Measuring performance-related and general attitudes

towards Turkish and German people

An implicit association test with word and picture stimuli

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Content

1. Online-based Implicit Association Test (IAT)

IAT [Implicit association test] is a test introduced by Greenwald et al. (1998) to measure implicit attitudes. The IAT is a computer-based procedure which consists of several phases. In these phases, different stimuli (words or pictures) appear one after the other in the middle of the screen. The participant's task is to assign these stimuli to different categories, which are displayed on the top right and left corner of the monitor. During this assignment both the reaction time and any misassignments will be recorded. Depending on the type of calculation (cf. Greenwald, Nosek & Banaji, 2003), this information is used to calculate the so-called IAT score. Two of the total of four categories in the IAT belong to the *target concept category* the other two belong to the *attribute dimension*. The allocation is done by keystroke (e.g., left vs. right key for the corresponding left or right category). Further, each of these phases consists of several assignments (so-called IAT-trials). In practice phases only the assignment to the target concept categories or the allocation to the attribute dimension will be exercised. In the combined or critical test phases, the target concept categories are paired with the attribute dimension. Participants now have to allocate stimuli to all of the four categories using the two buttons. A distinction is made between compatible and incompatible combinations. Based on the test phases, the strength of the implicit association will be recorded (Röhner & Schütz, 2019).

The present IAT is designed to measure implicit stereotypes towards persons with Turkish vs. German migration background. However, it can be extended to any target or attribute dimensions (Röhner & Schütz, 2019).

2.Instrument description

2.1 Performance IAT

In order to assess the implicit associations of individuals towards the performance of persons with a Turkish immigrant background in comparison to the performance of German individuals, we developed an implicit association test (IAT) that measures the implicit performance-related associations in relation to individuals with a migration background which can also be used online.

2.1.1 Compatible version

At the beginning, the participant will be asked to click to start the test.

1) Target Concept Category: GERMAN – TURKISH

The two nationalities, GERMAN in the upper left corner and TURKISH in the upper right corner, appear. The participant is asked to place the middle or index finger on keys e and i. Pictures of German and and Turkish persons appear which are to be allocated to the categories. If the picture belongs to the left category, the e key should be pressed, and for the right category the i key should be pressed. If there are errors, a red x appears and the allocation must be revised. The participant is asked to react as quickly as possible. The task takes approx. five minutes and can be started by pressing the space bar (Fig. 1).

Abb. 1: Leistungs-IAT; kompatibel; erster Durchgang

2) Attribute dimension: STRONG PERFORMANCE - WEAK PERFORMANCE

The adjectives STRONG PERFORMANCE - WEAK PERFORMANCE appear in green letters. In the middle, different green words (adjectives) appear from time to, which correspond to the two categories strong performance (left) and poor performance (right) (Fig. 2).

Abb. 2: Leistungs-IAT; kompatibel; zweiter Durchgang

3) Pairing the categories: GERMAN – STRONG PERFORMANCE, TURKISH – WEAK PERFORMANCE

Now, in this phase the categories are combined with each other before they used to be separated. GERMAN or STRONG PERFORMANCE is on the left side and TURKISH or WEAK PERFORMANCE on the right side. The participant has to allocate in two round the adjectives to the pictures (Fig.3).

Abb. 3: Leistungs-IAT; kompatibel; dritter Durchgang

4) Target category: TURKISH – GERMAN
The participant, like in the first round, has to match pictures to nationalities, only now the

Abb. 4: Leistungs-IAT; kompatibel; vierter Durchgang

categories are mixed up: TURKISH is on the left side, GERMAN on the right side (Fig.4).

5) New pairing: TURKISH – STRONG PERFORMANCE, GERMAN – WEAK PERFORMANCE
Again, a combination of categories appears that used to be separated: TURKISH or STRONG PERFORMANCE on the left side and GERMAN or WEAK PERFORMANCE on the right side. The participant has to allocate again in two rounds adjectives and pictures to the given categories (Fig. 5).

