

Children's Mercy Kansas City

**SHARE @ Children's Mercy**

---

Presentations

---

5-2021

## **BMI and Associated Variables in A Pediatric Gender Clinic Sample**

Mirae J. Fornander

Christine Moser

Anna Egan

Timothy A. Roberts

Follow this and additional works at: <https://scholarlyexchange.childrensmercy.org/presentations>



Part of the [Behavioral Medicine Commons](#), and the [Pediatrics Commons](#)

---

# BMI and Associated Variables in A Pediatric Gender Clinic Sample

Mirae J. Fornander, MA

Timothy Roberts, MD, Anna M. Egan, PhD, Christine N. Moser,  
PsyD



# Disclosure

- No disclosures to report

# Background

- Transgender/gender diverse (TGD)
- High prevalence of overweight/obesity
- Concern for unhealthy weight control behavior
  - Weight manipulation
    - 63% reported intentional weight manipulation

# Gaps in the Literature

- Overall health of TGD individuals
  - TGD youth
- BMI status of TGD youth
  - Treatment naïve
- BMI associated variables of TGD youth

# Objective

1. Describe BMI of treatment naïve TGD youth
2. Explore associated variables
  - Medication use
  - Well-being
    - Caregiver & Patient
  - Recreational activities

# Inclusion Criteria

- 9-19 years old
- Treatment naïve
- Attend 1<sup>st</sup> session
- Caregiver present
- Completed measures

# Measures

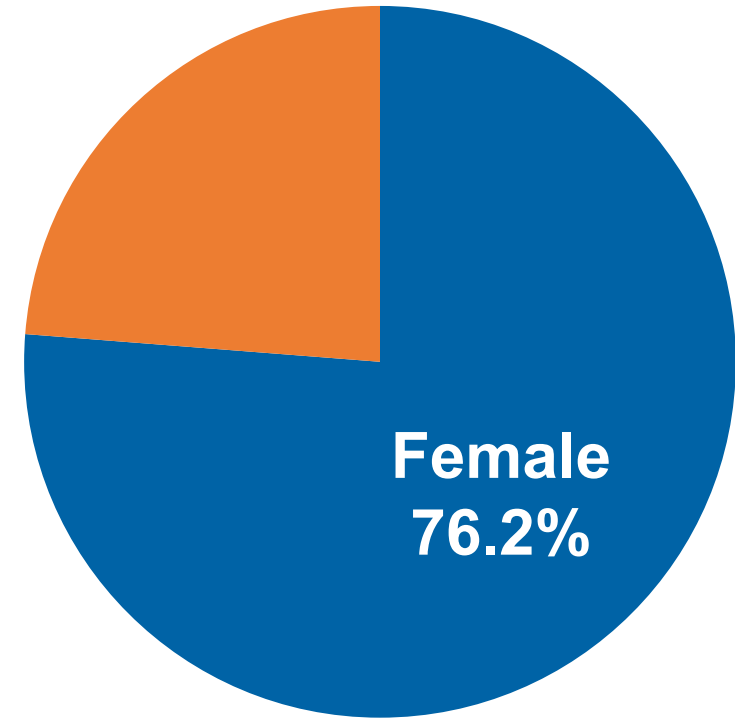
- Demographics
- Medication
- Height & Weight
- Gender Identity & Recreational Activities
- Well-Being
  - Pediatric Quality of Life Inventory (PEDS-QL WB)



