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pg 2

Pg 2

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ES or page 6:

ES or for therm,
- .09 (w) for PAS
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26 SD-I 5 11

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27 SD-E 5, pg 2

(28) control = 9, p 2

(27) I-spec - 4 1P9 2

30) E-spec-4, p. 2

30) $E = \text{sp}$

31) opp

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31 opp

(32) not (0)

33 dual (2)

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Implicit and Explicit Measures of Age Prejudice: Predictions for Behavior

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Abstract

This study examined relationships between explicit and implicit prejudice by administering implicit and explicit measures of ageism to college students. We hypothesized that participants would express low levels of explicit prejudice but higher levels of implicit prejudice and that these two types of prejudice would be unrelated. Additionally, we expected that both explicit and implicit attitudes would predict behavior but under different circumstances. Weeks after responding to the attitude measures, participants were contacted by a confederate on an ostensibly unrelated matter and asked to volunteer with the elderly. To examine the possibility that explicit and implicit attitudes affect behavior under different conditions, half of the participants received this request with cognitive reasons why they should volunteer while half received this request accompanied by affective reasons. We expected the cognitive prime to activate the explicit less prejudiced attitude, facilitating volunteering, while the affective prime would activate the prejudiced implicit attitude, lowering volunteering. As expected, explicit and implicit measures were unrelated. Only one attitude measure predicted volunteering; individuals with warmer explicit feelings towards the elderly were more likely to volunteer. While the cognitive and affective primes had no effect on volunteering, it is unclear if this was due to the failure of the model or to overall low levels of volunteering. Our results suggest that implicit and explicit prejudice are best conceptualized separately. While only our explicit ageism measure predicted volunteering, we suggest that implicit ageism may predict other types of behavior and propose further research on conceptualizing attitude-behavior processes and ageism.

Introduction

Historically, the most common method for detecting prejudiced attitudes has been the use of explicit questionnaires, yet there is evidence to suggest that implicit, reaction time measures tests may be superior. Some researchers suggest that implicit measures are better at predicting prejudiced behavior (e.g., McConnell & Leibold, 2001) but others demonstrate that explicit measures are more predictive (e.g., Karpinski & Hilton, 2001). These findings have led many to hypothesize that there are two forms of prejudice, implicit and explicit, that will be activated under different circumstances.

To examine this hypothesis, we examined the relationship between explicit and implicit forms of prejudice by administering one implicit and two explicit measures of ageism to college students. We hypothesized that participants would express low levels of explicit prejudice but higher levels of implicit prejudice. We expected that these two types of prejudice would be unrelated. We also hypothesized that both explicit and

implicit attitudes could be activated and thus, predictive of behavior, under different circumstances. To examine the possibility that explicit and implicit attitudes affect behavior under different circumstances, half of the participants received the request along with cognitive reasons why they should volunteer while half received a similar request accompanied by affective reasons why they should volunteer. We hypothesized that the cognitive prime would activate the explicit, less prejudiced, attitude, thereby facilitating volunteering; and that the affective prime would activate the more prejudiced implicit attitude, lowering the level of volunteering.

Methods

Participants completed an 8-page questionnaire containing two Feeling Thermometers, the Fraboni Ageism Scale (Fraboni, Saltstone, & Hughes, 1990), and a demographic questionnaire followed by the Implicit Association Test (Greenwald, McGhee, & Schwartz, 1998). One to two weeks after completion of the laboratory session, a confederate called each participant and identified herself as a student working for an assisted living home for the elderly seeking other students to volunteer a small amount of time. Participants heard either an "affective" solicitation or a "cognitive" solicitation. Participants in the "affective" condition were addressed by their first name and given information about the emotional state of the residents of the assisted living facility. They were also given information regarding the emotional benefits of volunteering. Participants in the "cognitive" condition were addressed by their last name and given information and incentives designed to be informative and appealing, but not emotional. Participants were asked if they had any interest in volunteering and if so, if they were willing to commit to between 1 and 12 hours over the course of one semester.

