

Attitudes to Gender, Age, and Sexual Preferences in a Swedish Setting: Results with the Implicit Association Test

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This paper presents 4 experiments with Swedish participants using the implicit association test (Greenwald, McGhee, & Schwartz, 1998). The method measures the relative strength of association between two conceptual dimensions. One often represents opposing social categories, the other an evaluation. The experimental hypotheses concern basic attitudes: a positive evaluation of the self, including one of one's own sex as compared to the other; an association between masculinity and potency/activity; a preference for youth as compared to old age, and a preference for hetero- as compared to homosexuality. With the exception of own sex – positive evaluation for males, these hypotheses were supported by results at better than $p < .01$.

Keywords: stereotypes, attitudes, implicit, homonegativity, ageism, self

Following the lead of cognitive experimental psychology, social cognition researchers recognised the existence of implicit processes in social functioning. Empirical work was done, and a number of theoretical models were formulated. In this area, they are called dual process theories. Brewer (1988) and Fiske and Neuberg (1990) put forth serial processing models, where an early stage of shallow processing, emotional in character and based on primitive cue analysis, could be followed by deeper processing. In line with general trends in psychology, Kunda (Kunda & Thagard, 1996) later presented a parallel processing model.

This could be seen as of somewhat academic interest if it were not for the fact that a number of conditions make the primitive and implicit type of cognition socially important. Capacity limitations and motivation play a major role in the processing.

Thus, we often react to social stimuli, such as ourselves and other persons, in an implicit way which is not cognitively articulated. This has produced, among other things, an intense debate on the inevitability of prejudice (Bargh, 1999).

In the area of prejudice, pioneering work was made by Patricia Devine (1989). She used a semantic priming technique where the priming words were related to the cultural stereotype of African Americans but with no relation to one core factor of the stereotype, namely aggression. The participants were then asked to form an impression of a person who had performed a series of ambiguously hostile behaviors. When primed with the words related to the cultural stereotype, the impressions were dominated by hostility. Relating her results to the Modern Racism Scale (McConahay, 1986) she found individual differences in the controllability of the stereotype on this explicit level, but not in the measure of implicit functioning. Her conclusions were that in the United States, there were individual differences in consciously held attitudes toward black Americans. The implicit attitudes, however, were uniformly strongly negative and represented a cultural constant. These conclusions were questioned by Fazio, Jackson, Dunton, and Williams (1995), in part on methodological grounds. They used a technique where the participants were primed with photographs of white and black people in a task where they were asked to classify as fast as possible whether a series of positive or negative adjectives belonged to the categories of either good or bad. Thus, reaction time was the dependent variable in their experiment. They found that there were meaningful differences between the reactions of white and black participants as well as within these groups. This was further confirmed in the final stages of the experiment where the participants were given the opportunity to reveal their prejudice in their behavior towards a black experimenter and in assigning responsibility for the 1992 riots in Los Angeles following the verdict of Rodney King. In contrast to Devine, Fazio et al concluded that there were individual differences also in the automatic activation of the cultural stereotype related to implicit prejudice.

This was the technique which most strongly showed individual differences in the field of implicit attitudes, until Greenwald and his collaborators (Greenwald, McGhee, & Schwartz, 1998) introduced the implicit association test, IAT. The implicit association test gives a measure of the relative strength of association between two polar concepts, where one often represents opposing social categories (me – not-me, black – white) and the other an evaluative dimension. The method will be described in detail later, but in

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the critical part of the test poles of the concepts, for instance black and good on the one hand and white and bad on the other, share a common response to be given by the subject. In a second part of the test, the poles are recombined so that white and good and black and bad share a common response. The difference in reaction time between the two parts is a measure of the relative association of the concepts.

The method can actually be seen as an operationalisation of predictions from a model developed by Greenwald and his collaborators (Greenwald, Banaji, Rudman, Farnham, Nosek, & Mellott, 2002). This is a general semantic network model which tries to integrate certain central concepts in social psychology, namely attitudes, stereotypes and the self. Thus, as in Bower's (eg. 1981, Bower & Forgas, 2000) model, positive and negative valence are represented as nodes in the network. But in contrast to most models, the self-concept is given a central place. It is normally strongly connected to the positive node. Other concepts have psychological valence in terms of their relations to the self and the valence nodes. In this respect, the model follows the lead of the classical balance theories of Festinger (1957) and Heider (1958). The system of nodes and their associative links is known as the social knowledge structure.