# Results: Patient Characteristics

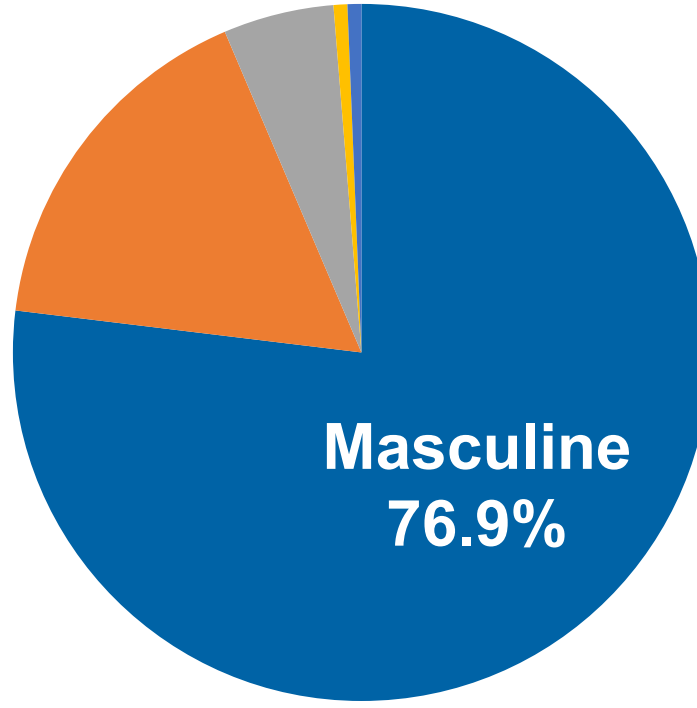
## Sex Assigned at Birth

■ Female ■ Male



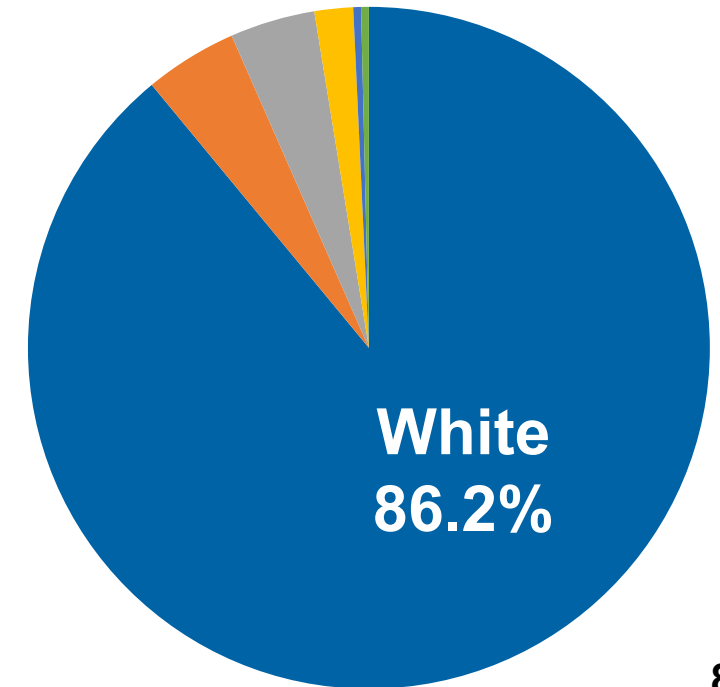
## Self-Described Gender Identity

■ Masculine ■ Feminine ■ Non-binary  
