

Awareness of Implicit Weight Bias and the Inclination to Change Behavior: A Statistical Analysis

Kalista R. Miller, Denise Y. Vasquez, Emma G. Parr, Izzy P. Smith, Patricia G. Lacrosse, Alannah S. Rivers

Objectives

- We looked to answer important questions regarding implicit weight bias
 - Can awareness of implicit weight bias mitigate discriminatory behavior?
 - What demographics are correlated with having propensity towards weight bias?
 - Can understanding your bias change your behavior?
- Why does this matter?
 - Lack of proper health care
 - Unfair treatment in employment
 - Societal norms favor thin bodies
 - Lack of representation

Literature Review

- Those who believe they are less biased than the general population tended to respond with defensiveness to their results (Howell, 2016).
- Historical study looks at the correlation between discriminatory behavior and bias using IAT's in radiology applicants (Maxfield, 2020).
- Are cultural/social norms to blame? Is where you live/grow up a factor?
 - IAT's used to measure bias in culturally racist areas (Payne, 2019).
- Demographics associated with weight bias:
 - Being exposed to mostly thinner bodies and being told they are better, being less educated, being younger, and being male (Stewart, 2021).
- Correlations between weight bias and lack of proper care (Maxfield, 2020).
- Slight to moderate evidence of unconscious bias among participants trained for unbiased obesity healthcare (Jungnickel, 2022).

Methods

Our study used a sample of 30 randomly assigned individuals who completed two rounds of the Harvard ('Fat - Thin' IAT).

- Two groups of participants were separated, with the experimental group receiving their first test's results before taking the test again.
- The control group was not given the results of their first test and were given the instruction to continue to take the IAT (Implicit Association Test) again.
- Along with the IAT administration, participants were asked to fill out demographic data via Google Forms and had the option to answer questions about their BMI, political affiliation, and religious affiliation.

