Plessner W, H, F, Study 1 N=40

NEW

DU = working pad choice

IAT = ~~[illegible]~~ Recycled/white att

EM = prot scale

ICC, ECC, IE must be by request — regression here

Plessner et al Expt 1

(10) DOMAIN:A/1= race, B/2= ethnicityC/3 = gender-sexD/4 = food or drink

E/5 = other consumerF/6= politicalG/7 = drugs or tobacco , p 2

H/8 = self esteem J/9= personality/selfK/10 = clinical

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

(11) BEHAVIOR: single=1, average=2 , p 8

(12) IAT TYPE attitude=1, belief=2, self=3, not reported = 4 , p 7

(13) EM TYPE: attitude=1, belief=2, self=3, not reported = 4 , p 7

(14) OVERALL METHOD: not=0, observed=1 , p 8

(15) METHOD: RepPast=1, future=2, emotion=3, judge=4, obs=5, neuro=6, other=7 , p 8

(16) SCORE: millisecond=0, log=1, algorithm=2, NotReported=3 p. 10

(17) words=0, pictures=1, NotReported=2 , p. 7

(18) number of IATs: 1 , p 18

(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

p. 8 & 10

(26) IAT SOCIAL DESIRABILITY 1-7 1 , p 7

(27) EXPLICIT SOCIAL DESIRABILITY 1-7 1 , p 7

(28) BEHAVIOR CONTROLLABLE: **1-10** 9 , p 28

(29) IAT SPECIFIC 1-7 5 , p 7-8

(30) EXPLICIT SPECIFIC 1-7 5 , p 7-8

(31) OPPOSITION **1-5** 1 , p 31

(32) RACIAL 0=not 1=racial , p 2

(33) type of iat: single=1, dual=2, personalized=3 , p 7

Plessner, W, H, F, Study 2

N = 95

NEW

DV = food choice

IAT = brand/generic

EM = Likert scale

Plessner et al W, H, & F Study 2

(10) DOMAIN:A/1= race, B/2= ethnicityC/3 = gender-sexD/4 = food or drink

E/5 = other consumerF/6= politicalG/7 = drugs or tobacco , p 2

H/8 = self esteem J/9= personality/selfK/10 = clinical

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

(11) BEHAVIOR: single=1, average=2 , p 14

(12) IAT TYPE: attitude=1, belief=2, self=3, not reported = 4 , p 14

(13) EM TYPE: attitude=1, belief=2, self=3, not reported = 4 , p 14

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

(15) METHOD: RepPast=1, future=2, emotion=3, judge=4, obs=5, neuro=6, other=7 , p 14

(16) SCORE: millisecond=0, log=1, algorithm=2, NotReported=3 , p 15

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

(18) number of IATs: 1 , p 14

(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 , p 14

(25) EXPLICIT SESSION: same=0, different=1 , p 14

p 14

(26) IAT SOCIAL DESIRABILITY 1-7 1 , p 14

(27) EXPLICIT SOCIAL DESIRABILITY 1-7 1 , p 14

(28) BEHAVIOR CONTROLLABLE: **1-10** 9 , p 14

(29) IAT SPECIFIC 1-7 5 , p 14

(30) EXPLICIT SPECIFIC 1-7 5 , p 14

(31) OPPOSITION **1-5** 1 , p 14

(32) RACIAL, 0=not, 1=racial , p 2

(33) type of iat: single=1, dual=2, personalized=3 , p 14

Abstract

Recent theories in social psychology assume that people may have two different attitudes toward an object at the same time, one that is explicit and corresponds with deliberative behavior and one that is implicit and corresponds with spontaneous behavior. The assessment of both attitudes, therefore, would attenuate the attitude-behavior correspondence. In two experiments, we tested this assumption in the consumer domain by measuring implicit and explicit attitudes towards consumer products as well as actual choice. In the first experiment, we found implicit attitudes to predict spontaneous choice between recycled and classic writing pads even when controlled for explicit attitudes. In Experiment 2, we found participants whose explicit and implicit attitudes towards generic food products and well-known food brands were incongruent with each other were more likely to chose the explicitly preferred brand over the implicitly preferred one as long as they had ample time to make their choice. However, when choices were made under time pressure, consumers tended to chose the implicitly preferred brand over the explicitly preferred one. On the basis of these results we stress the importance of the concept of implicit attitudes for the understanding of consumer behavior.

Method

Participants and Design

A total of 40 students (5 male and 35 female, $M_{age} = 23.1$) of different majors at the University of Heidelberg participated in the experiment. In an initial talk it was checked if they were familiar with the distinction between classic white and recycled paper. Only those students took part in the experiment who reported to have prior experiences with both kinds of products. This was done to ensure that participants already had attitudes towards the different writing pads before the experiment. An equal number of participants were randomly assigned to the four conditions of a 2 x 2 between-subjects design with the factors time pressure (yes vs. no) and task order of the IAT (see below). As a reward for their participation, participants could chose between different selections of writing sets (with a value of about 3 EURO).

Materials

EM

Explicit attitude. Participants had to judge both recycled and classic white writing pads on seven-point rating scales with respect to top quality, profitable price-performance relationship, high trustworthiness, stability of quality, and looks. These attributes were taken from consumer studies on attitudes and behavior towards corresponding products (Bruhn, 1997). For each of the seven attributes, participants had to judge how well it fits to recycled and classic white writing pads from 1 (*not at all*) to 7 (*perfectly*).