■ Gender fluid ■ Not sure

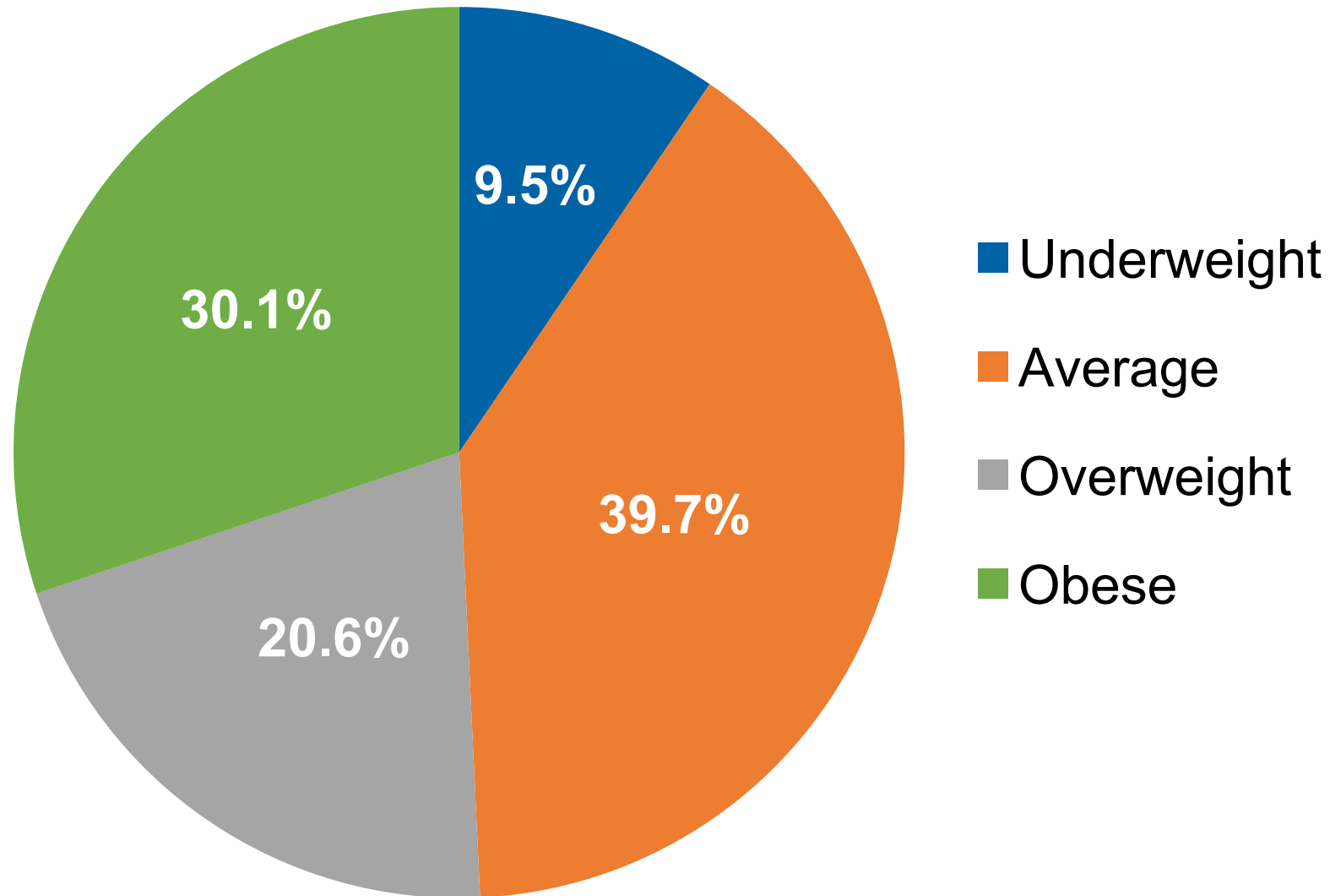


## Ethnicity

■ White  
■ Multiracial  
■ Hispanic  
■ Black or African American  
■ Asian  
■ Native Hawaiian or Pacific Islander

