IMPLICIT RACIAL ATTITUDES AND THEIR RELATIONSHIPS WITH EXPLICIT PERSONAL AND CULTURAL BELIEFS: WHAT PERSONALIZED AND TRADITIONAL IATs MEASURE

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ABSTRACT

The present study explores the relationships between the traditional race-IAT (Greenwald & al., 1998), the personalized race-IAT (Olson & Fazio, 2004), and the explicit personal and cultural-normative racial beliefs. Both IATs were significantly and positively correlated with personal and cultural-normative racial beliefs. Importantly, while the personalized IAT was a robust predictor of personal beliefs, the traditional IAT was contaminated by cultural-normative beliefs. Finally, only the personalized IAT was significantly related to a robust social-psychological determinant of racial prejudice: relative deprivation. Implications of these results are discussed.

INTRODUCTION

A substantial number of studies have now documented the possibility to assess prejudice outside of the individual's control and awareness (e.g. Wittenbrink, Judd, & Park, 2001). According to Wilson, Lindsey and Schooler (2000), implicit attitudes are assumed to operate in an unconscious mode reflecting an automatic mental process. In parallel with this theoretical focus on automatic processes, implicit measures have been developed to tap into those processes. Research demonstrated their ability to predict different criteria such as social judgment (e.g., Florack, Scarabis, & Hess, 2001) or food choice (e.g., Richetin, Perugini, Prestwich, & O'Gorman, 2007). However, what implicit measures assess remains largely unclear and controversial (e.g., De Houwer, 2006).

Traditionally, two main approaches have been proposed in order to explain the distinctions and similarities between implicit and explicit measures of prejudice. The first approach, traditionally labeled the "dissociation approach" posits that implicit and explicit measures assess different constructs in memory. This approach has been originally proposed by Devine (1989). Specifically, Devine (1989) suggested that implicit measures of prejudice assess socially learned and culturally-shared prejudices, while explicit measures reflect more deliberative or controlled processes and essentially assess personal beliefs. Similarly, Berdik, Wax and Tetlock (2007) argue that most white Americans are aware of the negative stereotypes of African-Americans that exist in American Society, even though they may not believe those prejudices to be true. So the reaction times of white Americans on the Implicit Association Test (IAT) are likely to reflect their knowledge of these negative beliefs, rather than true racial prejudice. Rudman (2004) acknowledged the possibility "that implicit attitudes are more influenced by one's cultural milieu than explicit attitudes are (p. 80).

The second competitive explanation mainly consists in the "same construct approach" (e.g., Brauer, Wasel & Niedenthal, 2000; Dambrun & Guimond, 2004). Contrary to the dissociation approach, this approach postulates that both measures assess distinct processes (i.e. relatively automatic vs. controlled) of a similar construct in memory. While implicit measures would provide automatically activated information from memory, explicit ones would be more sensitive to social desirability (e.g., Dambrun & Guimond, 2004; Dunton & Fazio, 1997; Fazio & Towles-Schwen, 1999), memory accessibility (Greenwald & al., 2002; Nisbett & Wilson, 1977), and both cognitive resources and motivation (e.g. Fazio, Jackson, Dunton, & Williams, 1995; Akrami & Ekehammar, 2005). Consistent with this view, the MODE model (e.g. Fazio, 1990) proposes that: "what is automatically activated from memory is not necessarily some socially shared cultural stereotype, but personal evaluation – attitudes" (Fazio & Towles-Schwen, 1999, p. 104). To sum up, while the dissociation approach predicts that implicit measures assess culturally-shared beliefs, the same construct approach predicts that such measure is a better predictor of automatic personal attitude. In order to determine which of these two approaches would be more appropriate theoretically and empirically, it is necessary to measure both personal and cultural-normative beliefs and to examine which of these two psychological constructs best predict implicit beliefs.

