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The relation between two different implicit attitude measures: Asymmetry in self-others distance rating and Implicit Association Test

The purpose of this study was to examine the connection between two different implicit measures of attitudes towards others. In base on previous studies on prejudices and national stereotypes, also with use of these techniques, Jews were chosen as target group. Two techniques were used. The first of them was the graphic, questionnaire technique to assess asymmetry in the self-other distance rating. Stereotypical perception of Jews was indicated by Judocentric asymmetry effect, which was reversed in relation to typical egocentric asymmetry effect. The second technique was Polish version of the Implicit Association Test (IAT), a method using reaction time as an indicator of automatic processes, which is widely applied to measure implicit attitudes. The stronger IAT effect the more stereotypic perception of Jews. Forty-seven psychology students participated in described study. The obtained results indicate that there is a significant correlation between these two techniques: the higher Judocentric asymmetry effect the stronger IAT effect.

Keywords: *implicit attitude, asymmetry in self-others distance rating, Implicit Association Test*

It is commonly believed that social behaviour is due to conscious control. However, the results of many studies show that this belief is only partially true. According to Greenwald and Banaji (1995) implicit social cognition is often the basis of human behaviour: trace of past behaviour influences the performance of different tasks, but a person does not recognise introspectively neither this trace nor its influence. Implicit cognition is observed in many areas of social life, including the area of using stereotypes and prejudice. Definitions of stereotypes present in literature do not specify whether stereotypes operate on conscious or non conscious level but the results of studies planned specifically to catch the non conscious functioning of stereotypes show that stereotypes often influence behaviour of people who deny them. Hence I share the postulates of Greenwald and Banaji (1995), to apply indirect measures in research on the mechanisms of information processing and social phenomena evaluating, including the research on stereotypes.

The aim of the study presented below was to find the relation between two different implicit measures of attitudes toward Others represented in a salient ethnic stereotype.

The asymmetry effect in Self-Others distance rating as a measure of implicit influence of stereotypes

The phenomenon of asymmetry occurring while rating/evaluating the distances between different objects became an object of systematic research over twenty years ago. I have written about this phenomenon many times before (see ex. Kamińska-Feldman, 1994; 1997), therefore I will present it shortly here, referring only to the most important theses.

The asymmetry effect in comparing the Self to other people was used to describe an observed regularity that one evaluates/rates his/her own distinction from others as bigger/larger than the distinction of others from himself/herself while the distance is objectively identical. The great number of such results (ex. Codol, 1986) leads to the presumption that the Self has a function of prototype, which makes it salient and concentrates

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the attention of a subject automatically. This causes that the Self schema becomes a reference point in social comparisons. The previous studies (Rosch, 1975; Tversky, 1977) have shown that different prototypical objects (as, for example, number 100 or USSR as a communistic country) are generally perceived as more distinct than non-prototypical ones (as number 103, or Bulgaria) than the reverse. However the following question can be asked: can or must the Self always be a reference point in social perception? There exist both theoretical (see Reykowski & Kochańska, 1980) and empirical (see Holyoak & Gordon, 1983; Kamińska-Feldman, 1994; 1997) reasons indicating that although the Self is most frequently used reference point, the cognitive representations of other objects may have similar function as well. The salient social stereotypes can become such points of reference. In that case the typical asymmetry effect is reversed.

The idea of using the phenomenon of asymmetry in interpersonal distances rating to measure the indications of stereotypes is based on the belief that the asymmetry effect reflects the implicit impact of the cognitive representation of knowledge in one's mind.

Holyoak and Gordon (1983) have conducted a study concentrated on this subject. The measure of asymmetry effect in estimating the similarity was used. The authors reffered to the assumption that people, at least to some extent, define their own Self on the basis of important social categories and socially functioning stereotypes, by comparisons to them. On the other hand, the Self serves as main, habitual point of reference in the perception of less known objects, including objects of weakly formed and less salient stereotyped, when they are compared to the Self. In a conducted experiment subjects were to describe typical character of student-sportsman, top student, and so on, and the competent raters ranked the defined stereotypes from the least to the most developed. The results obtained (the asymmetry indicators in the estimation of similarity of the Self to a given character and the given character to the Self) have confirmed these expectations: the Self was perceived as less similar to these "stereotypes" that were described as less developed and more similar to those that were described as more developed. Therefore the asymmetry indicators were reverse when referring to objects of richer cognitive representation. These results convinced/persuaded the authors to treat the similarity asymmetry measure as the diagnostic tool to find the level of development of concepts and schemata which organise social perception. Thus looking at these research, the asymmetry effect seems to be based on cognitive mechanism.