Greenwald's early work with the method included demonstrations of a strong association between the self and positively valenced concepts, and a strong association between words related to black Americans and negative concepts (Greenwald & Farnham, 2000). Although the IAT is a fairly new instrument, it has proved to be robust to threats to internal validity (Dasgupta, McGhee, Greenwald & Banaji, 2000; Greenwald et al., 2002; Ottaway, Hayden, & Oakes, 2001), and the test - retest reliability has averaged $r = .6$ (Greenwald & Farnham, 2000).

In this paper, we will present the (to our knowledge) first results using the implicit association technique on Swedish groups, and discuss these in terms of Greenwald's semantic network model. The presentation is limited to IAT results, together with sex and age when these are of interest. We present four experiments. In all of them, representations of social categories share response with words with positive or negative valence. In the first two, the social categories are represented by names congruent or incongruent with the subject's sex. In the second experiment, such names are also paired with words that vary on the potency (strong – weak) dimension. In the third experiment, the social categories are represented by pictures of young or of old persons. In the fourth, the social categories are represented by pictures of opposite-sexed or same-sexed couples, connoting heterosexuality and homosexuality. Thus, both words and pictures are used as stimuli in these studies.

The self is male or female. It is linked to a node representing the social categories of masculinity or femininity. What is connected to the self is regarded as positive by the person. Being male is more positive for men than being female, and the reverse is true for women. Names linked to the masculine node, male names, should be more positively evaluated than names linked to the feminine node by men. The reverse should be true for women. This is the central hypothesis of the first two experiments, based on the studies of Greenwald and Farnham (2000).

Valence is basic to attitudes; they represent a positive or a negative orientation toward something. However, in some important theoretical systems that especially mention valence other important dimensions are also specified. Thus, in the semantic differential model of Osgood, Suci, and Tannenbaum (1957), potency and activity are added to evaluation. These dimensions are also central to different version of appraisal theory. In Lazarus' model (e.g., Lazarus & Smith, 1990) evaluation characterises primary appraisal whereas the potency and activity dimensions are central to an estimation of what can be done in the situation, secondary appraisal. The poles of the potency dimension are strength and weakness. Social gender stereotypes traditionally show a very strong association between potency and masculinity (Bem, 1981; Spence, Helmreich, & Stapp, 1975). In the second experiment, we expect a strong association between the masculine node and a potency node, and a corresponding association between the feminine node and a node representing weakness. This should result in latency differences for both sexes, insofar as they share these social stereotypes. Implicit stereotypes in this area have been found to be stronger than their explicit counterparts (Greenwald & Farnham, 2000).

As regards the third experiment, ageism or a negative evaluation of old age, is a well-known phenomenon in the Western World (Butler, 1980; Nelson, 2002; Perdue & Gurtman, 1990). In the implicit association test, this has been found to be true even for persons who are themselves old (Greenwald et al., 2002). Thus, in this experiment a strong link between the nodes of old age and negative valence is expected, as well as a strong link between youth and positive valence.

The self is not only male or female, it is for most persons heterosexual, seeking a partner of the opposite sex. This represents the social norm, and the opposite, homosexuality, is negatively evaluated. In the fourth experiment, the hypothesis is then that there is a strong link between heterosexuality and positive valence and a corresponding one between homosexuality and negative valence. However, it is known that men have stronger anti-homosexual attitudes than women. This has been explained

by a strong socially determined linkage between masculinity and heterosexuality (Herek, 2000). It is further known that older students show less anti-homosexual attitudes than younger ones. Increased exposure and a more conscious orientation as regards prejudice have been suggested as reasons for this (Morrison, Morrison, Pope, & Zumbo, 1999). Homonegativity should thus be qualified by sex and age.

Experiment 1

Method

Participants

One hundred and five students of Lund University (54 females, 51 males) participated in the experiment. Participants' age ranged from 19 to 43, and the mean age was 25 years.

Materials

In an attempt to maximise the IAT effect, data on explicit gender stereotypes were collected, using a different sample ($N = 50$) from the same population used in the subsequent experiment. Participants were asked to associate freely about men and women in terms of positive versus negative adjectives. These words were then sorted by frequency, and the five most frequent adjectives in each category were kept (male-positive, male-negative, female-positive, female-negative). In the IAT, these were combined with ten male and ten female proper names (Appendix A).