It is now well documented that personal and cultural-normative beliefs share a common part of variance (e.g., Gordijn, Koomen, & Stapel, 2001; Judd, Park, Yzerbyt, Gordijn, & Muller, 2005;

Krueger, 1996). For example, Gordijn et al. (2001) found strong relationships between the level of personal prejudice and perception of cultural stereotypes. High-prejudiced people believed that the cultural stereotypes of Moroccan and Surinamese people in the Netherlands are more negative and less positive in content than low-prejudiced people did. Similarly, Guimond, Dambrun, Michinov and Duarte (2003) found strong relationships between cultural-normative and personal prejudices toward Arabs in France. The more French participants perceived that other French citizens were prejudiced toward Arabs, the more they were personally prejudiced. While many research report a modest but positive and significant relationship between implicit and explicit prejudice (e.g., Hofmann, Gawronski, Gschwendner, Le, & Schmitt, 2005), to our knowledge there is no existing study examining the relationship between implicit prejudice and cultural-normative beliefs. Because both cultural and personal prejudice share a common part of variance, it seems relevant to examine which of these two constructs best predict implicit prejudice. According to the "dissociation model", cultural-normative prejudice should be the more robust predictor of implicit prejudice. To the contrary, according to the "same construct approach", we should observe a more robust relationship between personal and implicit prejudice than between cultural and implicit prejudice. We set out to test these alternative hypotheses by including in our design two implicit measures of prejudice: the traditional race-IAT (Greenwald, McGhee & Schwartz, 1998) and the personalized race-IAT (Olson & Fazio, 2004).

Recent empirical findings (Olson & Fazio, 2004) demonstrate that the traditional race-IAT is contaminated by extrapersonal associations. These attitude-irrelevant associations are defined as "associations that are available in memory but are irrelevant to the perceived likelihood of personally experiencing positive and negative outcomes upon interacting with the attitude object" (Olson & Fazio, 2004, p. 653; see also Karpinski & Hilton, 2001). Han, Olson and Fazio (2006) provide an experimental demonstration. Specifically, they show that experimentally created extrapersonal associations significantly reduced IAT scores but did not influence a subliminal priming measure, nor a personalized version of the IAT. Basically, the traditional IAT and the personalized one have three main differences (see Olson & Fazio, 2004). First, because the stimulus targets used in the traditional IAT are typically portrayed as either normatively positive or negative, they have been replaced by items for which there is little consensus and that reflect personalized preferences. Consistently, the labels "pleasant" and "unpleasant" have been replaced by the labels "I like" and "I don't like." Finally, because the error feedback certainly suggests that there is a normatively correct response, it has been suppressed. Supporting the usefulness of such a decontamination procedure, Olson and Fazio (2004) found stronger relationships between the personalized IAT and explicit measures than between the traditional IAT and the same explicit measures. By incorporating both IATs we intend to examine whether they are contaminated by cultural-normative beliefs. In line with Olson and Fazio's works, we predict that the personalized IAT should be less contaminated by cultural-normative beliefs than the traditional IAT that is supposed to be contaminated by several normative biases.

Finally, always with the aim to examine what implicit measures assess and what both traditional and personalized IATs measure, we include in our design a measure of a *predictor* of personal prejudice: collective relative deprivation. Most research in the field has examined the relationship between implicit measure and some classic dependent measures such as attitudes or behaviors. However, looking at the relation between implicit prejudice and some important

known predictor of personal prejudice could provide both a new understanding of what implicit measure of prejudice assess and a new avenue for research. Given that collective relative deprivation is known as one of the best social-psychological determinants of personal prejudice (Brewer & Brown, 1998; see also Dambrun, Taylor, McDonald, Crush, & Méot, 2006), we explore the relationships between collective relative deprivation and the two race-IATs.

METHOD

Participants

Fifty-five first-year undergraduates (51 women, *M* age = 18.79, *SD* = 1.02) from Blaise Pascal University (France) took part to the study. All of them were from French origin and received course credit for their participation.

Materials and Procedure

The IAT was introduced as a "categorization task" in which participants would have to categorize a series of items that would appear on the computer screen. Participants completed the two IATs sequentially. The order of the IATs was randomly counterbalanced (i.e., traditional IAT first vs. personalized IAT first). We followed the procedure implemented by Greenwald et al. (1998) for the traditional IAT, and the one implemented by Olson and Fazio (2004) for the personalized IAT. On a given trial, a stimulus word appeared in the center of the screen, and the participant had to categorize it by selecting and pressing a corresponding key on the keyboard. Each block was preceded by a set of instructions. The first block consisted of the categorization of French (e.g., Nicolas) and Arab (e.g., Rachid) names. The second block consisted of the categorization of words. In the traditional IAT, the classification of the words was done according to their pleasant (i.e. love) or unpleasant (i.e. death) dimension. In the personalized IAT, the key responses were labeled "I like" and "I don't like". The discrimination task was described as involving "things you might like or dislike". Importantly, the items had no clear normative evaluation and a large degree of variability in personal evaluation (e.g. coffee, television, beer, etc). The idiosyncratic items selected by Olson and Fazio were adapted to the French context. Moreover, in the traditional IAT, errors were followed by a red X presented in the center of the screen remaining on the screen until the correct response was given whereas no error feedback was presented in the personalized version. The third block was the first critical combined block, where French names were associated with positive attributes (pleasant or I like) and Arab names were associated with negative attributes (unpleasant or I dislike). Like in the first block, the fourth block consisted of the categorization of French and Arab names but in this case, the key responses were reversed. Finally, participants completed the second critical combined block, identical to block three, with the exception that the pairing was now reversed: French names were associated with negative attributes whereas Arab names were associated with positive attributes. Both order of the critical combined block and key responses were randomly counterbalanced (i.e., French + Positive vs. Negative attributes first, and left key vs. right key for positive, respectively).