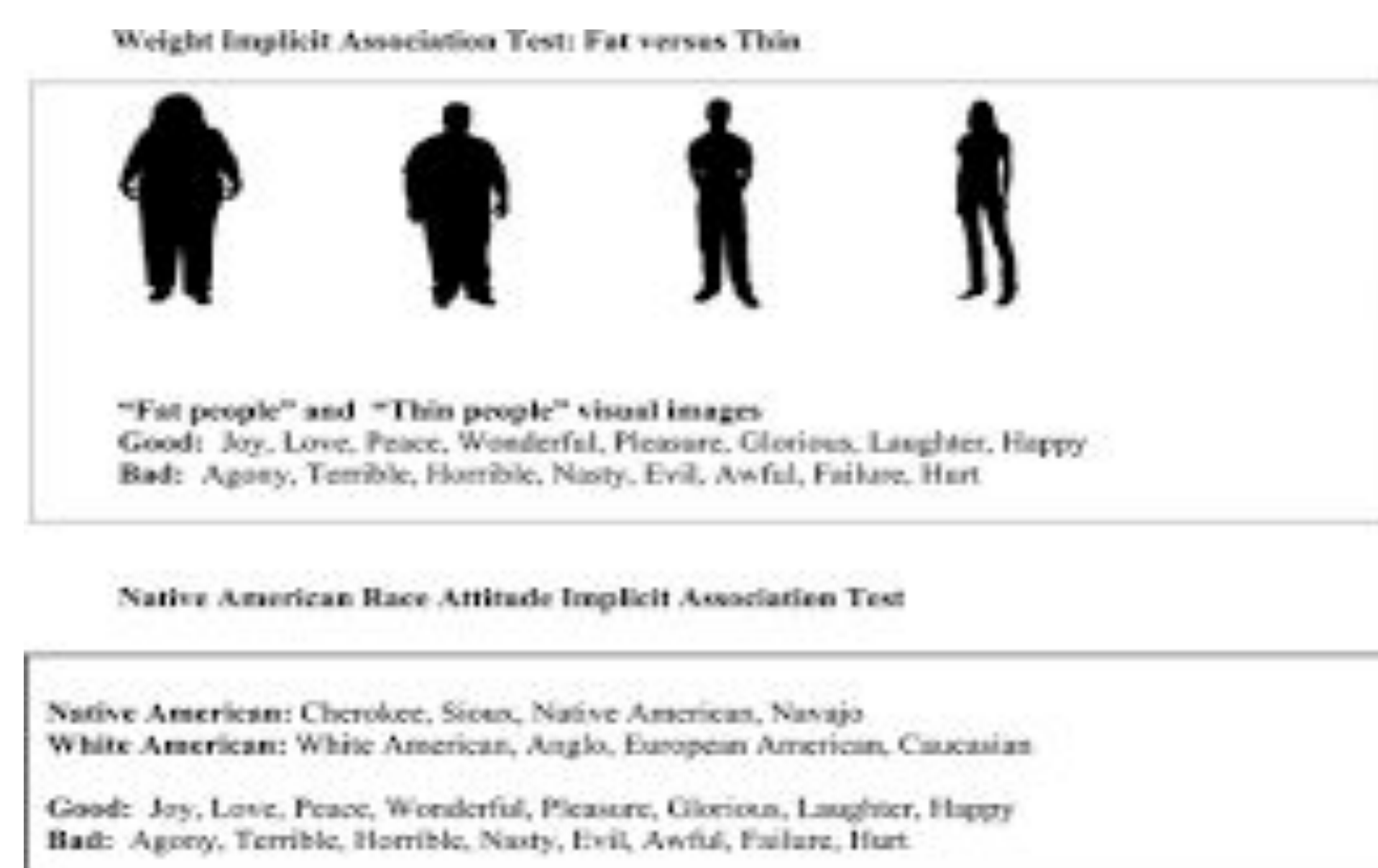


Figure 1: Harvard IAT screencap of instructions prior to taking the test portion.