The IAT was administered on Macintosh desktop computers, and the program was written by Jean-Christophe Rohner using PsyScope software. The lab contained four separate cubicles with such computers, allowing for testing of up to four persons at a time. Following the standard testing procedure (Greenwald et al., 1998), the IAT started by introducing participants to the four target categories used ("male", "female", "positive" and "negative"). First, participants were presented with the 20 attributes obtained in the pre-study (see Appendix A), and asked to respond with left key to words representing "positive" and with right key to words representing "negative". Then the second pair of concepts were introduced, participants here being asked to respond with left key to proper names representing "male" and with right key to proper names representing "female" (see Appendix A for list of names). The third step introduced the combined task, in which words representing either "male" or "positive" got the left response and words representing either "female" or "negative" got the right response.

Each proper name and adjective was presented twice in a randomised order, to produce a series of 80 trials. The fourth and fifth steps were like steps two and three respectively, except that the response keys for “male” and “female” were reversed.

The inter trial interval was 1000 ms from pressing the correct response key. Stimuli were presented in a new randomised order for each participant, and two different task sequence orders were applied to avoid sequence effects (1, 2, 3, 4, 5 vs. 1, 4, 5, 2, 3).

Procedure

Participants were randomly assigned to one of the two IAT presentation orders, seated in front of a computer screen and given the standard IAT instruction (Greenwald et al., 1998). All participants were debriefed after the experiment.

Statistical analysis

Following standard procedure (see especially Farnham, Greenwald, & Banaji, 1999; Dasgupta, McGhee, Greenwald & Banaji, 2000), the IAT data were subjected to the following manipulations: Incorrect responses and responses outside the range 300 ms to 3000 ms were excluded. Subjects were excluded from the analysis if they did not have at least one valid response on each variable. The final number of subjects was 98, of which 47 were men and 51 women. The scores were transformed to logarithm values before statistical analyses.

The hypotheses relating to the IAT effects were analysed with repeated measures ANOVAs. In addition to overall analyses, the latencies were separated for the response alternatives. The latencies to the opposing social categories (called “names” or “pictures” in the results sections) were analysed separately from the latencies to the evaluative dimension (called “words” in the results sections). In all the analyses, sex was added as a between group variable.

Results

An analysis of variance of mean latencies was conducted with two within-group factors, IAT (male with positive and female with negative, or, female with positive and male with negative), and valence of words (positive and negative). Results indicated that there were large differences in latencies for the IAT effect. Generally, the main effect of type (own sex/positive – own sex/negative) was significant $F(1, 96) = 22,801$, $p < .001$. The IAT condition female and positive had shorter latencies, but this effect was qualified by a gender interaction, $F(1, 96) = 40,255$, $p < .001$. Women had shorter

latencies to trials congruent with an attitudinal preference for one's own sex. The difference was $d = -237$ ms in trials with positive words and $d = -231$ ms in trials with negative words. Latencies for men did not reveal significant differences (see Figure 1).