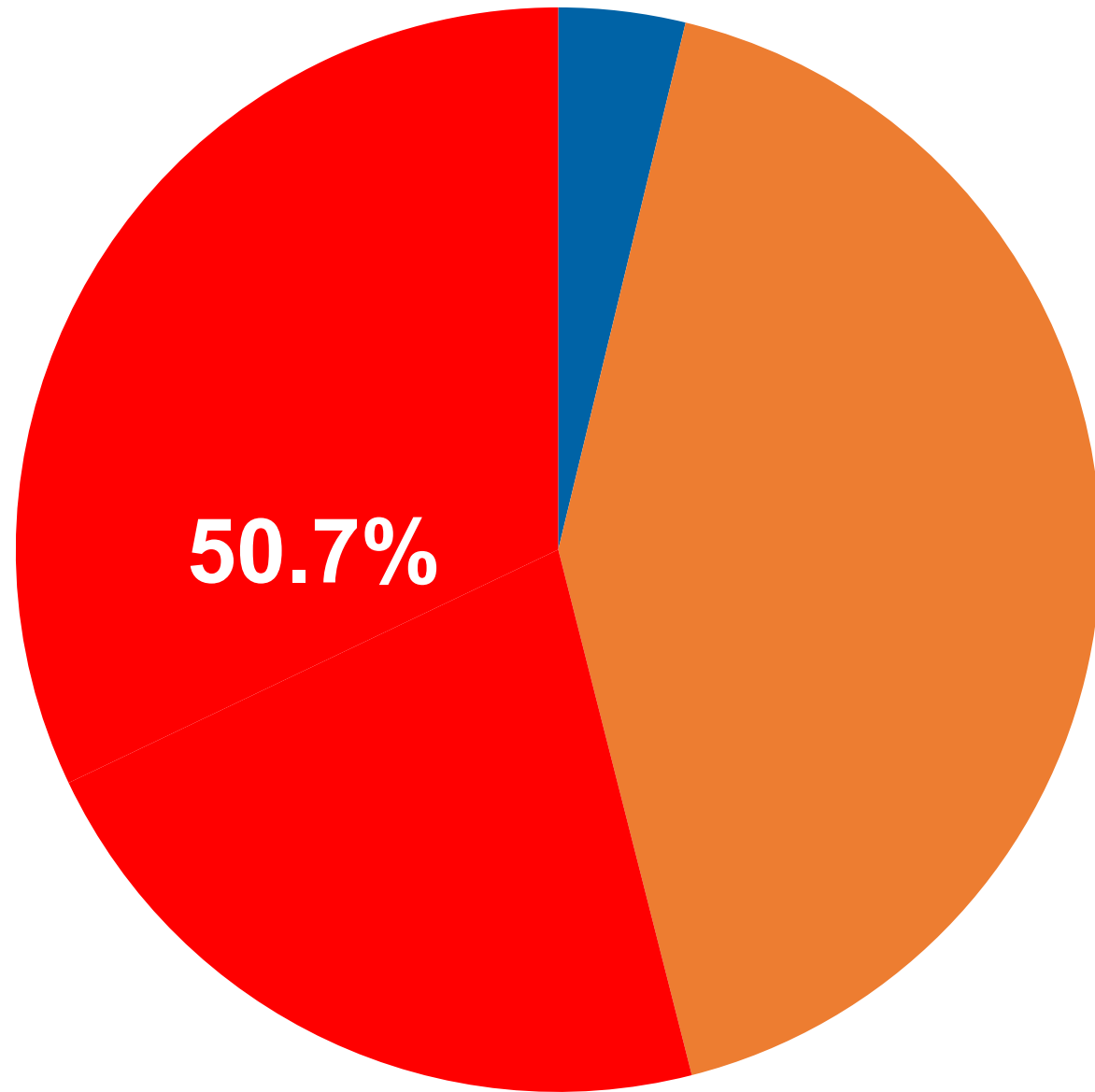


# Results: Weight Status



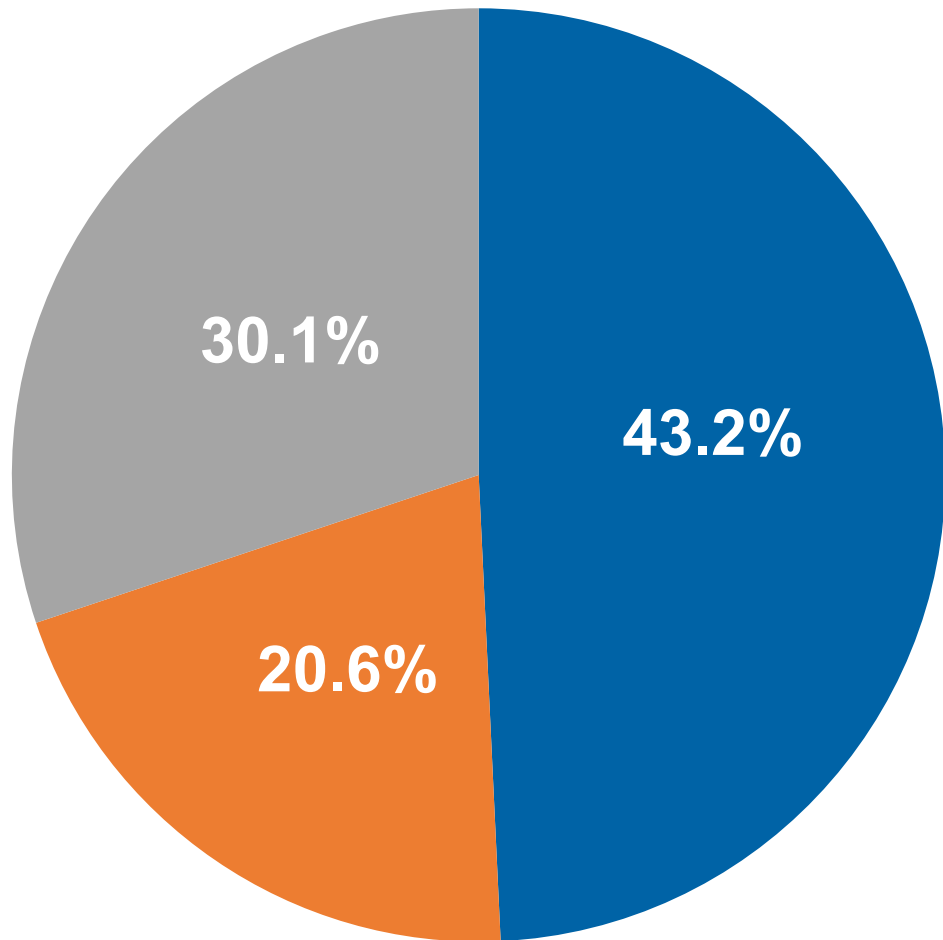
# Results: Weight Status

Overweight & Obese  
