



**THE EFFECTS OF PERCEIVED BODY WEIGHT
ON DIETING BEHAVIORS AND PHYSICAL
ACTIVITY IN OVERWEIGHT AND OBESE
AMERICAN INDIAN AND ALASKA NATIVE
ADOLESCENTS**

Tess Abrahamson-Richards

Thesis Chair: Melissa Schiff, MD, MPH

Committee Member: Bonnie Duran, DrPH

BACKGROUND



- Higher rates of overweight & obesity in AI/AN adolescents
- Adolescents at risk for body dissatisfaction and negative diet-related behaviors related to weight perception



BACKGROUND



- Distorted weight perception (DWP)
 - A mismatch between weight perception and reported or measured Body Mass Index (BMI)
 - Weight perception and DWP have been shown to predict health outcomes, independent of BMI
 - Prevalence of DWP among adolescents is approximately 30%



RESEARCH QUESTION

This study:

- Evaluates weight perception among American Indian and Alaska Native (AI/AN) overweight and obese adolescents using the Youth Risk Behavior Survey (2007-2011), and
- Quantitatively examines the associations between the accuracy of perceived body weight and dieting and physical activity behaviors in this population



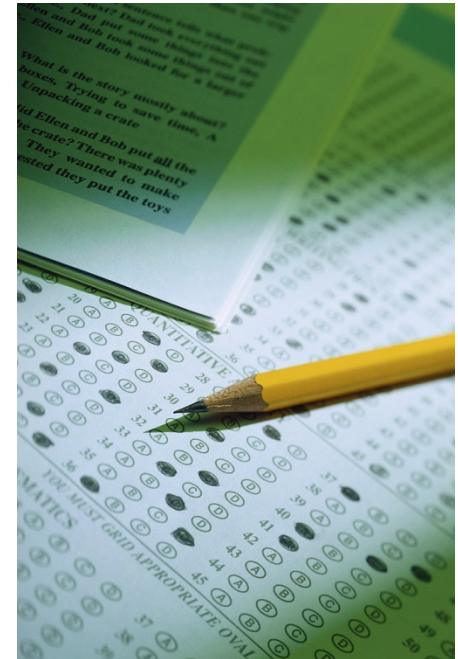
METHODS

○ Study Design

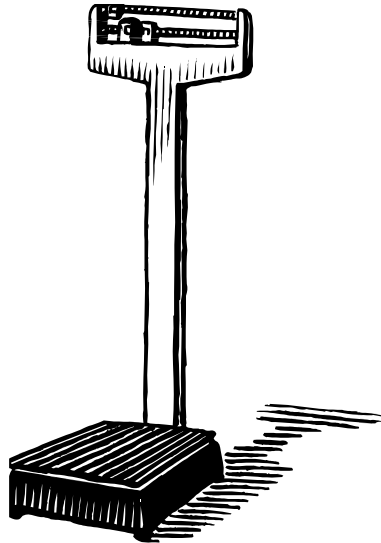
- Youth Risk Behavior Survey (YRBS)
- Cross sectional
- Self-report

○ Study Population

- Nationally representative sample
- 9th-12th graders
- Restricted to overweight and obese AI/AN
- 2007-2011



METHODS: EXPOSURES



- Actual Weight (BMI)
 - Overweight (85-95%ile)
 - Obese (>95%ile)

- Weight Perception (How do you describe your weight?)
 - Accurate Perceiver
 - “Overweight”
 - “Very overweight”
 - Misperceiver
 - “About the right weight”
 - “Slightly underweight”
 - “Very underweight”



METHODS: OUTCOMES

○ Dieting Behaviors

- Trying to lose weight
- Past 30 days:
 - Fasting
 - Diet pill use
 - Vomiting or laxative use

○ Physical Activity

- On average:
 - ≥ 60 min. PA on ≥ 5 Days
 - Watch TV > 2 hrs./day
 - Watch TV > 5 hrs./day
 - Play video/computer games > 2 hrs./day
 - Play video/computer games > 5 hrs./day
 - Attends PE ≥ 3 days/week
 - Played on ≥ 1 sports team during last 12 mos.



