

Running Head: IAT RACE AND WEAPONS

Race and Weapons: An IAT Experiment

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Abstract

A study was designed to test whether participants were more apt to pair African American faces or Caucasian faces to negative concepts. Participants (N=20) performed an Implicit Association Test on the pairings of African American and Caucasian faces to objects and weapons.

Researchers designed the study to see if participants responded faster to African American faces with weapons or Caucasian faces with weapons. Using a Two-Way ANOVA, researchers found that participants responded the fastest when African American faces were paired with weapons.

Participants responded the slowest when Caucasian faces were paired with weapons. Results reveal a main effect of race and a main effect of thing present. There was no interaction between race and thing ($p=.642$).

Race and Weapons: An IAT Experiment

The Implicit Association Test (IAT) was first designed to explore the unconscious roots of thinking and feeling. Those who participate in an IAT gain awareness into their own unconscious preferences and beliefs on the subject they are being tested. One of the most popular topics to test using an IAT is race. Research using the IAT has consistently shown that Caucasian participants demonstrate an unspoken preference for Caucasian, race-related stimuli over similar African American stimuli. Researchers in many domains have also documented that people generally have more positive associations with the color white and more negative associations with the color black (Smith-McLallen, Johnson, Dovidio, & Pearson, 2006).

Smith-McLallen, et al. (2006) found, using race IAT procedures, that Caucasian participants typically pair photographs of Caucasian faces, or stereotypically Caucasian names with positive words, while pairing photographs of African American faces or stereotypically African American names with negative words. They pair these much faster than they pair Caucasian stimuli with negative words and African American stimuli with positive words. This pattern of effects is interpreted as showing strong preferences for Caucasians.

While previous research shows that Caucasian participants typically associate Caucasian people with positive things and African Americans with negative things, there is very little previous research that compares Caucasian faces and African American faces with harmless objects and weapons. A weapon, for the purpose of this study, is a negative item while a harmless object is a positive item. The question this study proposes is: will this trend continue when harmless objects are used as positive things and weapons are used as negative things? For the purpose of this study, it is hypothesized that participants' reaction time will be faster when responding to African American faces paired with weapons and Caucasian faces paired with objects compared to Caucasian faces paired with weapons and African American faces paired with objects.

Method

Participants

The participants for this study included 20 students from a small private liberal arts college located in the Midwest. Their participation was voluntary. There were eleven female and nine male participants in this study. Their ages ranged from 19-22.

Equipment

The software used for data collection in this experiment was called “Cognition Laboratory Experiments,” which was designed by John Krantz at Hanover College and ran through Sun Microsystems Java application (Krantz, 2008). This software was run on a Gateway E series computer, model E4300. The monitor was a flat screen 15.4” LCD display, model FPD1565.

Stimulus

The stimulus for this Implicit Associations Test was a series of images which were presented on the monitor to the participant. There were two sets of images. One set of images contained harmless objects and weapons and the other set of images contained African American and Caucasian faces.

Procedure

The participant began the experiment by pressing the space bar. Instructions showed up on the screen indicating which key on the keyboard to press to respond to the stimulus. The word “object” was placed on one side of the experiment screen and the word “weapon” was placed on the other side of the experiment screen. After the participant read the instructions, he or she pressed the spacebar again and an image showed up on the screen. The first set of images consisted of both objects and weapons, which were presented randomly, one at a time. If the image corresponded to the word on the left side of the screen, the participant pushed the *d* key.

If the image corresponded to the word on the right side of the screen, the participant pushed the *k* key. This set of images had eight objects and eight weapons, which were each presented twice to complete the sequence. Once that sequence was finished, more instructions appeared on the screen. The next sequence was images of African American faces and Caucasian faces, so the words on the sides of the experiment screen changed to “African American” and “Caucasian.” The participant completed this sequence in the same way as the previous one and once he or she finished, another set of instructions appeared. The third sequence contained images of objects, weapons, African American faces, and Caucasian faces. The words that were on the left side in the past two sequences were both on the left side of the screen for the third sequence, and the words that were on the right side in the past two sequences were both on the right side of the screen for the third sequence. This means that each side of the experiment screen will have a race and a thing. For example, one side of the screen might say “African American/Object” and the other side of the screen might say “Caucasian/Weapons.” When an image appeared, the participant continued to respond to the pictures in the same way; the only difference was that each side of the screen had two descriptions to respond to (i.e. Caucasian/Weapons) instead of just one. The pairing of the race and thing was random as well as the placement on either the left or right side of the screen. Again, the participant uses the *d* and *k* keys to classify the images as belonging on the left or the right side. When this sequence is finished, the next sequence begins, but this time the stimulus images are just African American and Caucasian. The placement of the words on the left and right sides of the screen was the opposite from the second sequence. The fifth and final sequence has race and thing paired together again, but the pairings are opposite of the earlier paired sequence. For example, if the earlier paired sequence had “African American/Object” and “Caucasian/Weapon,” the last sequence would have “Caucasian/Object” and “African American/Weapon.” After this sequence was completed, a window appeared with the participant’s reaction time and accuracy for each condition.