Abb. 5: Leistungs-IAT; kompatibel; fünfter Durchgang

2.1.2 Incompatible version

At the beginning the participant is asked to click to start the test.

1) Target Category: TURKISH – GERMAN   GERMAN

The two nationalities, TURKISH in the upper left corner and GERMAN in the upper right corner, appear. The participant is asked to place the middle or index finger on the e and i keys. Pictures appear of Turkish and German persons which have to be assigned to the categories. If the picture belongs to the left category, the e key should be pressed, and if it belongs to the right category, the i key should be pressed. If there is an error a red x appears and the assignment must be corrected.

The participant is asked to react as quickly as possible. The task takes approx. five minutes and can be started by pressing the space bar (Fig. 6).

Abb. 6: Leistungs-IAT; inkompatibel; erster Durchgang

2) Attribute dimension: STRONG PERFORMANCE - WEAK PERFORMANCE

The adjectives STRONG PERFORMANCE - WEAK PERFORMANCE appear in green letters. In the middle, alternating green words (adjectives) appear, which correspond to the two categories strong performance (left) and poor performance (right) (Fig. 7).

Abb. 7: Leistungs-IAT; inkompatibel; zweiter Durchgang

3) Pairing of the categories: TURKISH – STRONG PERFORMANCE, GERMAN – WEAK PERFORMANCE

A combination of the previously separate categories now appears here: TURKISH or STRONG PERFORMANCE is on the left and GERMAN or WEAK PERFORMANCE on the right. The participant has to match the adjectives and pictures in two rounds (Fig. 8).

Abb. 8: Leistungs-IAT; inkompatibel; dritter Durchgang

4) Target category: GERMAN – TURKISH

The participant now has to assign pictures to the nationalities, as in the first run, but the categories are now reversed: GERMAN is on the left, TURKISH on the right (Fig. 9).

Abb. 9: Leistungs-IAT; inkompatibel; vierter Durchgang

5) New pairing: GERMAN – STRONG PERFORMANCE, TURKISH – WEAK PERFORMANCE

Once again, a combination of the previously separated four categories appears- GERMAN or STRONG PERFORMANCE on the left and TURKISH or WEAK PERFORMANCE on the right. The participant again has to match the green adjectives and pictures to the categories in two rounds (Fig. 10).

Abb. 10: Leistungs-IAT; inkompatibel; fünfter Durchgang

2.2.1. Compatible version

The participant is initially asked to click to begin the test.

1) Target Concept Category: GERMAN - TURKISH

The two nationalities, GERMAN in the upper left corner and TURKISH in the upper right corner, appear. The participant is asked to place his middle or index finger on the e and i keys. Pictures of Turkish and German persons appear, which are to be assigned to the categories. If the picture belongs to the left category, the e key should be pressed, otherwise the i key. If there is an error, a red x appears and the assignment must be corrected.

The participants are asked to react as quickly as possible. The task takes approx. five minutes and can be started by pressing the space bar (Fig. 11).

Abb. 11: Affektiver IAT; kompatibel; erster Durchgang

2) The attribute dimension: GOOD - BAD

The adjectives GOOD-BAD appear in green letters. In the center alternating green words that are to be assigned to the two categories GOOD (left) and BAD (right) appear (Fig. 12).
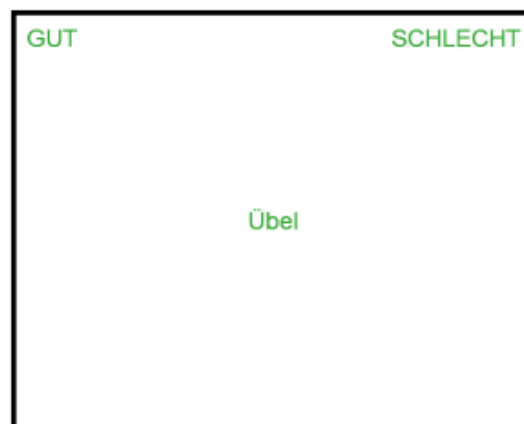