I have assumed that the expression of social stereotypes salience can be measured by the asymmetry effect in rating distances between oneself and others. In previous studies (Kamińska-Feldman, 1994; 1997) and in other studies, we obtained the confirmation of the expectations. It appeared/turned out that in estimating the Self-Jews or Jews-Self distances (we expected that the Jews are represented in the minds of Polish in a comparatively salient stereotype) we obtained, multiply replicated, reverse asymmetry effects (judocentric effects), whereas for comparisons to other nations (exclusively European ones) the effects were usually typical, egocentric (closer data on this subject were described in Jarymowicz, 1994 and Kamińska-Feldman, 1997).

Implicit Association Test as a measure of implicit influence of stereotypes

The main theoretical assumptions IAT (Implicit Association Test) method refer to implicit cognition that influence social behaviour, which I discussed above. This is one of the methods that are applied more and more often in psychological research. The method is based on the reaction time as an indicator of automatic information processing and eliciting implicit attitudes (Greenwald, McGhee & Schwartz, 1998; Maison, 1997; Maison, Bruin, 1999). It is assumed that shortening or lengthening of the reaction (reply) time can be treated as a consequence of invoking affect connected to the attitude. It was found, on the basis of the research concerning the specificity of affective stimuli processing, that affect is strongly connected to the pace of data processing: the affective congruence of stimuli causes shortening of the reaction time and the affective incongruence – lengthening of the reaction time.

The automatic processes and implicit cognition are also studied in the field of evaluation processes and formation of judgments derived from stereotypes and prejudice.

In the IAT (Greenwald et al. 1998) we claim about the attitudes on the basis of duration of automatic associations referring to different categories of words. The shortening or lengthening of the answer time, that is the time of completing categorization tasks, is the indicator of elicitation of the implicit attitude, and more specifically, its affective component.

Maison and colleagues have constructed and tested different Polish versions of the IAT method in the field of implicit attitudes towards various objects, including the field of national groups that are meaningful (represented in the salient stereotype) which is of my interest here (Maison & Bruin, 1999). The research have shown the IAT effects indicating the existence of strong implicit

attitudes towards (among others) Jews with Polish subjects. In other words, in spite of the explicitly declared positive or neutral attitudes towards Jews, on the implicit level subjects have shown the negative emotions connected to this nation.

The relation between the asymmetry effect and IAT effect as the measures of implicit stereotypes

If it is true that both the asymmetry effect in Self-Others distance rating and Implicit Association Test can be applied as methods in research on automatic information processing and implicit stereotypes, I expect that the stronger the reserved asymmetry effect in Self-Others (when those Others are represented in salient stereotype) distance rating, the stronger IAT effect.

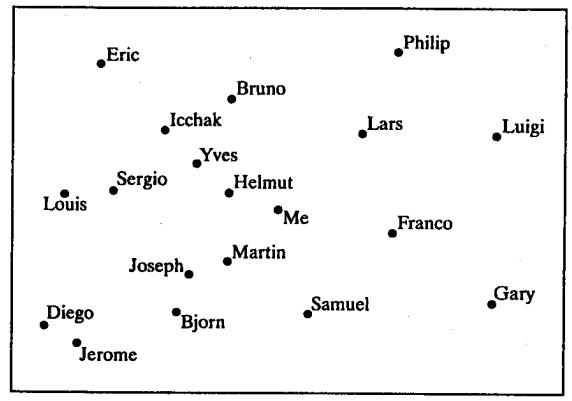
Method

Measures

Two measures of implicit stereotypes were applied: the "Rating the distances" questionnaire to measure the asymmetry effect, version for rating the distances in Self (Polish)-Others (Jews) and Implicit Association Test, version that measures implicit attitudes of Polish towards Jews.