Results

On the Fraboni Ageism Scale, participants expressed very mild prejudice against the elderly on questions about discrimination, antipathy, and avoidance (see Table 1). Scores on the Implicit Association Test revealed that participants took a longer amount of time to pair old faces with positive words than young faces with the same words. There was no relationship observed between the FAS and the IAT. As seen in Table 2, there was a significant relationship between the FAS and the Elderly Feeling Thermometer such that higher scores on the Elderly Feeling Thermometer were associated with lower scores on the FAS.

As seen in Table 3, very few participants indicated that they would commit time to volunteer. Participants who indicated warm feelings towards the elderly on the Feeling Thermometer were more likely to respond affirmatively that they would be willing to volunteer with the elderly than participants with colder feelings towards the elderly. Neither the FAS nor the IAT predicted volunteering behavior. The cognitive and affective primes had no effect on participant's willingness to volunteer time with the elderly, their attempts to justify their unwillingness to volunteer, or their requests for more information about possible volunteer options. In addition to failing to be predictive of behavior, the IAT and the FAS showed no relationship with the prime.

Table 2: Correlation Matrix for all Prejudice Measures

	1	2	3	4	5	6	7
1 - Elderly Feeling Thermometer	-						
2 - Young Feeling Thermometer	.31 *	-					
3 - Thermometer Difference Score	.53 **	-.64 **	-				
4 - FAS Factor 1 (antipathy)	-.30 *	-.07	-.18	-			
5 - FAS Factor 2 (avoidance)	-.38 **	-.43 **	.08	.52 **	-		
6 - FAS Factor 3 (discrimination)	-.47 **	-.02	-.36 *	.38 **	.56 **	-	
7 - FAS Total Score	-.50 **	-.19	-.22	.76 **	.83 **	.83 **	-
8 - D - IAT Effect Score	-.14 **	-.03	-.09	.05	-.01	-.04	-.00

* - Correlation is significant at the .01 level (2-tailed).

** - Correlation is significant at the .001 level (2-tailed).

Brochu & Morrison

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Beh = person perception fat/thr, p 10
behavioral intentions n fat/thr

EM = AFAS, p 10

IAT = fat-thr att w/ male pics
fat-thr att w/ female pics

(10) unclear - dem (m) 12/M, p 12

(11) avg (2), p 10

(12) att (1), p 11

(13) att (1), p 10

(14) not (0), p 10

(15) judge (4) for person, future (2) for intentions, p 10

(16) alg (2) p 12

(17) pics (2), p 11

(18) 2 IATs, p 11

(19) 0, p 12

(20) 0, p 12

(21) 3 (count), p 12

(22) 3 (count), p 12

(23) sum (0), p 12

(24) sum (0), p 12

(25) sum (0), p 12

ICCS, ECLS, IES or page 30/15
interpretation unclear
R = right direction
W = wrong direction

(26) I-SD: S.S, p 11

(27) E-SD: S.S, p 10

(28) (person) 10 (intent), p 10

(29) 2.S, p 10 + 11

(30) 2.S, p 10-11

(31) 1.S, p 11

(32) not (0), p 2

(33) and (2), p 11

DONE

pos = right dent

ICCs

avg weight: $N=39$

PPT pos .22

PPT neg .02

BTI .21

over: $N=37$

PPT pos .09

PPT neg .33*

BTI -.17

ECCs

avg: $N=39$

PPT pos -.20

PPT neg -.11

BTI -.45**

over: PPT pos .23

$N=37$ PPT neg .53

BTI .58

IE

avg weight: .21 $N=39$

over weight: .10 $N=37$

Abstract

This study examined prejudice toward overweight men and women via explicit and implicit methodologies. Seventy-six participants indicated their perceptions, attitudes, behavioural intentions, and implicit associations toward an average weight or overweight male or female. Results indicated the presence of explicit and implicit anti-fat prejudice, with males evidencing greater negativity toward overweight targets. A series of ANCOVAs indicated that overweight targets were the recipients of greater derogation in comparison to their average weight counterparts. Thus, prejudice based on weight status and gender were, for the most part, equally apportioned and comparable in negativity. With one exception, no significant relationships emerged between the explicit and implicit measures of weight bias. Limitations of the study and implications for future research are discussed.