After the IAT session, participants completed several explicit measures. All measures used 7-point rating scales (from 1= strongly disagree to 7 = strongly agree). The questionnaire included

two measures of personal prejudice (i.e., a measure of personal prejudice toward Arabs and a measure of personal negative emotions toward Arabs), two measures of cultural-normative prejudice (i.e., a measure of cultural-normative prejudice toward Arabs and a measure of cultural-normative negative emotions toward Arabs), and a measure of collective relative deprivation. Half of the participants completed the personal beliefs scales first, while the other half of the participants completed the cultural-normative beliefs scales first. The measure of personal prejudice toward Arabs was an 8-item scale, developed in previous research (Dambrun, 2007). This scale included four positive statements and four negative statements. Positive statements were reverse-coded so that higher scores on this scale indicated greater prejudice (M = 3.30; SD = .96). The internal consistency of this scale was satisfactory (α = .74). The measure of negative emotions toward Arabs consisted of eight items (4 positive and 4 negative; e.g. "I feel a negative emotion when I think about Arabs"). Higher scores on this scale reflected greater negative emotions towards Arabs (M = 3.20; SD = 1.02). The internal consistency of this scale was satisfactory (α = .85). To measure cultural-normative beliefs, we followed the procedure implemented by Prentice and Miller (1993; see also Dambrun, Guimond & Duarte, 2002). Participants indicated the position of most other French citizens on the eight items of the racial prejudice scale (M = 4.54; SD = .85) and on the eight items of the negative racial emotions scale (e.g., "Most French feel a strong hostility towards Arabs." M = 4.81; SD = 1.02). The internal consistencies of the cultural-normative prejudice and cultural-normative negative emotions scales were adequate (α = .72, α = .89, respectively). Then, participants reported their level of collective relative deprivation on a single item (i.e., "In France, compared to Arabs, I find that French are unfairly treated"). Finally, participants were fully debriefed and thanked.

RESULTS

Similarly to Olson and Fazio (2004), IAT scores were computed according to the two main existing algorithms: the conventional 1998 scoring algorithm (Greenwald et al., 1998) and the modified 2003 scoring algorithm (Greenwald, Nosek & Banaji, 2003).

Effects of IAT Version

A repeated analysis of variance revealed that, whatever the scoring algorithm was, the participants displayed a significantly higher level of implicit prejudice on the traditional IAT than on the personalized IAT (see Table 1; conventional 1998 scoring algorithm, t = 5.73, p < .001; modified 2003 scoring algorithm, t = 6.72, p < .001). However, as shown in Table 1, the two IATs revealed a significant level of implicit prejudice toward Arabs. The magnitude of this effect was larger with the traditional IAT (around 79 percent of explained variance) than with the personalized one (56 percent of explained variance).

Table 1. **Descriptive Data and Tests for Each IAT**

	Mean	SD	t	η^2
Traditional IAT (Greenwald, Schwartz, & McGhee, 1998)				
Conventional 1998 scoring algorithm	.148	.080	13.17***	.77
Modified 2003 scoring algorithm	.730	.351	14.58***	.80
Personalized IAT (Olson & Fazio, 2004)				
Conventional 1998 scoring algorithm	.074	.067	7.94***	.56
Modified 2003 scoring algorithm	.359	.321	7.94***	.56

Note: *** $p < .001$

Correlations between the Traditional IAT and the Personalized IAT

In order to determine the shared variance between the two IATs, we examined their inter-correlations. Using the conventional 1998 scoring algorithm, we found a marginal relation between the two IATs ($r = .26$, $p < .07$, $r^2 = .07$). However, using the modified 2003 scoring algorithm, we found a moderate but significant relationship between the traditional and the personalized IAT ($r = .33$, $p < .02$, $r^2 = .11$). The two measures shared a small part of variance varying from 7 to 11 percent.