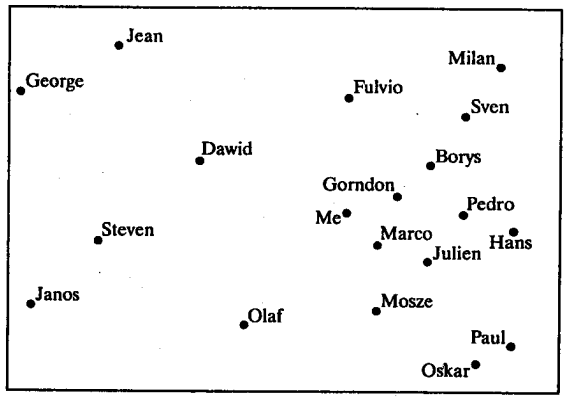
The "Rating the distances" questionnaire. The own graphic technique for group studies was used (see Kamińska-Feldman, 1994). Subjects estimated physical distance between Self and representatives of other nations (described by typical first names). Each subject received two pictures each of which was the mirror reflection of the other (the order was rotated).There was a rectangle (17x11 cm) with 18 points described by names inside in each of the pictures. There were 12 names on one side of the picture and 6 on the other one and one point situated centrally, described as Self. The following Jewish names were used: Mosze, Samuel, Dawid, Icchak.

Subjects were asked to imagine they were participants of a youth camp (taking place "somewhere in Europe"), they were coming back from a trip and waiting for a train at the train station together with other participants. Next they were to answer a couple of questions written below the pictures, concerning the physical distance between given persons. The answer had to be the description of distance in real space marked in meters and centimetres (to make the task more difficult: 3 cm in the picture represented 1 meter in the real space). Every rating of the Self-Jew distance was made twice and each time the question had different direction – different object served as the reference point: Self-Jew or Jew-Self. Formally the distances were identical and equalled 4.3 cm.



2cm on the picture = 1m in real space

Example-question: How far is Icchak from You? Answer: .....m .....cm
.....m .....cm
.....m .....cm
How far are You from Bjorn? .....m .....cm



2cm on the picture = 1m in real space

Example-question: How far are You from Mosze? Answer: .....m .....cm
.....m .....cm
.....m .....cm
How far is Sven from You? .....m .....cm

Figure 1. Graphic technique for the asymmetry in Self-Others distance rating measurement (Kamińska-Feldman, 1994).

For each subject the algebraic difference between the distance in the question in which Self did not served as a reference point (How far are You from Him?) and the distance in a symmetrical question in which Self did serve as a reference point (How far is Him from You?). This way I obtained the indicators of asymmetry in Self-Jew distance rating for each person. The positive values indicated the typical, egocentric effect which is the indication of concentration on Self as assumed. The negative values indicated reversed effect which is the indication of concentration on Jews and called judocentric.

Implicit Association Test. The version of the test prepared by Maison was applied (for detailed presentation of IAT see Maison & Bruin, 1999). The test was completed individually with the use of a computer. All of the instructions and tasks for subjects (series of words that were to be categorised) were presented on a computer screen. Subjects answered by clicking the key at the right

side of the keyboard or at the left one. The instruction was to do the task the fastest possible and correct. The computer registered time and correctness of the performance. The answer time was measured from the moment of stimulus appearance on the screen till the moment of clicking the answer key. Polish and Jewish first names together with positive and negative words were used as stimuli. The Polish first names were: Marek, Monika, Justyna, Bartek, Kasia, Paweł, Łukasz, and the Jewish first names were: Miriam, Rebeka, Rachela, Golde, Mosze, Aaron, Iccek, Samuel. The categories to which stimulus words were categorised were either simple (e.g. Polish or Jewish first name positive or negative word) or combined: either affectively consistent or inconsistent. Assuming (as the results of research indicated) that the negative attitude towards Jews has still been present among Polish, the tasks with categories "Jewish first names or negative words or "Polish first names or positive words" were treated as affectively consistent and tasks with categories "Polish first names and negative words" or "Jewish first names and positive words" were treated as inconsistent (see Figure 2).

In my study the IAT index was based on the mean reaction time of combined categorisation tasks for Jewish first names (not for Polish and Jewish ones as in Maison & Bruin study, 1999). According to the suggestion of Greenwald and others (1998; see also Maison &Bruin, 1999) when the time was shorter than 300 ms or longer than 3000 ms it was corrected by reducing to 300 or 3000 ms accordingly.

Therefore the index of so called IAT effect (that shows the implicit negative stereotype of Jews) was significantly shorter reaction time for affectively consistent categorisation tasks (Jewish first names or negative words) compared to the reaction time in case of affectively inconsistent categorisation (Jewish first names or positive words).