METHODS: OUTCOMES

○ Nutrition

- Past 7 days:
 - Servings of fruit
 - Servings of vegetables (salad, carrots, and other vegetables)
 - Milk consumption
 - Soda consumption



METHODS: DATA ANALYSIS

- Descriptive Statistics

- Age, grade, sex

- Logistic Regression

- Weighted to account for survey design
- Prevalence Odds Ratios & 95% Confidence Intervals
- Assessing association between being an “Accurate” vs. “Misperceiver” and dieting, physical activity, and nutrition variables

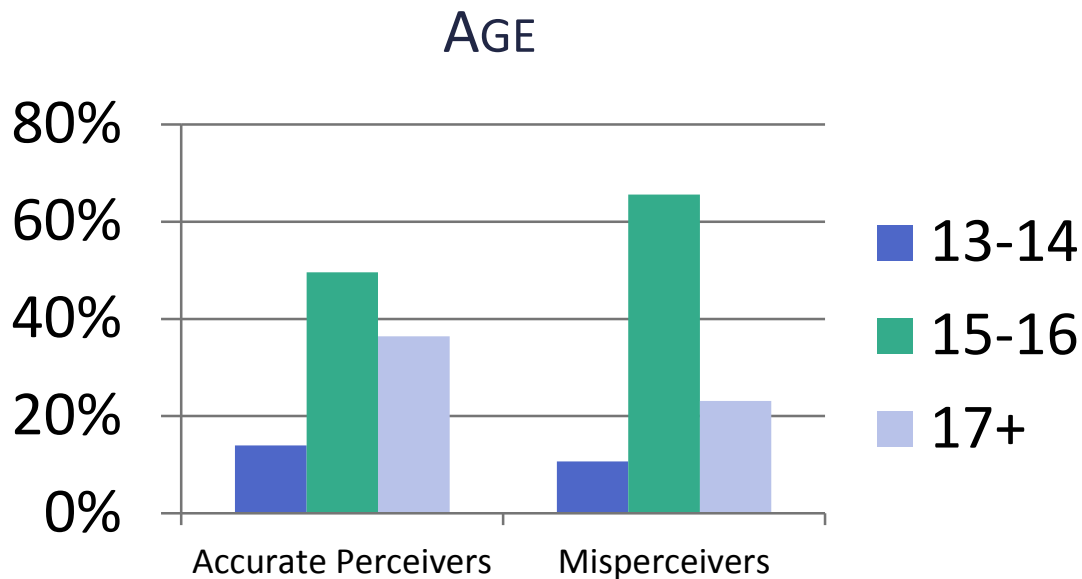
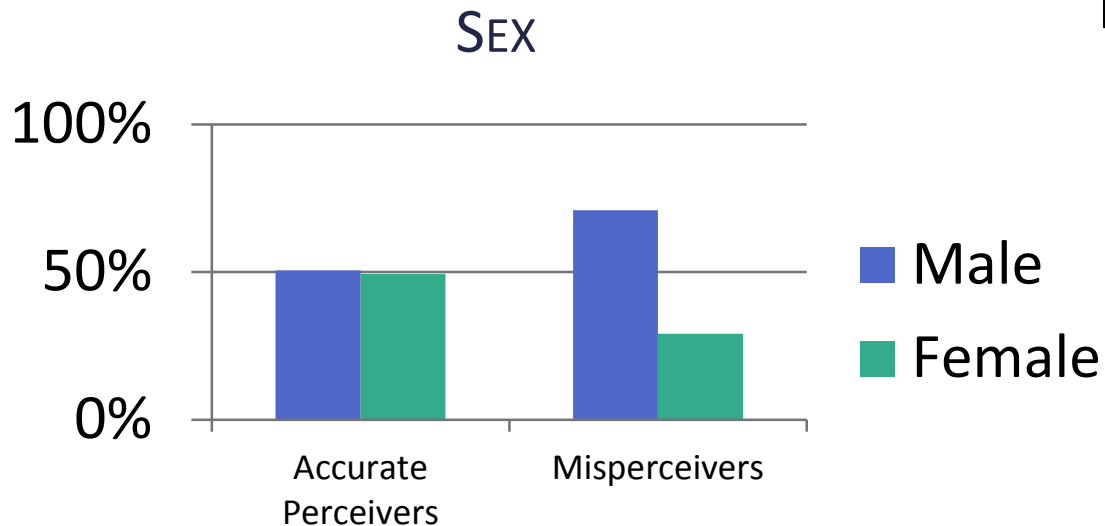
- Confounding and Effect Modification