Relationships between Explicit Personal and Cultural-Normative Beliefs, and the Two IATs

Explicit Personal Beliefs

To examine the relationships between personal beliefs and the two IATs, we calculated the correlations between these variables. The two IATs were positively and significantly correlated with the two measures of personal prejudice toward Arabs (see Table 2). However, while the differences were not statistically significant, the size of the correlations tended to be larger with the personalized IAT and the conventional 1998 scoring algorithm than with the traditional IAT and the modified 2003 scoring algorithm [1].

Because the two IATs were significantly correlated with each other and because both correlated with personal prejudice, it was important to determine the respective effect of each IAT. Thus, we performed a series of regression analyses with the two IATs as independent variables and the measure of personal beliefs as a dependent variable. Because the two explicit measures of personal prejudice were highly correlated ($r = .73$, $p < .001$), we computed them in a single score ($\alpha = .88$). Using the conventional 1998 scoring algorithm, when controlling for the traditional

IAT, the effect of the personalized IAT on explicit personal prejudice still remained significant ($\beta = .39$, $t = 2.80$, $p < .007$). However, controlling for the personalized IAT, the effect of the traditional IAT on explicit personal prejudice disappeared ($\beta = .10$, $t < 1$, $p = .47$). Similarly, using the modified 2003 scoring algorithm, when controlling for the traditional IAT, the effect of the personalized IAT on explicit personal prejudice still remained marginally significant ($\beta = .27$, $t = 1.83$, $p < .07$), while controlling for the personalized IAT, the effect of the traditional IAT on explicit personal prejudice disappeared ($\beta = .10$, $t < 1$, $p = .49$). Thus, the personalized IAT appeared as a better predictor of explicit personal beliefs than the traditional IAT.

Table 2. Correlations between Explicit Personal and Cultural-Normative Beliefs, and the Two IATs

		Personalized IAT		Traditional IAT	
	α	Conventional 1998 scoring algorithm	Modified 2003 scoring algorithm	Conventional 1998 scoring algorithm	Modified 2003 scoring algorithm
Personal beliefs					
Personal racial prejudice	.74	.38**	.30*	.29*	.26+
Personal racial negative emotions	.85	.39**	.28*	.18	.23+
Cultural-normative beliefs					
Cultural racial prejudice	.72	.28*	.21	.22	.18
Cultural racial negative emotions	.89	.29*	.23	.25*	.19

Note: ** $p < .01$; * $p < .05$; + $p < .10$

Explicit Cultural-Normative Beliefs

Using the conventional 1998 scoring algorithm, the two IATs were positively and significantly correlated with the two measures of cultural-normative prejudice toward Arabs. The same correlations with the modified 2003 scoring algorithm did not reach the statistical level of significance. In order to determine the respective effect of the two IATs, we performed a regression analysis. Because the two explicit measures of cultural-normative prejudice were highly correlated ($r = .75$, $p < .001$), we computed them in a single score ($\alpha = .89$). Using the conventional 1998 scoring algorithm, when controlling for the traditional IAT, the effect of the personalized IAT on explicit cultural-normative prejudice still remained marginally significant ($\beta = .27$, $t = 1.87$, $p < .07$). When controlling for the personalized IAT, the effect of the traditional IAT on explicit cultural-normative prejudice became non-significant ($\beta = .15$, $t = 1.02$, $p = .31$).

Do the IATs Measure Personal or Cultural-Normative Beliefs?

In order to answer this important question, we performed a series of regression analyses for each IAT taken separately. Both computed measures of explicit personal and cultural-normative beliefs were entered as independent variables. Because only the conventional 1998 scoring algorithm was correlated significantly with both explicit personal and cultural-normative beliefs, we used it as a dependent variable.

Personalized IAT. As shown in Figure 1A, when controlling for cultural-normative beliefs, the effect of personal beliefs on the personalized IAT still remained significant ($\beta = .35$, $t = 2.55$, $p < .014$). Second, when controlling for personal beliefs, the effect of cultural-normative beliefs vanished ($\beta = .19$, $t = 1.4$, $p < .17$).