Abb. 12: Affektiver IAT; kompatibel; zweiter Durchgang

3) Pairing of categories: GERMAN – GOOD, TURKISH – BAD

A combination of the previously separated categories will then appear: GERMAN or GOOD is on the left side and TURKISH or BAD is on the right side. The participant must match the adjectives and pictures in two runs (Fig. 13).

Abb. 13: Affektiver IAT; kompatibel; dritter Durchgang

4) Target category: TURKISH – GERMAN

The participant now has to assign pictures to the nationalities, as in the first run, but the categories are now reversed: TURKISH is on the left side and GERMAN on the right side (Fig. 14).

Abb. 14: Affektiver IAT; kompatibel; vierter Durchgang

5) New pairing: TURKISH - GOOD, GERMAN – BAD

A combination of the previously separated four categories TURKISH or GOOD appears again on the left side and GERMAN or BAD on the right side. The participant again has to match the green words and pictures to the categories in two runs (Fig. 15).

Abb. 15: Affektiver IAT; kompatibel; fünfter Durchgang

2.2.2 Incompatible version

The participant is initially asked to click to begin the test.

1) Target Concept Category: TURKISH - GERMAN

The two nationalities, TURKISH in the upper left corner and GERMAN in the upper right corner, appear. The participant is asked to place the middle or index finger on the e and i keys. Pictures of Turkish and German persons appear, which are to be assigned to the categories. If the picture belongs to the left-hand category, the e key should be pressed; for the right-hand category, the i key should be pressed. If the participant makes a mistake, a red x appears and the assignment must be revised. The participant is asked to react as quickly as possible. The

task takes approx. five minutes and can be started by pressing the space bar (Fig. 16).

Abb. 16: Affektiver IAT; inkompatibel; erster Durchgang

2) Attribute dimension: GOOD - BAD

The adjectives GOOD-BAD appear in green letters. In the center now appear words that are to be assigned to the two categories GOOD (left) and BAD (right) (Fig. 17).
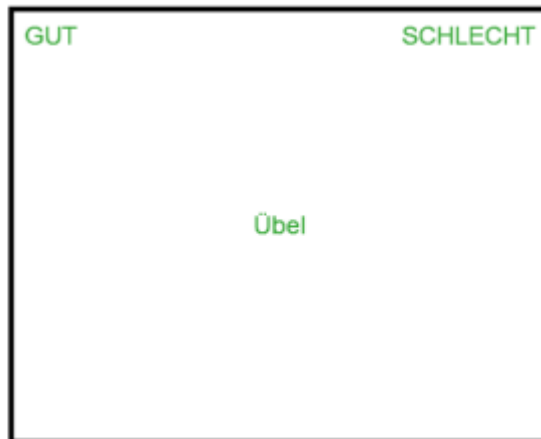
Abb. 17: Affektiver IAT; inkompatibel; zweiter Durchgang

3) Pairing categories: TURKISH-GOOD, GERMAN-BAD

In this test phase, a combination of the previously separated categories appears: TURKISH or GOOD is on the left side and GERMAN or BAD on the right side. The participant has to match the adjectives and pictures to the given categories in two runs (Fig. 18).