- Age
- Sex



RESULTS

N=820



RESULTS: DIETING

Association Between Accuracy of Perceived Body Weight and Dieting Behaviors among AI/AN Adolescents, 2007-2011

Behaviors	Accurate %	Misperceivers %	aPOR (95% CI)
Trying to lose weight	85.0	50.7	0.20 (0.13-0.31)
Fasting to lose weight	24.8	17.5	0.64 (0.40-1.03)

The association between accuracy of weight perception and vomiting/laxative use differed by weight status:

- Overweight misperceivers 61% less likely than accurate perceivers to use vomiting or laxatives to lose weight (aPOR: 0.39, 95% CI: 0.16-0.93)
- No association among obese misperceivers



RESULTS: PHYSICAL ACTIVITY

Association Between Accuracy of Perceived Body Weight and Physical Activity Behaviors among AI/AN Adolescents, 2007-2011

Behaviors	Accurate %	Misperceivers %	aPOR (95% CI)
≥60 min. PA on ≥5 Days	37.3	46.7	1.29 (0.87-1.91)
Attends PE ≥3 days/week	41.4	54.3	1.60 (1.08-2.35)
Played on ≥1 sports team during last 12 mos.	49.2	65.5	1.76 (1.21-2.57)



The association between accuracy of weight perception and sports participation differed by weight status:

- Obese misperceivers 2.7 times as likely to report playing on ≥ 1 sports team during the previous year (POR: 2.69, 95% CI: 1.33-5.45)
- No association among overweight youth

The association between accuracy of weight perception and engaging in ≥ 60 minutes of physical activity on ≥ 5 days per week differed by sex:

- Female misperceivers 42% **less** likely to report this behavior than female accurate perceivers (POR: 0.58, 95% CI: 0.32-1.05)
- Male misperceivers 85% **more** likely to report engaging in ≥ 60 minutes of physical activity on ≥ 5 days per week than male accurate perceivers (POR: 1.85, 95% CI: 1.11-3.10)



RESULTS: NUTRITION

Association Between Accuracy of Perceived Body Weight and Nutrition Behaviors among AI/AN Adolescents, 2007-2011

Behavior	Accurate %	Misperceivers %	aPOR (95% CI)
Consume recommended daily servings of fruit	22.1%	31.8%	1.64 (1.11-2.43)



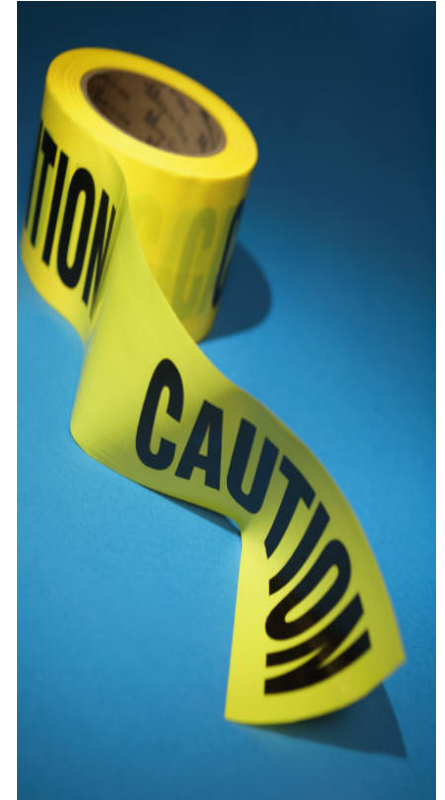
CONCLUSIONS

- Misperceivers overall exhibiting healthier behaviors
- Cross-sectional data suggests multiple possible explanations for these findings
 - Greater willingness to care for one's physical health among those with a more positive body image? Or,
 - More positive body image resulting from engaging in a healthier lifestyle?
- Need for future studies on this topic
- Self-perceived weight status should be taken into account by health professionals



LIMITATIONS

- Self-reported BMI
- Selective non-response to weight questions
- Absence of data on SES and other potential confounders of interest
- Cross-sectional data



THANK YOU! QUESTIONS AND COMMENTS?

