



The Relationship Between Race and Body Image Concerns Among Adolescents

Zaitian Chen, Applied Data Analysis, Wesleyan University

Introduction

- Body image concerns are dissatisfaction with one's body shape and size in terms of weight, body dissatisfaction is considered to be the most contributing factor to eating disorders (Presnell, et al., 2004). Eating disorders are often overlooked but they are more deadly and prevalent than people's perception.
- At the same time, it is acknowledged that body image concerns or body dissatisfaction vary across racial groups. For females, many studies have suggested that racial minorities are less dissatisfied with their bodies, and white females generally have more concerns regarding size and weight (Neumark-Sztainer et al., 2002).
- Some others also suggest that Asian Americans, more than the white population, may be increasingly influenced by body image concerns (Rodger et al, 2018). Therefore, the research on the topic has not yet yielded a consensus.
- It is vital to learn about the differences between racial groups on the topic of body image concerns so that specific intervention programs can be created and implemented

Research Questions

- How does body image concern vary across different racial groups? Correspondingly, how does weight control vary across different racial groups?
- How does gender play a role in the relationship?

Methods

Sample

- The sample is from the first wave of The U.S. National Longitudinal Survey of Adolescent Health (ADDHEALTH), which is representative of adolescents in grades 7-12. In total 6504 respondents participated in the survey. After data management, in total 5791 respondents' answers are included in this research.

Measures

- Race: White (coded as 1), Black or African American (coded as 2), American Indians or Native American (coded as 3), Asian or Pacific Islander (coded as 4)
- Self-impression of one's weight (WeightIM): thinks one to be underweight (coded as -1), thinks one to be about the right weight (coded as 0), thinks one to be overweight (coded as 1)
- Weight control: (WeightACT): has been trying to lose weight (coded as -1), has been trying to stay the same weight (coded as 0), has been trying to gain weight (coded as 1), does not control weight (coded as 2)
- BIO_SEX: male (coded as 1) and female (coded as 2)

Results

Univariate

- Approximately 70% of the respondents identified themselves as white.
- Most respondents considered themselves about the right weight and had tried to stay the same weight.