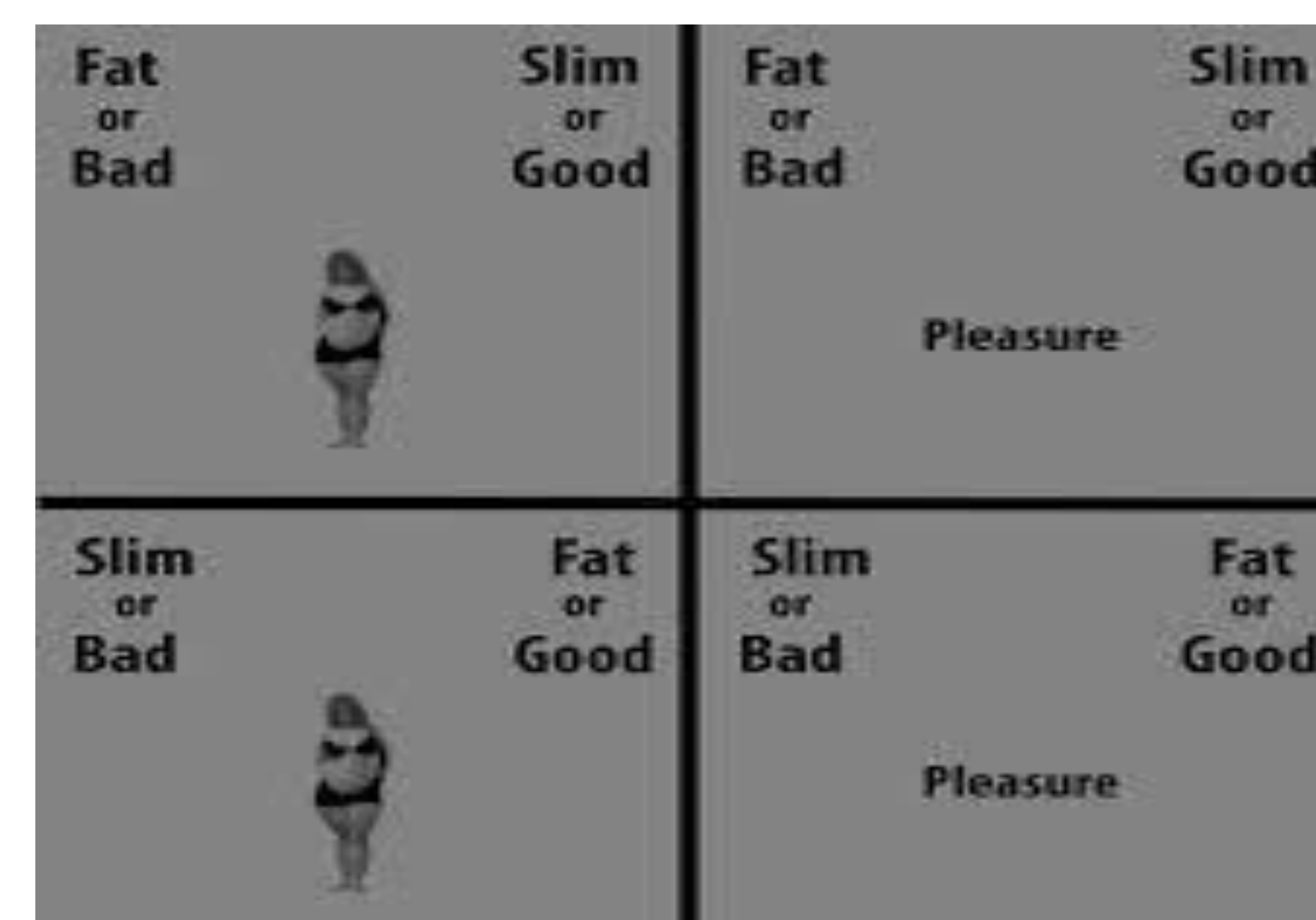


Figure 2: Screenshot of an earlier version of a weight bias IAT.

Results

Using SPSS to run an independent samples t-test:

- $t(29) = -.762, p = .226$

We found negligible statistical differences between pre and post-test scores.

On average, the control groups score on the second administration of the IAT went up (Scores that improved, or decreased in bias, were coded to show up as positive numbers while scores that got worse/went up were coded as negative).

- (M = -.133, SD = 1.246)

While the experimental group on average tended to improve their score and decrease in bias on their second IAT

- (M = .200, SD = 1.146).

Those who were provided with evidence of their bias(s) are showed they are more likely to exhibit change, as shown by Pearson's Correlation pre-post test.

- $r(29) = .556, p < .001$

Discussion

- No statistically significant difference pre-post test
 - Trend in data supports hypotheses
 - Participants shift toward neutral/opposite stance
 - Most considerable room for improvement means the ability to have the biggest change.
 - Our study was consistent with other studies who aimed to study the same topic
 - Knowledge mitigates bias
 - Knowledge produces change in behavior
- Limitations:**
- Small number of participants
 - Affected statistical significance
 - Gender unbalance
 - 17% male and 83% female
 - Demographic similarities
 - .Affects generalizability

Discussion

- Potential threats to validity:
 - Disruptive testing environments
 - Lack of information processing and/or motor skills
- Future Research:**
- Demographic features correlated with developing or being susceptible to developing bias:
 - Political ideas and tolerance for body positivity
 - Religion and connections to ideas about weight.

Group Statistics

	Group	N	Mean	Std. Deviation	Std. Error Mean
Pre	Yes	15	4.9333	1.53375	.39601
	No	15	5.6667	1.17514	.30342
Post	Yes	15	5.0667	1.43759	.37118
	No	15	5.4667	.99043	.25573
Difference	Yes	15	-.1333	1.24595	.32170
	No	15	.2000	1.14642	.29601

Figure 3: Pre and post-test differences between the control (yes) and experimental (no) groups.

Full Text and References