Traditional IAT. As Figure 1B shows, when controlling for cultural-normative beliefs, the effect of personal beliefs on the traditional IAT became non-significant ($\beta = .18$, $t = 1.27$, $p < .21$). Similarly, when controlling for personal beliefs, the effect of cultural-normative beliefs disappeared ($\beta = .19$, $t = 1.28$, $p < .21$).

Figure 1. **Do Personalized IAT (1A) and Traditional IAT (1B) Measure Personal or Cultural-Normative Beliefs?**
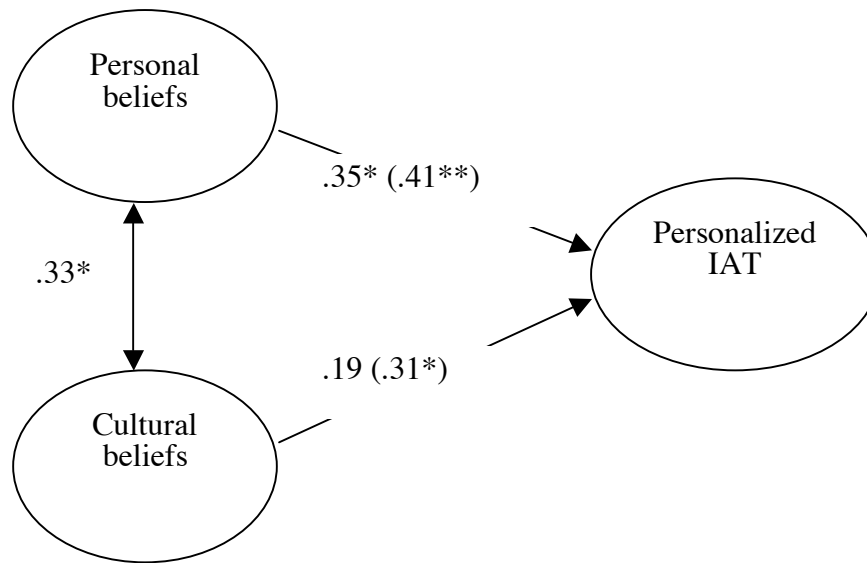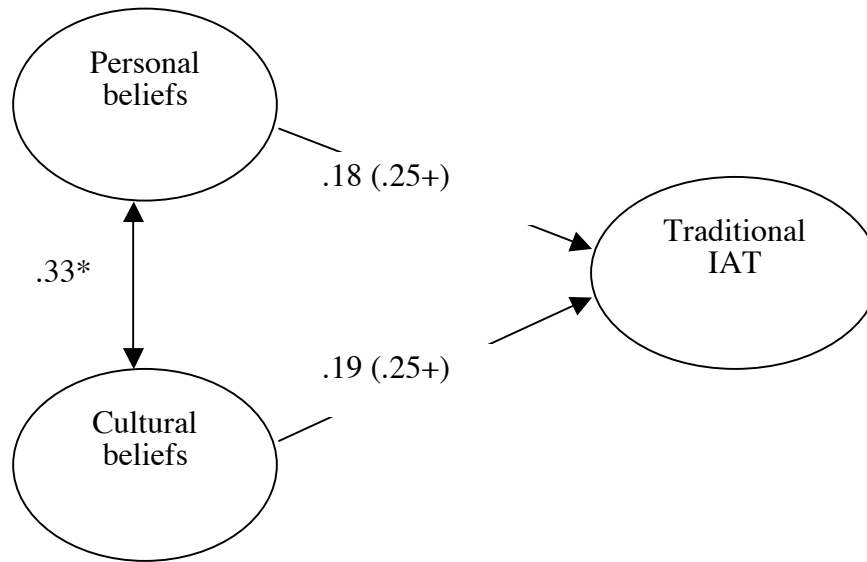
Figure 1A

Figure 1B

Relationships between Collective Relative Deprivation and the Two IATs

To examine the relationships between collective relative deprivation and the two IATs, we first calculated the bivariate correlations between these measures and then we calculated the partial correlations for each IAT version controlling for the other version. The results are presented in Table 3. Partial correlations are in italic and simple bivariate correlations are into brackets. Interestingly, a robust relation was found between the measure of collective relative deprivation and the personalized IAT. When controlling for the traditional IAT, the relationship between relative deprivation and the personalized IAT still remained significant. The same relationship with the traditional IAT vanished when the personalized IAT was statistically controlled for.