Abb. 18: Affektiver IAT; inkompatibel; dritter Durchgang

4) Target category: GERMAN - TURKISH

As in the first round, the subject must now match pictures to nationalities. However, the

categories are now reversed: GERMAN is on the left side and Turkish on the right side (Fig. 19).
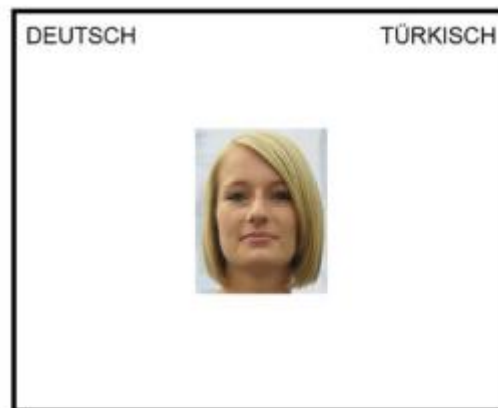

Abb. 19: Affektiver IAT; inkompatibel; vierter Durchgang

5) New pairing: GERMAN - GOOD, TURKISH - BAD

A combination of the previously separated four categories appears again: GERMAN or GOOD on the left side and TURKISH or BAD on the right side. The participant again has to match the green words and pictures to the categories in two passes (Fig. 20).

Abb. 20: Affektiver IAT; inkompatibel; zweiter Durchgang

3. Pre-testing of the materials

For the IAT, we used photographs as target stimuli and adjectives as attribution stimuli. The selection of photos was based on a pre-test with N = 111 participants (66.7% female, M = 27.94 years, SD = 11.07). Each photograph showed a biometric passport image of an individual.[1] The participamnts were asked to evaluate a total of 222 photos of male and female individuals with and without an immigrant background in relation to their immigrant background (1 = *German*; 2 = *Turkish*; 3 = *no decision*), attractiveness (1 = *not at all attractive*; 7 = *very attractive*) and intelligence (1 = *not at all intelligent*; 7 = *very intelligent*). From the 222 photos with male and female individuals with Turkish migrant background or of German origin, 24 photos with the individuals considered to be most Turkish looking individuals and the 24 photos with the individuals judged to be the most German looking individuals (half male, half female) were selected (between 79.3% and 96.3% acceptance for the German and 80.5% and 91.9% for the Turkish looking individuals).

3.1 Performance – IAT

In addition, for the performance-based IAT, we selected 24 positive and 24 negative performance-related words that were presented to N = 52 student teachers (72.2% female, M = 22.09 years, SD = 2.82). They were asked to rate word valence in relation to performance on a 7-point rating scale, each ranging from *performance-related* to *not at all performance-related*, and from *very poor performance* to related to *very good performance*. We selected the words that were strongly related to performance (M from 5.75 to 6.81, SD from 0.44 to 0.88), and from this selection we chose the ones that were most strongly associated with a poor performance (24 words, M from 1.87 to 2.55, SD from 0.83 to 0.99) or most strongly associated with good performance (24 words, M from 5.62 to 6.17, SD from 0.73 to 0.88).

3.2 Affective IAT

For the affective IAT, we selected 24 positive and 24 negative words that were presented to N = 86 students (86% female, M = 23.59 years, SD = 7.56). They were asked to rate the word valence on a 7-point rating scale, respectively from *very positive* to *very negative*, *very pleasant* to *very unpleasant*, and from *very good* to *very bad*. We selected the words that were rated as strongly positive (M of 1.26 to 2.62, SD of 0.50 to 0.96), pleasant (M from 1.21 to 2.62, SD from 0.49 to 1.07), and very good (M from 1.15 to 2.57, SD from 0.40 to 1.00), on the contrary, we also chose words that were strongly negative (M from 5.74 to 6.3, SD from 0.68 to 1.12), unpleasant (M from 5.58 to 6.62, SD from 0.74 to 1.23) and very bad (M from 5.43 to 6.67, SD from 0.64 to 1.20).

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[1] We thank Stefanie Kollmar for her support when taking the photos.

4. Online use

The online-based IAT is designed for the online-use. The described implicit association tests are convertible to different survey programs.

4.1 Possibility of the implementation of the IAT in the survey program UNIPARK

The implementation of IAT in UNIPARK has already been successfully carried out multiple times. An instruction for this can be obtained from the author on request.

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