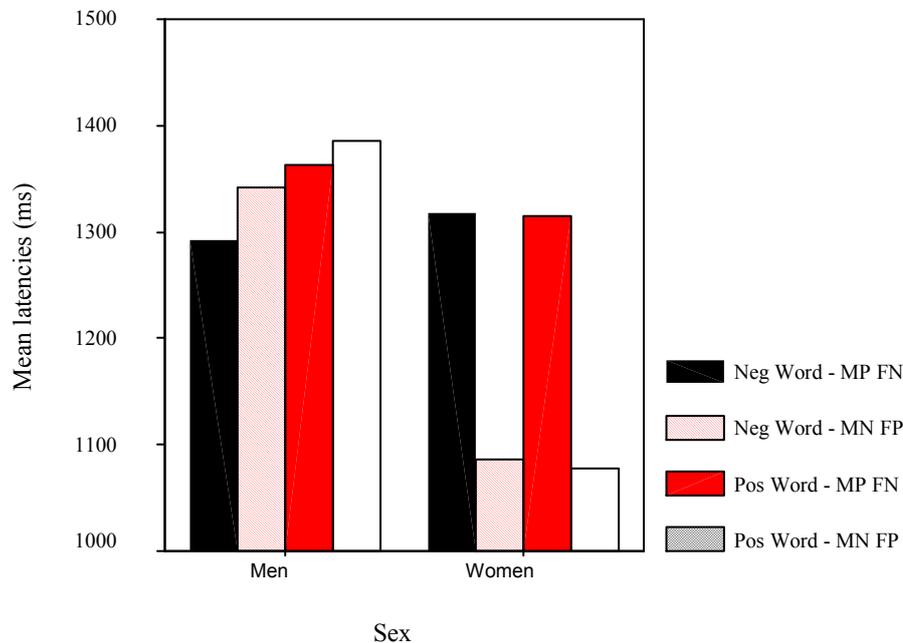


Figure 1. Latencies for men and women for words in the different conditions (MP = Male positive, MN = Male negative, FP = Female positive, FN = Female negative).

There were other significant effects as well. The main effect of word valence was almost significant, $F(1, 96) = 3.633$, $p = .06$. Trials involving positive words were generally quicker. But this effect was also qualified by a two-way interaction, men but not women had shorter latencies to negative compared to positive words, $F(1, 96) = 4.509$, $p < .05$.

The interaction effect that women have an attitudinal preference for their own sex was also significant as regards names. Women had shorter latencies in trials combining female names and positive words, or male names and negative words, $F(1, 96) = 41.901$, $p < .001$. No significant differences were found for men.

Discussion

The hypothesis in the first experiment was that IAT interacts with gender, such that trials congruent with a positive attitude towards one's own sex should have shorter latencies than incongruent trials. This hypothesis was amply confirmed for women, but

not for men. A second experiment on the same topic was conducted with a new set of stimuli, more similar to previous research using the IAT (Greenwald et al., 2002).

Experiment 2

Method

Participants

Seventy-one students (35 females, 36 males) of Lund University volunteered to participate in the experiment. The mean age was 25.8 ($SD = 2.9$).

Materials and procedure

The IAT equipment, design, and stimulus presentation were the same as in experiment 1, but had two combined tasks (gender/valence and gender/strength). Stimuli consisted of words with a positive or a negative valence (e.g. love, sorrow); words representing strength and weakness (elephant, mouse); and male and female proper names (see Appendix B for a complete list of the stimuli).

Following the same basic procedure as in experiment 1, participants were randomly assigned to and completed one of the four counterbalanced versions of the IAT, and were then debriefed.

Statistical analysis

The same procedures were carried out as in the first experiment. Two participants, one male and one female were excluded because of incomplete data.

Results

In this experiment, the mean values for men were 891 ms in the male positive condition ($SD = 206$) and 874 ms in the female positive condition ($SD = 211$). For women, the values were 940 ms in the male positive ($SD = 160$), and 691 ms in the female positive condition ($SD = 149$). The mean values for men were 803 ms in the male strong condition ($SD = 229$) and 983 ms in the female strong one ($SD = 247$). For women, the values were 735 ms ($SD = 133$) in the male strong condition and 817 ms ($SD = 228$) in the female strong one.

As regards sex and valence, the pattern from the first experiment emerged again. Shorter latencies were found in the own sex positive trials for women but not for men (see Figure 2). The results indicate women's attitudinal preference for female over male

on both positive and negative words, $F(1, 67) = 62.700, p < .001$. They had shorter latencies for the female positive combination ($d = -291$ ms) as well as the male negative combination ($d = -288$ ms). Analysis of names instead of words revealed the same pattern of latencies as regards attitudinal preferences, $F(1, 67) = 30.313, p < .001$, but in addition there was an almost significant three-way interaction, $F(1, 69) = 3.962, p = .051$. Analysing the details, we found a nearly significant difference between men and women on the male name + male positive valence combination, female subjects being slower.