Results

A two (race: African American or Caucasian) by two (thing: object or weapon) repeated measures ANOVA was run to analyze the pairing of African American or Caucasian faces with weapons or objects. There was a main effect of race such that participants had a faster reaction time when responding to African American faces than when responding to Caucasian faces, $F(1,20) = 32.934, p < .001$. There was also a main effect of thing such that participants had a faster reaction time when responding to weapons than when responding to objects, $F(1,20) = 5.927, p = .024$. The interaction between race and thing was not significant ($p = .642$).

A dependent t -test was run to average the means of reaction times (see Figure 1). There was a significant difference between pairing African American faces with objects and pairing African American faces with weapons, $t(20) = 3.973, p = .001$. There was a significant difference between pairing African American faces with objects and pairing Caucasian faces with objects, $t(20) = 3.574, p = .002$. There was a significant difference between pairing African American faces with weapons and pairing Caucasian faces with weapons, $t(20) = 6.083, p < .001$. There was a significant difference between pairing Caucasian faces with objects and pairing Caucasian faces with weapons, $t(20) = 5.596, p < .001$.

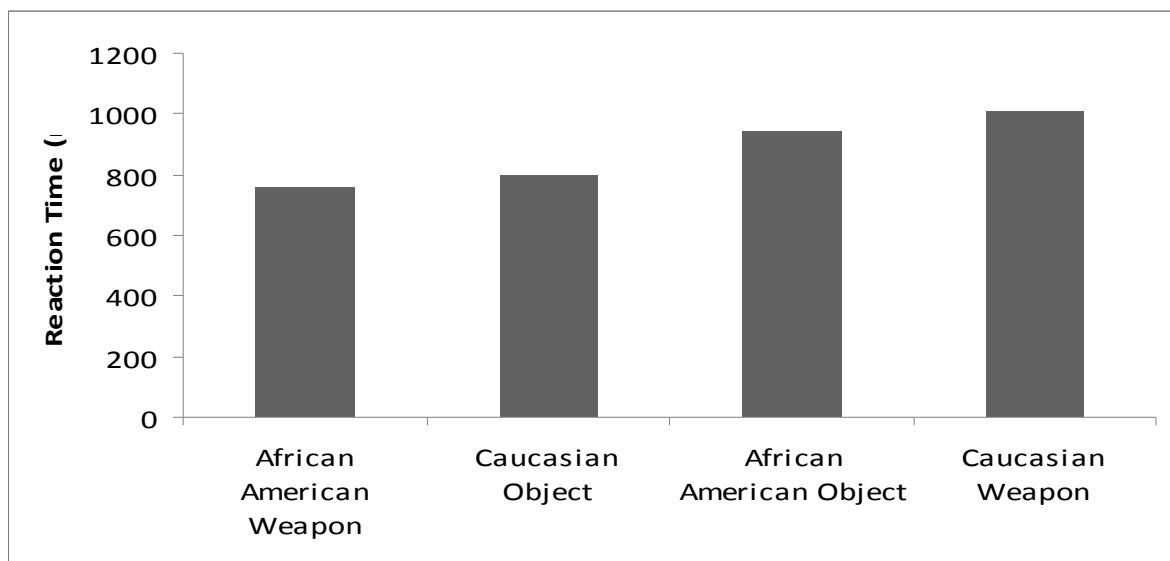


Figure 1. Reaction time across the four conditions.

Discussion

Researchers hypothesized that participants' reaction time would be faster when responding to African American faces paired with weapons and Caucasian faces paired with objects compared to White faces paired with weapons and African American faces paired with objects. This hypothesis was formed because of previous research finding that people tend to have more negative associations with the color black and more positive associations with the color white. It is clear by looking at the results that the researchers' hypothesis was supported. In fact, African American faces paired with weapons had the fastest reaction time than any other condition (see *Figure 1*). Similarly to the Smith-McLallen, et. al study, participants in this study repeatedly paired negative objects, weapons, to African American faces while pairing the positive or neutral objects, to Caucasian faces. The pairing of Caucasian with weapons was the condition that participants took the longest time to respond to. The participants had a much harder time pairing or seeing the connection between Caucasian faces and weapons than African American faces and weapons. This pattern of positive preferences for Caucasians supports the researchers' previous research.

There were, however several factors that could possibly have had an important impact on the significant results that were found. One factor could be the participants used for this experiment. An adaptation for this study for the future could include a more diverse sample of participants. All participants from this study were Caucasian college students attending a private liberal arts school. Because the environment around the participants is not very diverse, they may have had little exposure to people of different races and ethnicities, and therefore they may have certain biases or unfair thoughts connected with African Americans and weapons. A diverse sample would include participants from a larger, more diverse university where they are

exposed to many different races and ethnicities, and therefore giving them more accurate and realistic associations between different races and objects. One study could only test African American participants to see if their responses and unconscious pairing of negative items with either race would parallel the results of this study which consisted of all Caucasian participants.

Another suggestion for this study in the future would be to test a more diverse sample of participants in age. The findings and conclusions came from only testing college aged students (18-22 years old). A sample of younger than 20 years old or a sample of participants over 50 years old could produce different findings than the ones found in this study.

References

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