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IAT

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Implicit Association Test. In general, the IAT used in the present experiment followed the standard version (cf. Greenwald, McGhee, & Schwartz, 1998). However, differences were as follows. The category names were *recycled paper*, *white paper*, *positive*, and *negative* (translated from German). Colored photographs taken from different recycled and classic white writing pads represented the target categories. Two pictures were taken of each of 5 recycled paper and 5

12 18

17 29 31 26

classic white paper writing pads from different perspectives, thus, creating a total of 40 different target stimuli. The exemplars that had to be categorized as positive or negative were direct translations of the words used by Greenwald et al. (1998). From this sample, 20 words with a positive and 20 with a negative meaning have been used. The response assignments in the first combined and the reversed combined task of the IAT procedure (i.e., block 3 and 5) have been manipulated as follows. In block 3, one half of the participants had to press the left key if stimuli were either positive or recycled paper and the right key if they were either negative or white paper (task order A) and the other half had to press the left key if stimuli were either positive or white paper and the right key if they were either negative or recycled paper (task order B). Key assignments were changed in block 5, respectively.

DV

Choice. Participants could choose between three writing sets as a reward for their participation. They consisted of two pencils and two writing pads that where either both recycled pads, one recycled and one classic white paper pad, or both classic white paper pads. In the time pressure condition, photographs of the three selections appeared on the computer screen and participants had to decide between them via key press within 5 seconds. In the no time pressure condition, the writing sets were presented as real products and participants had unlimited time to make a decision.

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Procedure

19-25

Upon arrival at the laboratory participants were randomly assigned to one of the four conditions resulting from the manipulation of time pressure (yes versus no) and the order within the IAT. At first, they were given the questionnaire containing the explicit attitude measure. After completion, instructions on the computer screen instructed them about the IAT procedure. They were told that positive and negative words as well as pictures of recycled paper classic

subjects. To control for task-shifting effects (Mierke & Klauer, 2001) stimulus selection alternated between the target and the attribute dimension in the combined blocks.

Having finished the IAT, participants were told that as a gift they could choose between three arrangements of writing sets of equal monetary value. In the time pressure condition, they were shown three photos next to each other on the computer screen, each depicting a writing set. Beforehand they were told that they had only 5 seconds to make their choice. While they were shown the photos a time bar was running at the bottom of the screen indicating how much time was left. In the no time pressure condition, participants were show the writing sets on a table and they could think about their choice as long as they wanted. Finally, all participants received their chosen arrangement, were thanked and dismissed. The complete experiment lasted about 20 minutes.

19-25

Results

IAT-Scores

Only the latencies of the combined tasks of the IAT procedure are of interest in the present study. Therefore our report is limited to the mean reaction times within these blocks. In consistence with Greenwald et al. (1998), outlier values (1% of all responses) below 300ms were recoded to 300ms and those above 3000ms were recoded to this value. Latencies were log-transformed. The first two trials of each block were dropped. They Latencies were subjected to a 2 x 2 (task order x response assignment) ANOVA with response assignment as repeated measurement (see Table 1 for the untransformed means). The ANOVA revealed a main effect for response assignment, $F(1, 38) = 6.25$, $p < .05$ and no other effects (all Fs < 1). Response times of participants were faster when reactions towards positive words and classic white paper (and accordingly towards negative words and recycled paper) shared the same response key than

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assigned to the four conditions of a 2 x 2 between-subjects design with the factors time pressure and task order within the IAT. Data of three participants were dropped due to high error rates, extremely short latencies and problems with the personal computer respectively. Mean age of the resulting 92 participants was M_{age} = 22.1 years. The sample included 58 women and 34 men. They received food products of approximately 3 EURO value as reward for their participation.

Materials and Procedure

By and large, materials and procedure were taken from Experiment 1 and adapted to the consumer domain of branded versus generic products.

A questionnaire assessed the general explicit attitudes towards brand products and generic products on a 7-point-rating scale ("When you shop for groceries do you in general rather prefer brand products or rather generic products?") before some more detailed questions about participants' attitudes. For both branded and generic products, participants were asked for ratings of the fit between specific attributes concerning price, quality, publicity, taste, and advertising on a scale from 1(*not at all*) to 7 (*perfectly*). The measure ended with some questions about participants' individual grocery shopping behavior and demographic data.

10 pictures of brand products and 10 of generic products served as target stimuli in the IAT. All pictures were of equal size. Brand and generic products were of the same kind (i.e. cream, cream cheese, corn, margarine, coffee). Each product was presented from two different angles, thus, creating a total of 40 different target stimuli.

As a behavioral measure participants could choose between two different arrangements of food products. One of the arrangements contained only branded food products while the other one consisted entirely of generic products. The arrangements were of equal monetary value and

included the same kind of products with the exception that the generic arrangement contained one more product since they were cheaper.

Results and Discussion

Again, the IAT data were treated in accordance with Greenwald et al. (1998), that is trimmed and log-transformed before further analyses. Again, task order had no influence on the reaction times in the third and fifth block. We therefore dropped this factor in the following analyses.

Next we calculated the difference between the third and the fifth block. According to the difference in response latencies between the third and the fifth block each participant was categorized as either implicitly preferring brand products or generic products. Participants whose difference scores fell between ± 20ms were categorized as indifferent. 85% of the remaining 86 participants showed an IAT-Effect in favor of brand products, 15% for generic products.

Despite the overwhelming preference for brands over generic products as measured by the IAT, the explicit measures reflected a very different picture: 33% of participants preferred brand over generic products, 35% were indifferent and 32% preferred generic products over brand. This strong discrepancy between the IAT measure and the explicit rating scales already suggests that both measures were based on different attitudinal components, at least for some participants. In fact, among those respondents who reported a clear preference only about 58% showed the congruent preference on the IAT. We exploited this discrepancy for our analysis. First, we formed two categories: Participants whose implicit preferences were consistent with their explicit ones vs. participants who showed incongruent preferences. Then, the behavioral measure was recoded so that it reflected whether the choice between brand and generic products was in line with the explicitly reported preference (0) or not (1). This choice consistency was analyzed