Subjects and procedure

Forty seven students of the first years of Warsaw School of Advanced Social Psychology individually participated in the study. The order of both research techniques was rotated.

Results

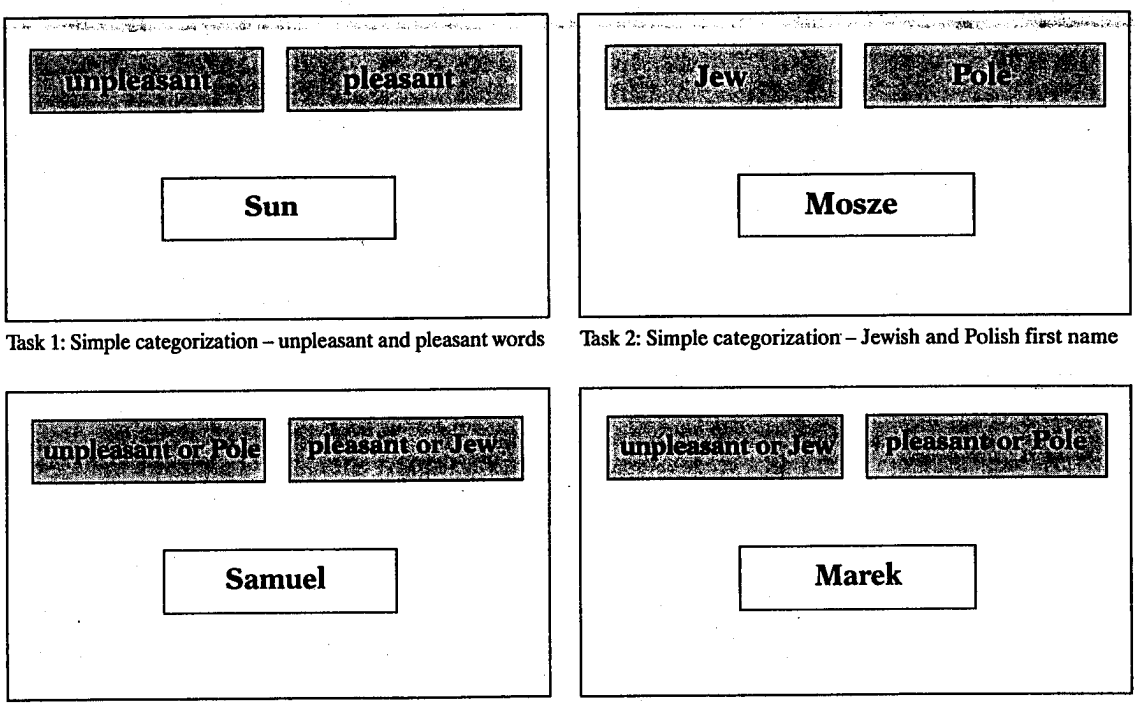
General results

The asymmetry effect in Self-Jew distance rating is shown in Figure 3.

In rating the Self-Jew distance (as in previous studies, see Kamińska-Feldman, 1997) the reversed asymmetry effect was obtained by majority of subjects (the judocentric asymmetry).

The IAT effect in Jewish first names categorisation is shown in Figure 4.

The data show the strong IAT effect: the average reaction time for Jewish first names



Task 1: Simple categorization – unpleasant and pleasant words

Task 2: Simple categorization – Jewish and Polish first name

Task 3: Combined categorization, affective inconsisted

Task 4: Combined categorization, affective consisted

Figure 2. The schema of IAT tasks on the computer screen. Grey fields are the names of categories that are permanently displayed on a computer screen during completing the test. White fields are the spots where stimulus words are exposed (picture based on: Maison & Bruin, 1999).

categorisation was shorter in affectively consistent than in affectively inconsistent conditions (t (46)= 6.303; $p<0.0001$, t-test for dependent samples).