Key words: stereotypes; prejudice; discrimination; weight bias; Implicit Association Test

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Measures and Design

Participants completed a questionnaire that included the Person Perception Task (PPT), Behavioural Intentions Index (BII), and Anti-fat Attitudes Scale (AFAS). The Implicit Association Test (IAT) was completed on a computer.

Person Perception Task (PPT). The PPT was the first explicit measure presented. Participants were given a description of a target who was either male or female and of average weight or overweight. Participants were asked to rate this person on twelve 7-point Likert-type rating scales (*1 = strongly disagree to 7 = strongly agree*) indicating the extent to which they agreed that the person had the following positive (*attractive, friendly, goal-oriented, happy, hard-working, intelligent*) and negative (*inactive, lazy, sloppy, undisciplined, unhealthy, unpopular*) attributes. These positive and negative attributes were selected after a thorough review of the empirical anti-fat prejudice literature. The positive and negative items were separately summed, creating two indices (PPTpos and PPTneg). The PPTpos and PPTneg scores ranged from 6 to 42, with higher scores indicating stronger ascriptions of positive traits (or negative traits) toward the target. In the current study, the PPTpos and PPTneg scales showed satisfactory scale score reliability ($\alpha = .61$ and $.68$, respectively).

Behavioural Intentions Index (BII). Following the PPT, participants were asked 5 questions designed to assess the extent to which subjects would seek to socially interact with the target. These five items were: *How likely is it that you would: (1) want to get to know Daniel (Denise) Olson better?, (2) ask Daniel (Denise) Olson if you could copy his (her) notes from a class you missed?, (3) want to work on a class project with Daniel (Denise) Olson?, (4) invite Daniel (Denise) Olson to a study group for a Psychology exam?, and (5) want to become friends with Daniel (Denise) Olson?* Participants responded to each question using a 7-point Likert-type rating scale (*1 = very unlikely to 7 = very likely*). Scores ranged from 5 to 35, with higher scores indicating greater likelihood that the participant was favourably inclined to engage in social interaction with the target. Cronbach's alpha for this scale was $.86$.

Anti-fat Attitudes Scale (AFAS; Morrison & O'Connor, 1999). Following the BII, participants were presented with the unidimensional AFAS, which consists of 5 items (e.g., *"It is disgusting when a fat person wears a bathing suit at the beach"*) that measure explicit anti-fat attitudes. Participants indicated how much they agreed with each statement on a 7-point Likert-type rating scale (*1 = strongly disagree to 7 = strongly agree*). Scores ranged from 5 to 35, with higher scores indicating more negative attitudes toward overweight individuals. Morrison

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and O'Connor found that the AFAS is a psychometrically sound measure that demonstrates satisfactory scale score reliability and construct validity. In the present study, Cronbach's alpha for the AFAS was .77.

Implicit Association Test (IAT; Greenwald et al., 1998). The IAT (Greenwald et al., 1998) measures implicit attitudes and stereotypes toward a social group by assessing individuals' automatic evaluation of that group. The underlying assumption of the IAT is that it is easier for participants to categorize two concepts using the same response key if the concepts are compatible because it is relatively automatic and effortless, whereas it is more difficult for participants to categorize two concepts using the same response key if the concepts are incompatible because of response competition (Greenwald et al., 1998). In the current study, participants completed a picture IAT. It has been established that the IAT is a sensitive measure of automatic evaluative associations, proving useful for examination of implicit prejudice and stereotyping (Greenwald et al., 1998), and the IAT has demonstrated convergent and discriminant validity (Gawronski, 2002; Greenwald et al., 1998).