Table 3. Correlations and Partial Correlations between Collective Relative Deprivation and the Two IATs

	Personalized IAT		Traditional IAT	
	Conventional 1998 scoring algorithm	Modified 2003 scoring algorithm	Conventional 1998 scoring algorithm	Modified 2003 scoring algorithm
Collective Relative Deprivation	*.29** (.31*)	*.31** (.35*)	*.15* (.25+)	*.11* (.24+)

Note: Simple bivariate correlations are presented into brackets and partial correlations are presented in italic. Partial correlations provide the relationship for one version of the IAT controlling for the other version. * $p < .05$; + p $< .10$

DISCUSSION

While the "dissociation model" mainly predicts that implicit measures of prejudice assess socially learned and cultural-normative beliefs, the "same construct approach" suggests that implicit measures assess automatically activated personal beliefs. The main goal of the present study was to test these two theoretical propositions. By examining the relationships between two race-IATs and both personal and cultural racial beliefs, we found stronger support for the same construct approach than for the dissociation approach. First, both IATs were positively and significantly related to personal beliefs measures. The more the participants automatically activated negativity against Arabs, the more they were prejudiced at the explicit level. We also found modest but significant relationships between implicit prejudice and cultural-normative beliefs. Interestingly, the more the participants believed that Arabs are negatively perceived in the French society, the more they activated negativity against them. Thus, at this point, the results fit well with the two theoretical approaches. However, additional statistical analyses reveal another picture. Specifically, using multiple regression analyses, we were able to determine the respective relationships between implicit and explicit measures. Using the personalized IAT developed by Olson and Fazio (2004), we found a more robust relationship between personal prejudice and implicit prejudice than between cultural-normative prejudice and implicit prejudice. Controlling for cultural beliefs, the relationship between personal and implicit prejudice still remained significant. But, controlling for personal prejudice, the cultural/implicit prejudice relationship vanished. Thus, contrary to the dissociation approach, the personalized IAT was a better predictor of personal prejudice than of cultural-normative prejudice. The results obtained with the traditional IAT are less clear. In fact, controlling for cultural beliefs the personal/implicit prejudice relationship disappeared. Similarly, controlling for personal prejudice, the relationship between cultural and implicit prejudice also vanished. In our view, results of the present study provide additional evidence for the contamination of the traditional IAT. These results are very consistent with those of Olson and Fazio (2004). As previously noted, several characteristics of the traditional IAT clearly involve both normative and consensus responses. Therefore it is not so surprising that controlling for the measure of cultural-normative beliefs, the relationship between personal beliefs and the traditional race-IAT disappeared. At this point, it is very difficult to know what is measured by the traditional IAT, perhaps a mix of both personal and cultural beliefs. A recent research by Perugini, O'Gorman, & Prestwich (2007) reveals that activation of the self before the IAT enhances its predictive validity. The relationships between the IAT and self-report measures in various contexts were stronger after a procedure of self-activation than without such a procedure. Thus, by increasing the salience of the self before the traditional IAT (Perugini & al., 2007) or during the IAT (i.e. personalized IAT; Olson & Fazio, 2004), it seems possible to assess personal automatic attitudes. In conclusion, the personalized IAT seems to be a more recommendable measure of implicit personal prejudice than the traditional IAT.

Interestingly, the exploratory study of the relationship between implicit prejudice and a robust social-psychological determinant of racial prejudice, namely collective relative deprivation, provides convergent findings. Similarly to what we found with personal prejudice, only the personalized IAT was significantly related to the measure of collective relative deprivation. The more the participants felt deprived at the collective level, the more they automatically activated negativity against Arabs on the personalized IAT. This was not the case using the traditional

IAT. It is reassuring that one of the main determinants of explicit racial prejudice was significantly related to a measure of implicit prejudice. This implies that implicit measures are not fancy instruments but reliable measures that are able to tap into relatively automatic personal attitudes. Under this view, implicit measures seem to offer promising development.

ENDNOTE

[1] Interestingly, using the personalized IAT, the conventional 1998 scoring algorithm was found to be a more robust predictor of personal beliefs than the modified 2003 scoring algorithm. More specifically, when controlling for the conventional 1998 scoring algorithm, the relationship between personal beliefs and the modified 2003 scoring algorithm became non significant ($p = .13$). This was not the case when the modified scoring algorithm was statistically controlled for: the relationship between the conventional algorithm and the measure of personal prejudice still remained significant ($p < .01$).

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