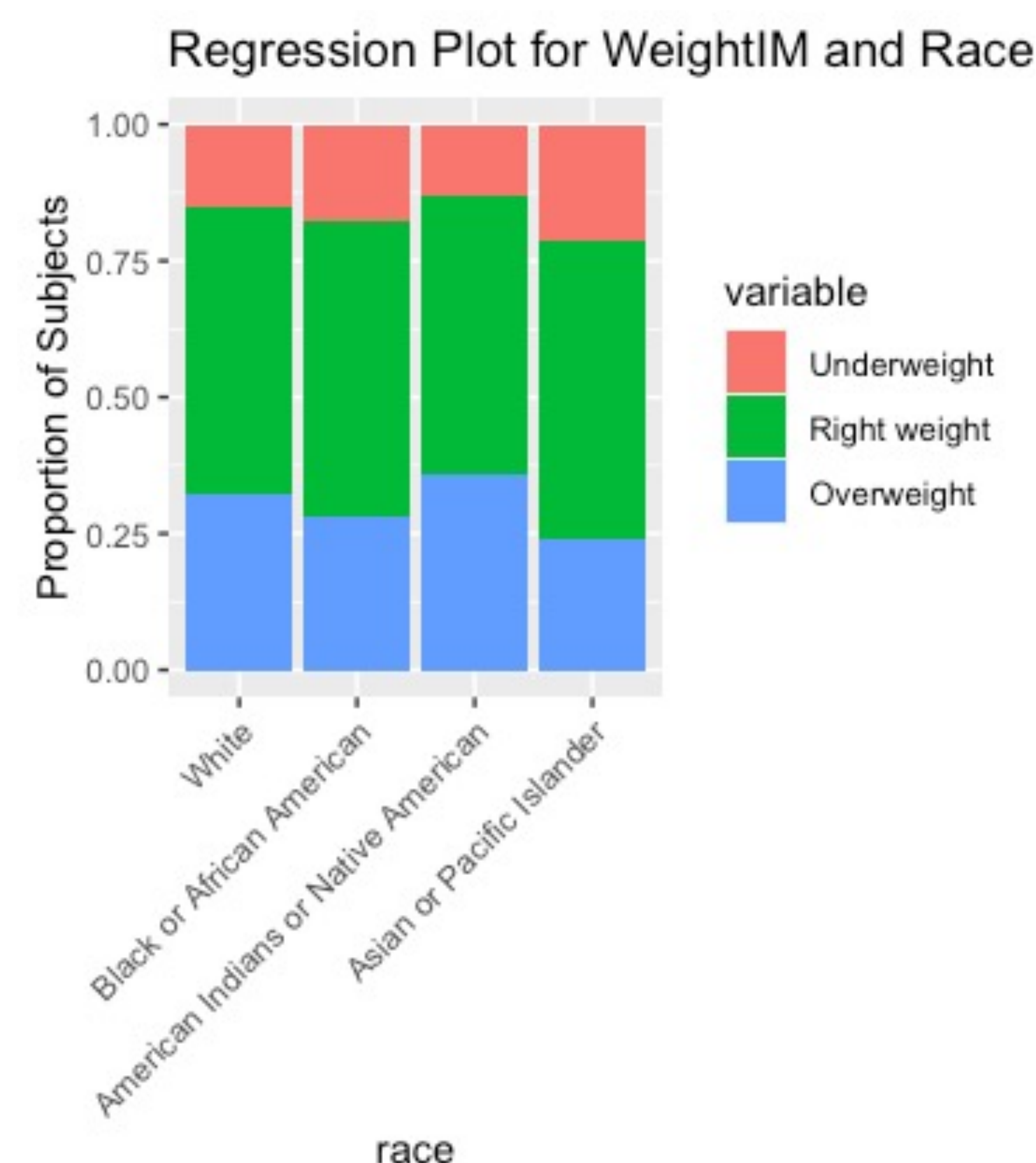
Bivariate

- Pearson's Chi-squared test showed that there is a significant relationship between race and self-impression of one's weight ($X^2 = 33.091$, $df = 6$, $p\text{-value} = 1.007e-05$); Pearson's Chi-square test also showed that there is a significant relationship between race and weight control ($X^2 = 128.68$, $df = 9$, $p\text{-value} < 2.2e-16$).

Regression

- The regression analysis only looks into the relationship between self-impression of one's weight (WeightIM) and race. The results of ordinal logistic regression show being Black or African American ($p\text{-value} = 0.000558$) and being Asian or Pacific Islander ($p\text{-value} = 0.004015$) are negatively associated with considering one to be overweight. And being white is positively associated with considering one to be overweight, whereas being American Indian or Native American is not significantly associated with weight self-impression.

Figure 1. The Plot of Ordinal Logistic Regression between Self-Impression of One's Weight and Race