The materials for the picture IAT consisted of the 6 positive and 6 negative words used in the PPT and 24 images (6 each of average weight and overweight men and women).³ The picture stimuli were presented in black and white and the word stimuli were presented in black letters, both vertically and horizontally centred against a light grey background. The stimuli were presented at an inter-trial interval of 250 ms and were selected randomly without replacement. However, as recommended by Gawronski (2002), the stimuli appeared in the same order for all participants in an effort to control for general confounding due to individual differences. In completing the IAT, participants were instructed to classify stimuli appearing on the computer monitor as either an average weight or overweight person or a positive or negative attribute by pressing either a right or left response key. Each participant was instructed to go as fast as he or she could and were told that some mistakes were permissible. In the event that a participant incorrectly classified a stimulus (e.g., classified an average weight image as an overweight image, a positive word as a negative word, or vice versa), he or she was presented with a red 'X' on the screen, and was told that he or she must press the correct response key in order to move onto the next trial. Each participant progressed through the sequence outlined by Greenwald and colleagues (1998).

There were four versions of the picture IAT created in SuperLab Pro. Two of these versions presented images only of men; the other two versions presented images only of women. The male- and female-only versions controlled for the order in which the combined tasks were presented, such that in one version of the picture IAT, the overweight stereotype consistent combined task was presented first, whereas in the second version, the overweight

stereotype-inconsistent combined task was presented first. The order in which participants completed the explicit and implicit measures also was counterbalanced between participants.

Procedure

At each research session, participants reviewed the consent form and were informed that their participation was strictly voluntary, that they may withdraw from the study at any time without loss of credit, and that any data they submit would remain confidential. After indicating their consent, participants were randomly assigned to a study condition. Upon completion of the study, participants were fully debriefed, thanked, and received credit for their time.

Results

Preliminary Analyses

Data aggregation. The PPTpos, PPTneg, BII, and AFAS were aggregated by summing the items to create total scores for the respective measures. The response latency data from the picture IAT were aggregated according to the improved scoring algorithm described by Greenwald and colleagues (2003). First, the response latency and error rate data were checked; the data were cleaned by deleting trials with response latencies greater than 10,000 ms. No participants responded faster than 300 ms more than 10% of the time. Due to the positive skew often observed with response latency measures, the response latency data were then log-transformed. Following this data cleaning process, *D* was computed as the indicator of the IAT effect (see Greenwald et al., 2003 for the improved scoring algorithm). The descriptive statistics for the measures are presented in Table 1.

Insert Table 1 About Here

No significant differences were found on *D* according to IAT order (i.e., whether participants completed the stereotype-consistent or stereotype-inconsistent tasks first) or IAT gender (i.e., whether participants saw male or female targets), all *ts* < 0.98, *ns*. Further, no differences were observed in participants' responses as a function of counterbalancing the presentation order of the explicit and implicit stimuli (all *ts* < 0.93, *ns*).

Implicit weight stereotyping. Participants responded faster on stereotype-consistent trials (i.e., overweight + negative or average weight + positive) than stereotype-inconsistent trials (i.e., overweight + positive or average weight + negative) on both the male IAT (untransformed mean response time on the stereotype-consistent block = 765.90, *SD* = 244.55; untransformed mean response time on the stereotype-inconsistent block = 1112.27, *SD* =

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Summary of Simultaneous Regression Analyses for Variables Predicting Behavioural Intentions by Overweight
 Status and Gender of Target (N = 76)

Overweight Male Target (n = 19)		
Variable	β	t
Person Perception Task, Positive	.60	2.48*
Person Perception Task, Negative	.31	.76
Anti-Fat Attitudes Scale	-.58	-4.17**
Implicit Association Test (D)	-.30	-2.45*
Overweight Female Target (n = 18)		
Variable	β	t
Person Perception Task, Positive	.36	.20
Person Perception Task, Negative	-.29	.31
Anti-Fat Attitudes Scale	-.41	.24
Implicit Association Test (D)	-.17	.50

Note.

$F(4, 14) = 15.9, p < .001; R^2 = .82$; Adjusted $R^2 = .77$ for the overweight male target analysis.

$F < 2; R^2 = .32$; Adjusted $R^2 = .11$ for the overweight female target analysis.

* $p < .05$. ** $p < .01$.