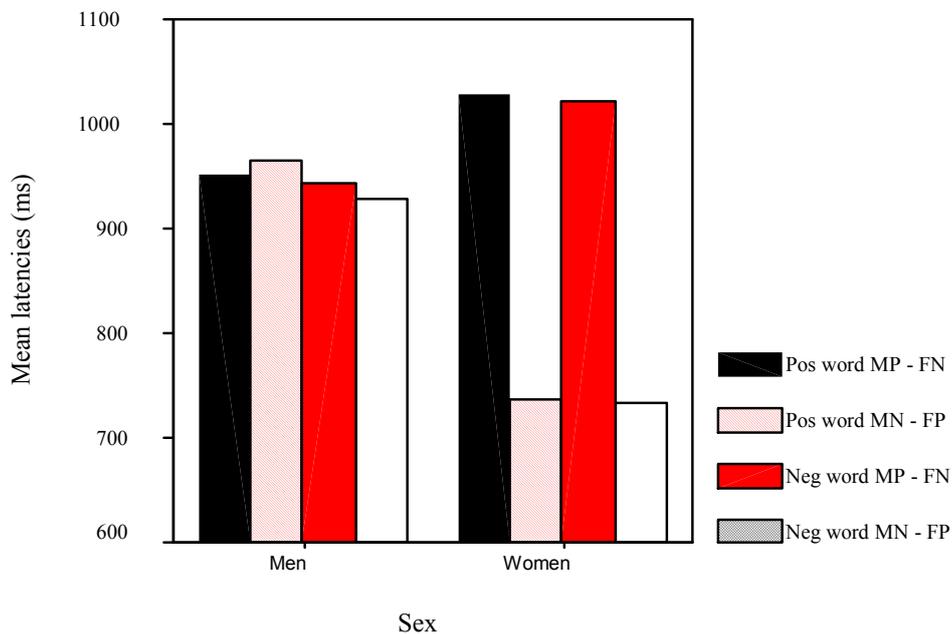


Figure 2. Latencies for men and women for words in the different conditions (MP = Male positive, MN = Male negative, FP = Female positive, FN = Female negative).

The sex – potency IAT revealed a pattern of latencies in accordance with expectation. Strong words had shorter latencies, $F(1, 67) = 39.739, p < .001$ ($d = -116$ ms), and the male strong and female weak combinations had shorter latencies, $F(1, 67) = 39.592, p < .001$ ($d = -170$ ms). This latter effect was more pronounced for men compared with women, $F(1, 67) = 5.928, p < .05$ (d for men = -241 ms, d for women = -99 ms). In addition, data revealed a complicated three-way interaction, $F(1, 67) = 5.465, p < .05$, suggesting men to have longer latencies when strong words were combined with female names. As regards names the last effect was not found. In this case, the significant effects were the word valence factor, $F(1, 67) = 19.982, p < .001$, and the word valence

and gender interaction factor $F(1, 67) = 5.798, p < .05$. Men had relatively longer latencies for the male weak - female strong combination.

Generally, aggregating all trials, women had shorter reaction times in the IAT ($t = 2.04, p = .045$).

Discussion

This experiment included an attempt at cross validation of the results from the first experiment. The same pattern of data emerged. Women showed shorter latencies for the own sex – positive valence combination, men did not. In addition, a second IAT combining sex with potency was performed. The expectations here were that male would be associated with strength and female with weakness. This pattern of data was found for both sexes. Men had somewhat more pronounced results.

Experiment 3

Method

Participants

Ninety six students (35 males, 61 females) of Lund University volunteered to participate in the experiment. Their mean age was 26.7 ($SD = 8.1$), with a range of 17 to 56.

Materials and procedure

The IAT equipment, design and stimulus presentation were the same as in the previous experiments. Stimuli consisted of eight pictures of old and young people (two males and two females in each set) taken from the International Affective Picture System (Lang, Öhman, & Vaitl, 1988), and the same positive and negative words that were used in the previous experiment (Appendix B). The IAT effect was calculated by subtracting the reaction times in the schema congruent condition (old/negative vs. young/positive) from those of the schema incongruent condition (young/negative vs. old/positive), so that a large positive effect indicates strong implicit negativity towards old people.

Statistical analysis

The same procedures as in the earlier experiments were used. One man and four women were excluded because of missing data.

Results

In the old and positive - young and negative condition, the mean reaction time was 1174 ms ($SD = 296$). In the young and positive - old and negative condition, the mean was 876 ms ($SD = 234$).

The main effect of the young-old factor was significant for words, $F(1, 90) = 172.431$, $p < .001$. Latencies were clearly shorter when youth was combined with positive words and old age with negative ones ($d = -312$ ms). In addition, the main effect of word type was significant, $F(1,90) = 7.331$, $p < .01$. Positive words had shorter reaction times ($d = -36$ ms). Further, the interaction between word type and the IAT effect was significant, $F(1, 90) = 5.753$, $p < .05$. Analysing this interaction effect in detail, it was found that the IAT effect was more pronounced for positive words (see Figure 3). As regards pictures only the main effect of valence was significant, $F(1, 90) = 125.647$, $p < .001$. Young positive and old negative had the shortest latencies.