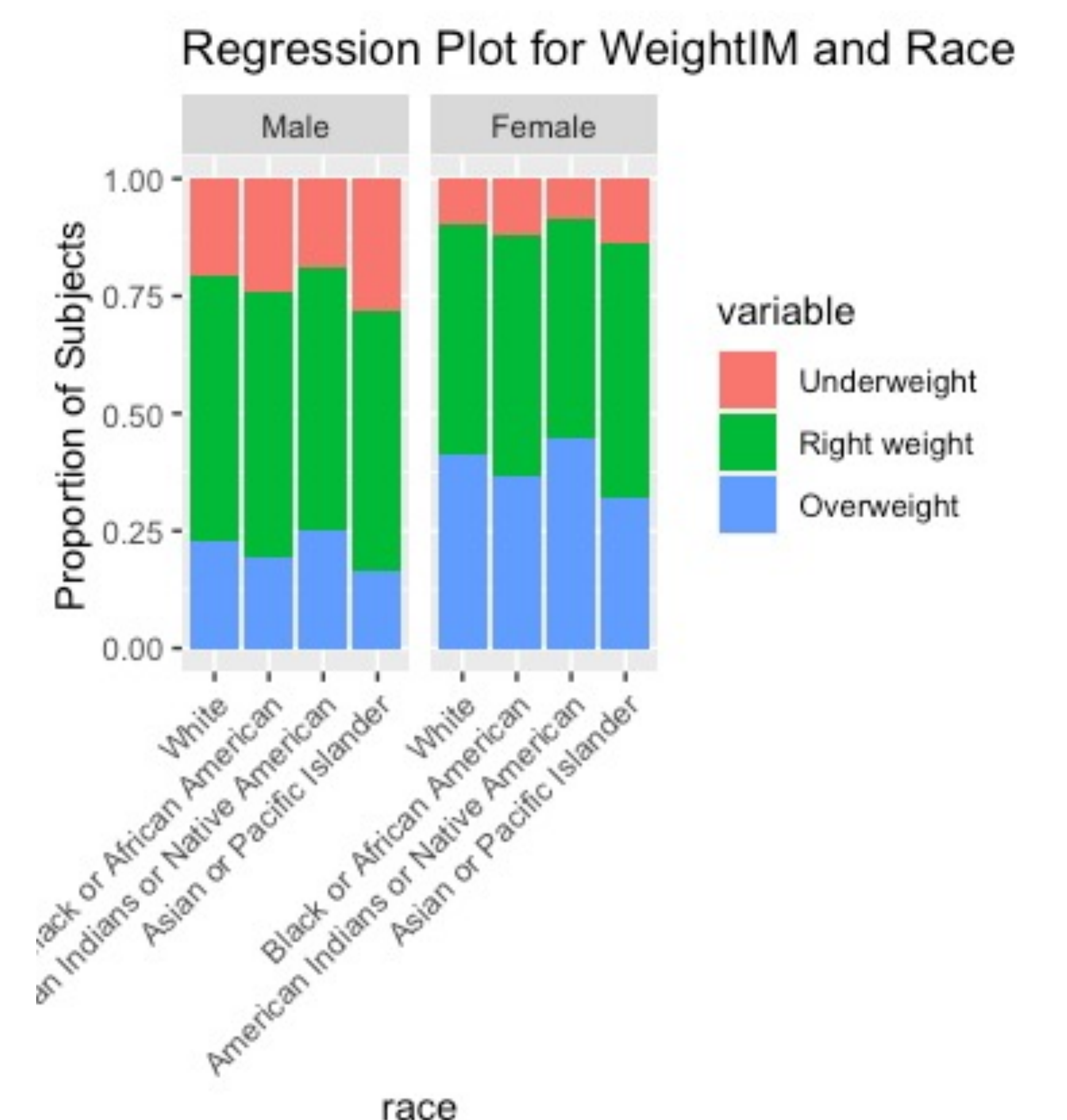


Multivariate

- Controlled for gender, Black or African American ($p\text{-value} = 0.000697$) and Asian or Pacific races ($p\text{-value} = 0.006065$) are still significantly and negatively associated with the impression of being overweight.
- Gender is also significantly associated with the outcome variable ($p\text{-value} < 2e-16$) and being female is positively associated with the impression of being overweight.

- To be specific, compared with the white respondents, the odds for Black or African American respondents to have considered themselves overweight are 0.818 times less likely.
- And compared with the white respondents, the odds for Asian or Pacific Islander respondents to have considered themselves overweight are 0.845 times less likely.

Figure 2. The Plot of Multivariate Ordinal Logistic Regression between Self-Impression of One's Weight and Race by Gender



- To be exact, the odds of considering one to be overweight for a female are 1.855 times higher than for a male, controlled for race

Conclusion

- Based on the sample from the first wave of The U.S. National Longitudinal Survey of Adolescent Health (ADDHEALTH), race is associated with self-impression of one's weight and respective weight control behaviors, as indicated by the chi-square tests' results.
- In addition, further regression analysis on the relationship between self-impression of weight and race showed that Black or African American and Asian American and Pacific Islander respondents have fewer odds to consider themselves to be overweight compared to the white respondents, whereas being American Indians or Native Americans is not significantly related to the outcome variable.
- Moreover, the above results stayed true after controlling gender; Gender is also significantly associated with self-impression of one's weight. To be specific, Female has more odds to consider one to be overweight than male, controlled for race.
- Limitation of the research is the majority of sample is white respondents, which may decrease the validity of the research.