable to capture an implicit construct that is, by definition an "introspectively unidentified (or inaccurately identified) trace of past experience" (Greenwald and Banaji 1995, p. 5). Unlike explicit measures, the IAT can be used to capture implicit constructs by measuring the relative strength of associations between target-concepts and attribute dimensions at the implicit level.

STUDY 1

Study 1 was designed to establish the effectiveness of the IAT as a measure of brand attitudes and strength of brand relationships. To do so we chose an uncontroversial topic, where implicit and explicit attitudes are expected to converge. Computer platforms, more specifically Macintosh by Apple (Mac) and PC (Microsoft Windows-based) machines, were chosen as the focal targets for this study of implicit attitudes and implicit brand relationships. We did not expect significant differences between explicit and implicit attitudes, since consumers should know their attitudes and lack motivation to disguise them, as computers are not considered a sensitive topic. This study was also designed to test the IAT as an instrument for measuring brand relationships, or the degree to which some brands are part of consumers' self-concept.

Procedure and Design

Fifty-six introductory psychology students participated in the study on a voluntary basis for extra course credit. For each participant, all data was collected during one experimental session lasting under one hour. All participants first completed a 3-page survey demographic, vision, and computer proficiency questions, explicit measures of Mac versus PC attitudes, computer ownership, and usage frequency. Even though prior research has demonstrated that the order of implicit versus explicit measures has inconsequential effects on the results (Greenwald and Farnham 2000), we selected the most conservative option and captured the explicit measures first because the IAT is less likely than explicit measures to be influenced by prior measures. Then, participants completed two IATs whose order was counterbalanced. One of the IATs measured implicit attitudes by using stimuli representing Macintosh and PC-based computers (the target-concepts) and pleasant and unpleasant words (the attribute dimension; see Figure 1).

19-25

FIGURE 1 ABOUT HERE

The other IAT measured implicit brand relationships by pairing the Mac and PC-related stimuli with words representing the concepts "self" and "other". Self-related words included "I", "me", "my", and "mine"; other-related words included "they", "them", "their", and "other". The first IAT consisted of 7 blocks with 32 trials during the practice blocks and 40 trials during the measured blocks. Each trial consisted of the presentation of a single stimulus item. The second IAT only required 6 blocks, since the block in Step 1 of Figure 1 was unnecessary for the IAT that was administered second because the Mac versus PC categorization had already been practiced and the key assignments remained unchanged for each subject.

Subjects were randomly assigned to one of eight counterbalanced task orders to accommodate three procedural factors (i.e., a 2x2x2 design): whether the brand attitude or brand relationship IAT was administered first, whether pleasant or unpleasant were initially assigned to

IAT
18
12
17
26
29
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the left or right key (in other words: presentation order of the favorable versus unfavorable attitude), and whether self or other were initially assigned to the left or right key.

Measures

During the IAT, the computer recorded participants' response latencies (in milliseconds) for the two measured blocks during the brand attitude and brand relationship IAT. Trial, block, and stimuli information and error rates were also recorded. Consistent with prior procedures and recommended guidelines established for the IAT (Greenwald and Farnham 2000; Greenwald, McGhee and Schwartz 1998), the first two trials in the measured blocks were dropped because they are typically longer; latencies longer than 3,000 ms were recoded to 3,000 ms, and latencies shorter than 300 ms were recoded as 300 ms. After the data transformations, the IAT effect was calculated as the difference in response latencies between the third and fifth step depicted in Figure 1. A pro-Mac implicit attitude effect occurred when a subject was quicker to categorize a stimulus when Mac and pleasant shared the same response key compared to when Mac and unpleasant shared the same key. A self-Mac implicit brand relationship effect occurred when a subject was quicker to categorize Mac and self together compared to Mac and other. Higher scores on the IAT effects described in this study indicate more favorable implicit attitude and brand relationship towards Macs relative to PCs.

Explicit attitudes toward Macs and PC were measured in the survey with a 5-item semantic differential scale, anchored by *good-bad*, *pleasant-unpleasant*, *inferior-superior*, *unsatisfactory-satisfactory*, and *favorable-unfavorable* ($\alpha = .90$ for both Mac and PC scales). Two ownership measures (Mac and PC) asked subjects to indicate how many computers of each type they owned. For each brand, usage frequency was measured with semantic differential scales anchored by *not at all-very frequently*.

Participants' scores on the explicit attitude, ownership, and usage measures for PCs were subtracted from their Macintosh scores to generate a relative measure of Mac versus PC tendencies. Consistent with the IAT effect, higher scores on these measures indicated a greater preference for Macs versus PCs.

Results

Initial analyses tested the effects of the counterbalancing factors (e.g., order of the two IATs), and none of these factors had a significant effect on the IAT results. These findings are consistent with prior studies using the IAT demonstrating the robustness of the IAT across several procedural variations (Greenwald, McGhee and Schwartz 1998; Greenwald and Nosek 2001). Therefore, the analysis that follows is collapsed across the eight procedural conditions. The focal analysis of this study is the degree to which the explicit measures of brand attitudes, ownership, and usage correlated with IAT-based measures of implicit brand attitudes and brand relationship. Table 1 illustrates that all of the explicit difference measures were significantly and strongly correlated with the IAT-based measures. Further, we show that in this context where we do not expect subjects to hide their true beliefs, the explicit brand attitudes and the implicit attitudes are strongly correlated ($r = .504$, $p < .01$), thereby validating the IAT for brand evaluation.

Table 1 ABOUT HERE

Further analysis of the explicit difference scores was conducted to see how well the IAT-based measures differentiated between respondents who definitively favored Macs or PCs. To do this, the explicit difference scores for attitudes, ownership, and usage were dummy-coded. Participants who had reported more favorable Mac-related explicit attitudes, ownership, or usage

Explicit
Behaviors
11 (14)
15
27

16

13
28
30
no diff score