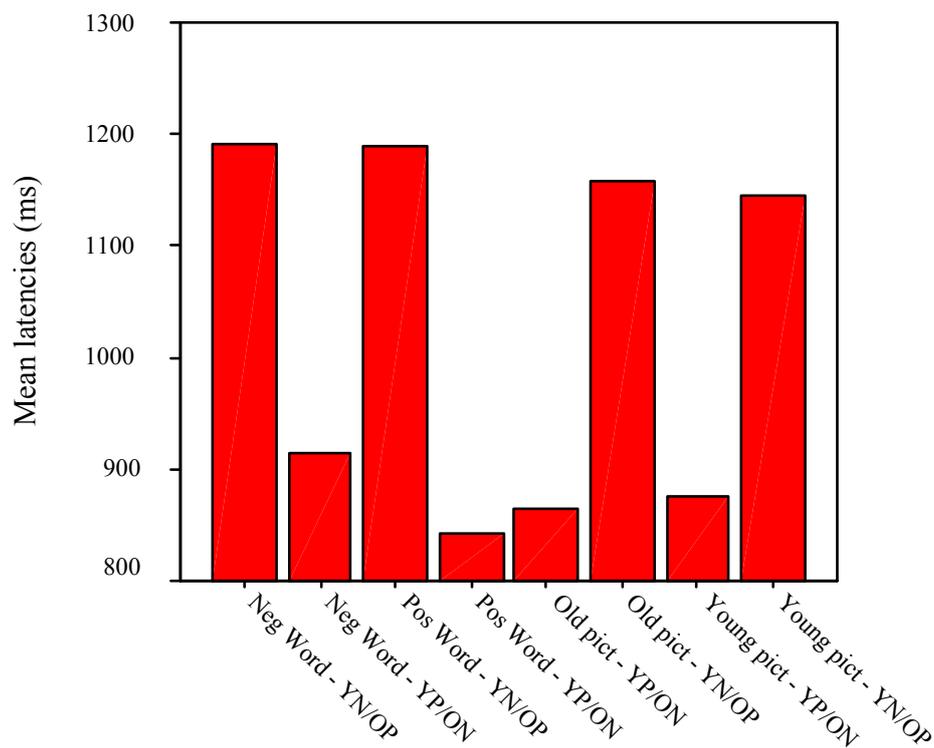


Figure 3. Latencies in the different conditions (Young negative/Old positive vs. Young Positive/Old negative).

Discussion

The hypothesis in this experiment was that there exists an implicit association between old age and negative valence and youth and positive valence. The results of the experiment were highly significant, and supported this hypothesis.

Experiment 4

Method

Participants

Seventy-three students (36 females, 37 males) of Lund University and three senior high schools in the area volunteered to participate in the experiment. There was no age difference between the females and the males. The university student group consisted of 17 women and 18 men with a mean age of 23, the high school group of 19 women and 19 men with a mean age of 17.

Materials and procedure

The IAT equipment, design and stimulus presentation were the same as in the previous experiments. Stimuli consisted of eight pictures of heterosexual and homosexual couples holding one another (an equal number of female and male couples), and the eight positive and negative words used in Experiment 3 (see Appendix B).

Statistical analysis

The same procedures as in the earlier experiments were followed. Ten subjects were excluded because of missing data, two women in the university group, three men and five women in the high-school group.

Results

The mean for high school women was 1373 ms ($SD = 305$) for the hetero negative – homo positive condition and 1017 ms ($SD = 292$) for the homo negative – hetero positive one. The mean for college women was 1133 ms ($SD = 267$) for the hetero negative – homo positive condition and 1005 ms ($SD = 282$) for the homo negative – hetero positive one. The mean for high school men was 1317 ms ($SD = 295$) for the hetero negative – homo positive condition and 1009 ms ($SD = 230$) for the homo negative - hetero positive one. Finally, the mean for college men was 1297 ms ($SD =$

269) for the hetero negative – homo positive condition and 983 ms ($SD = 269$) for the homo negative – hetero positive one.