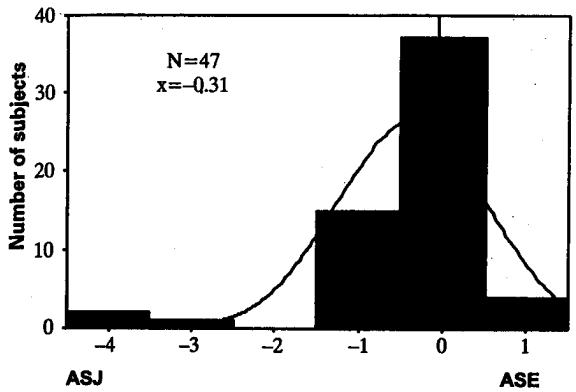


Figure 3. Distribution of the indices of asymmetry in Self-Jew distance rating.

The asymmetry effect and IAT effect in implicit stereotypes study – the research hypothesis.

The relation between asymmetry and IAT effects is shown in Figure 5.

The significant correlation (r=–0.226; $p<0.027$) between indices of both implicit stereotype measures was obtained: the stronger judocentric asymmetry, the stronger IAT effect.

Discussion

The results obtained in the study are the replication of previous research in which the techniques of asymmetry in Self-Jew distance rating and IAT for diagnosing implicit attitude towards Jews were applied separately: Polish students participating in the study have shown the implicit stereotypical perception of Jews.

According to the expectations, the results of the present study have demonstrated the connection between those two measures of implicit stereotypes based on automatically elicited affect: the larger judocenric asymmetry indicating stereotypical perception of Jews, the stronger IAT effect indicating, on the implicit level, the existence of negative emotion referring to this nationality. The asymmetry effect, in line with what I have written, can be treated as phenomenon based on cognitive mechanism, and thus a mechanism reflecting the cognitive component of implicit attitude. The IAT effect is the index of affective component of an attitude. Therefore in the light of the obtained results, both components of an attitude appeared to be consistent on the implicit level.

Taking the formal differences of both techniques into consideration (paper and pencil technique and reaction time measure), the possibility of catching the empirical relation between them seems to emerge from the indirect character of both measures as postulated way of studying the implicit cognition of the affective origin.

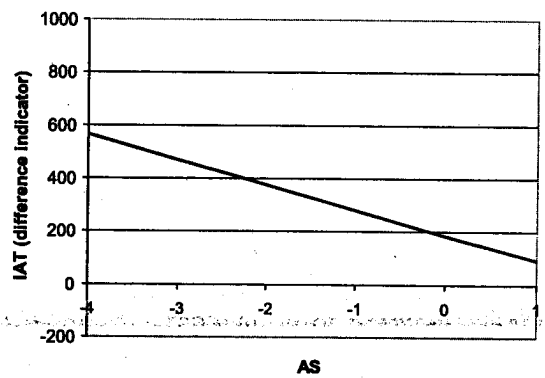


Figure 5. The connection between levels of asymmetry in Self-Others distance rating and IAT indices.

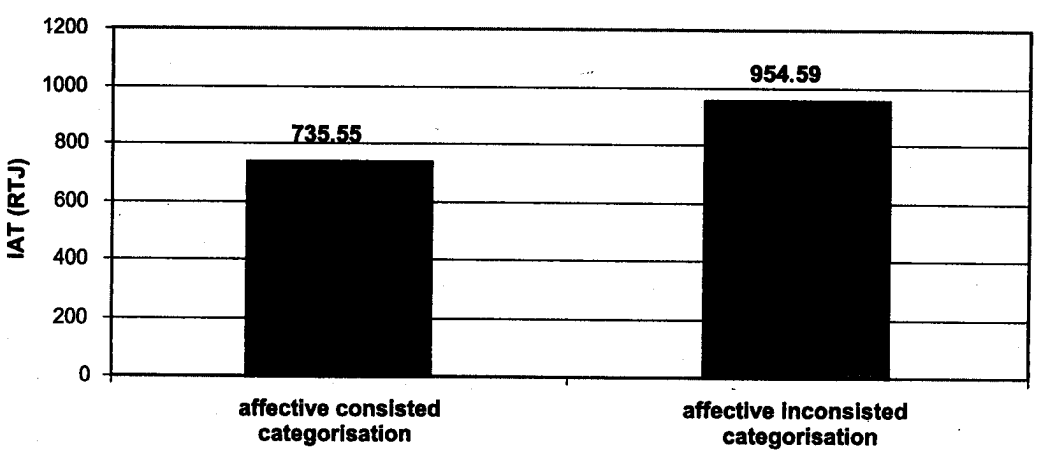


Figure 4. The means of reaction time for Jewish names combined categorization in affectively consistent and inconsistent conditions.

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