The hypotheses were tested with a number of mixed type ANOVAs. It was found that the main effect for pictures was very strong, $F(1, 62) = 61.807, p < .001$. Generally, there were shorter reaction times to picture trials combining heterosexual pictures with positive words and homosexual pictures with negative ones than to trials representing the opposite combination. In addition, it was found that valence interacted with response type, $F(1, 62) = 6,034, p < .05$. The difference in latencies between homo- and heterosexual pictures was larger in the condition of homo-positive and hetero-negative responses than in the other condition (see Figure 4).

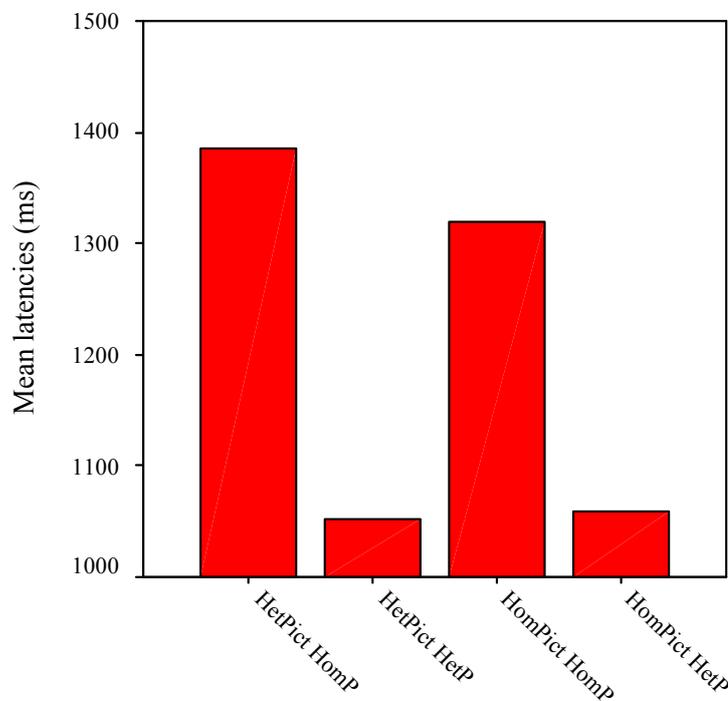


Figure 4. Latencies for homo- and hetero pictures in the different conditions (HomP = Homo positive, HetP = Hetero positive).

As regards words, the IAT discrepancy was found to be even stronger, $F(1, 62) = 81.117, p < .001$. But here, there was no significant interaction between valence and response condition, $F(1, 62) = 0.623$.

We hypothesised that the implicit stereotype would be more pronounced in the lower age group. This interaction was found to be significant for pictures, $F(1, 62) = 4.282, p < .05$. But for words, the ANOVA did not reveal a significant difference between the

groups, $F(1, 62) = 0.095$. For younger subjects, the difference was 371 ms in favor of hetero pictures in the hetero positive – homo negative condition, while the difference was 205 ms for the older group.

There was no effect for the interaction between valence (the IAT effect) and gender alone, but a three-way interaction was found for the combination IAT effect, gender, and age group. This effect was significant only for words, $F(1, 59) = 5.189$, $p < .05$, while pictures revealed a non-significant difference in the same direction. On words, the college women had a much less pronounced IAT effect (166 ms) than the high-school women (336 ms). No significant difference was found for men. For them, the IAT effect was about the same for the age groups, 251 ms for high school students and 335 ms for college students.

Discussion

In this experiment, we expected an implicit negative evaluation of homosexuality as compared to heterosexuality. This was indeed found in all groups studied. We further expected this evaluation to be dependent on age and sex. Here, the experiment showed a complex picture. Younger subjects showed stronger homonegativity on pictures, but not on words. On the other hand, older female subjects showed less homonegativity on words than younger female subjects. This result supports a development towards a less negative attitude in the older female group.

These results specify the original predictions that younger subjects would show a more negative attitude to homosexuality than older, and that men would continue to do so.

General Discussion

The generalization of findings from social psychological experiments may be affected by differences in culture. Although the principles behind stereotyping should remain the same regardless of culture, it is reasonable to suggest that differences exist in targeting and in strength with respect to particular targets. One purpose of this paper has been to demonstrate the applicability of the IAT in a Swedish setting, with Swedish stimuli and Swedish participants. The experiments have focused on classical themes in the literature of stereotypes and prejudice: gender related attitudes, age-related attitudes and attitudes related to hetero/homosexuality. The overall conclusion is that the IAT yields broadly similar results in a European context as in an American.

The first two experiments concerned the link between gender and valence. In accordance with Greenwald et al's (2002) network theory we expected to find a strong

link between self-concept, sex-identity and positive attitude. Thus males and females should rate their own sex in a more favorable way than the opposite sex. The hypothesis was tested in the first and second experiments. It was confirmed for the females while yielding an inconclusive result for the males.

There may be several reasons for this difference in results. One concerns the content of the male stereotype and how this is articulated in language. When trying to find words for the male stereotype we tend to end up in the dimensions of potency and activity. But the qualities of these dimensions are themselves not entirely positively valued in society, and accordingly words depicting the male stereotype may be of both positive and negative valence. If so the stimulus material in itself provides a conflict for the males which could explain the differences in results between the male and female participants.

The second hypothesis states that the dimensions of potency and activity are as important in the male stereotype as the overall dimension of valence. There should accordingly be a strong association between potency/activity and masculinity and a converse association between weakness and femininity. This hypothesis was tested in the second experiment. The hypothesis was confirmed for both sexes. The females did not show an equally strong gender-related coupling of strong/weak as did the males. It could then be argued that the dimension of potency/activity is not as important for the females as for the males. There is however a second reason. Greenwald and his associates (2002) reported that the word weak is associated with both positive and negative valence for the female group. This reflects a process of differentiation where negative and positive aspects of the concept are kept apart. For the females there seems to be a positive aspect of the word "weak" which is accepted, and a negative one which is not. Thus a process similar to the one responsible for the differences between sexes in the first experiment could be at work here.

The third hypothesis concerned implicit stereotypes against the elderly. We predicted strong associations between young age and positive valence and old age and negative valence. The hypothesis was clearly confirmed.

The fourth hypothesis concerned attitudes toward homosexuality. Sex identity is a fundamental part of the self-concept and for most people there should be a strong connection between heterosexuality and positive valence. It was predicted that this would be most evident in the younger group and for male subjects. The hypothesis was tested in the fourth experiment and the overall result was the expected, there was a

strong link between heterosexuality and positive valence. The predicted differences due to age and sex of the participants were however only partly confirmed.

The studies presented here demonstrate yet again, this time with Swedish participants, that the IAT reliably produces strong effects. In general, these are in agreement with the model proposed by Greenwald and his colleagues (2002). But many questions concerning what the test measures, what it is related to, and whether the semantic network model underlying the interpretation of results is sufficient, remain to be answered.

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Appendix A

Stimuli used in Experiment 1

<i>Male – Positive attributes</i>	<i>Male names</i>
självständig (independent)	Erik
tävlingsinriktad (competitive)	Olle
rättfram (straightforward)	Olof
företagsam (enterprising)	Kalle
rationell (rational)	Robert
<i>Male – Negative attributes</i>	Nils
ensidig (narrow-minded)	Mikael
känslökall (cold)	Peter
egoistisk (egoistic)	Per
svartsjuk (jealous)	Mats
överlägsen (supercilious)	
<i>Female – Positive attributes</i>	<i>Female names</i>
känslösam (emotional)	Eva
omtänksam (considerate)	Louise
intuitiv (intuitive)	Susanne
självkritisk (self-critical)	Linda
flexibel (flexible)	Sofia
<i>Female – Negative attributes</i>	Karin
falsk (false)	Malin
analytisk (analytical)	Erika
skvallrig (gossipy)	Anna
beräknande (calculating)	Agneta
fåfång (vain)	

Appendix B
Stimuli used in Experiment 2

<i>Positive and negative words</i>	<i>Strength – weakness words</i>	<i>Proper names</i>
vän (friend)	elefant (elephant)	Karin
kärlek (love)	flodhäst (hippopotamus)	Anna
godis (candy)	dinosaurie (dinosaur)	Stina
glädje (joy)	noshörning (rhino)	Åsa
död (death)	mygga (midge)	Per
cancer (cancer)	lus (louse)	Kalle
sorg (sorrow)	myra (ant)	Mattias
hat (hate)	mus (mouse)	Hans