>85<sup>th</sup>

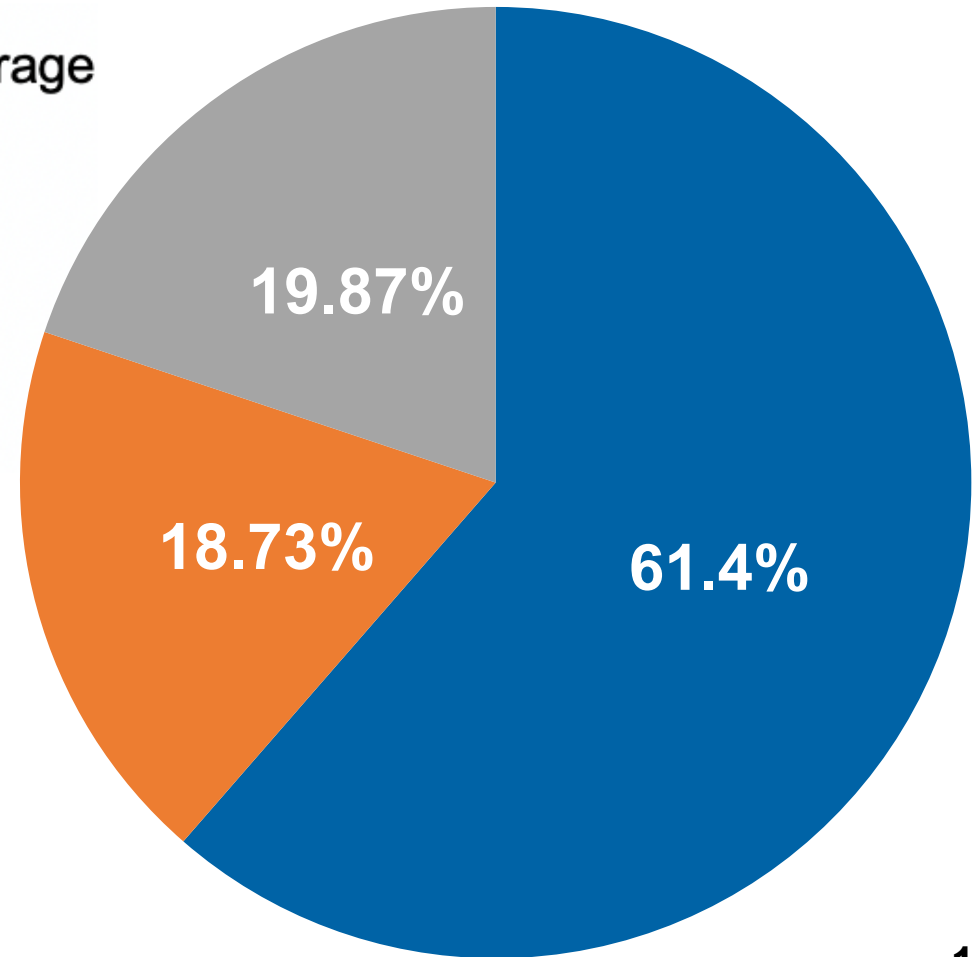


# Results: Weight Status

## TGD Youth

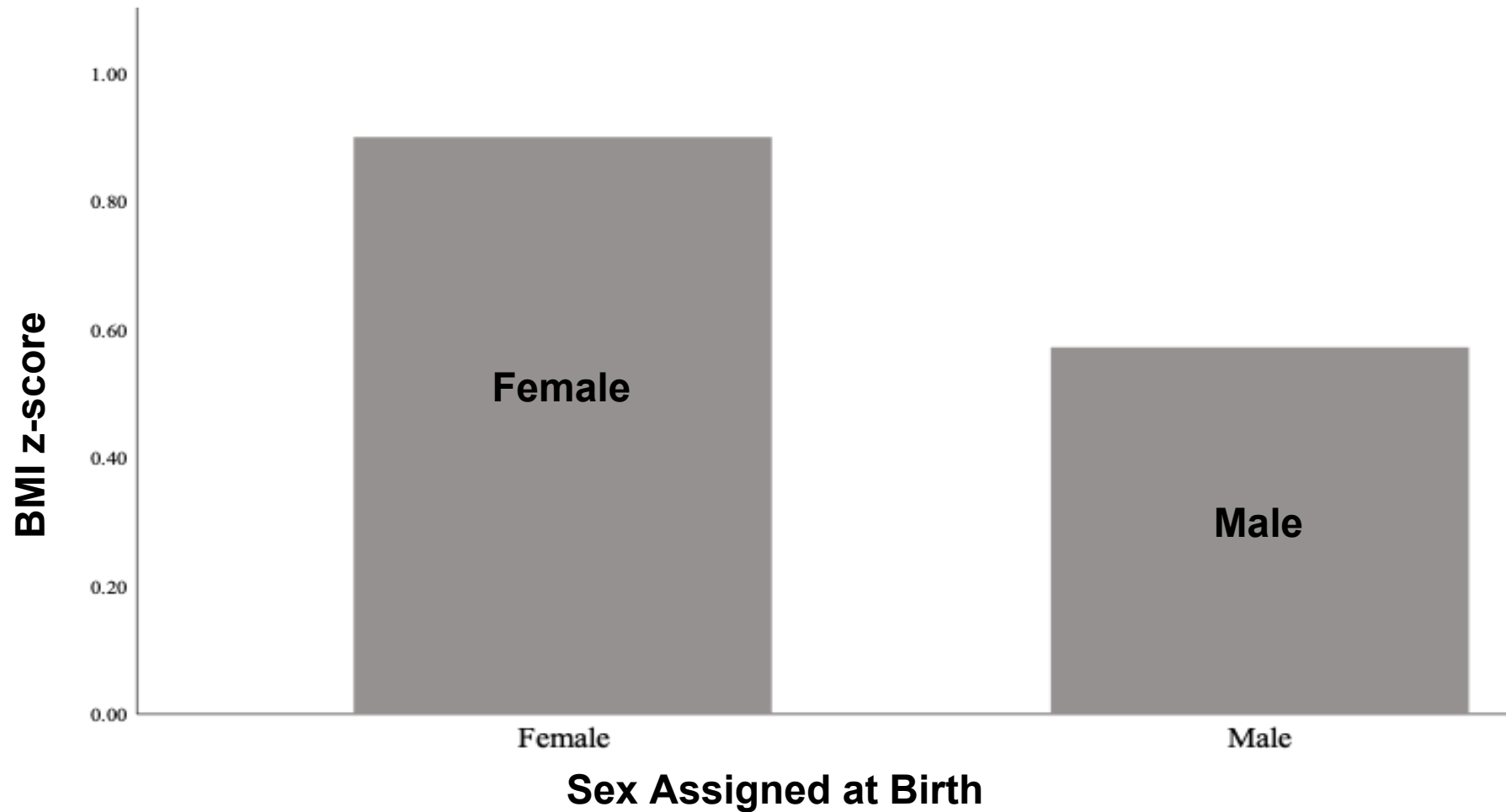


## General Population



- Underweight & Average  
 $p < 0.0001$
- Overweight
- Obese  
 $p = 0.0001$

# Results: BMI by SAB



$F(1, 280) = 3.63, p = .05$

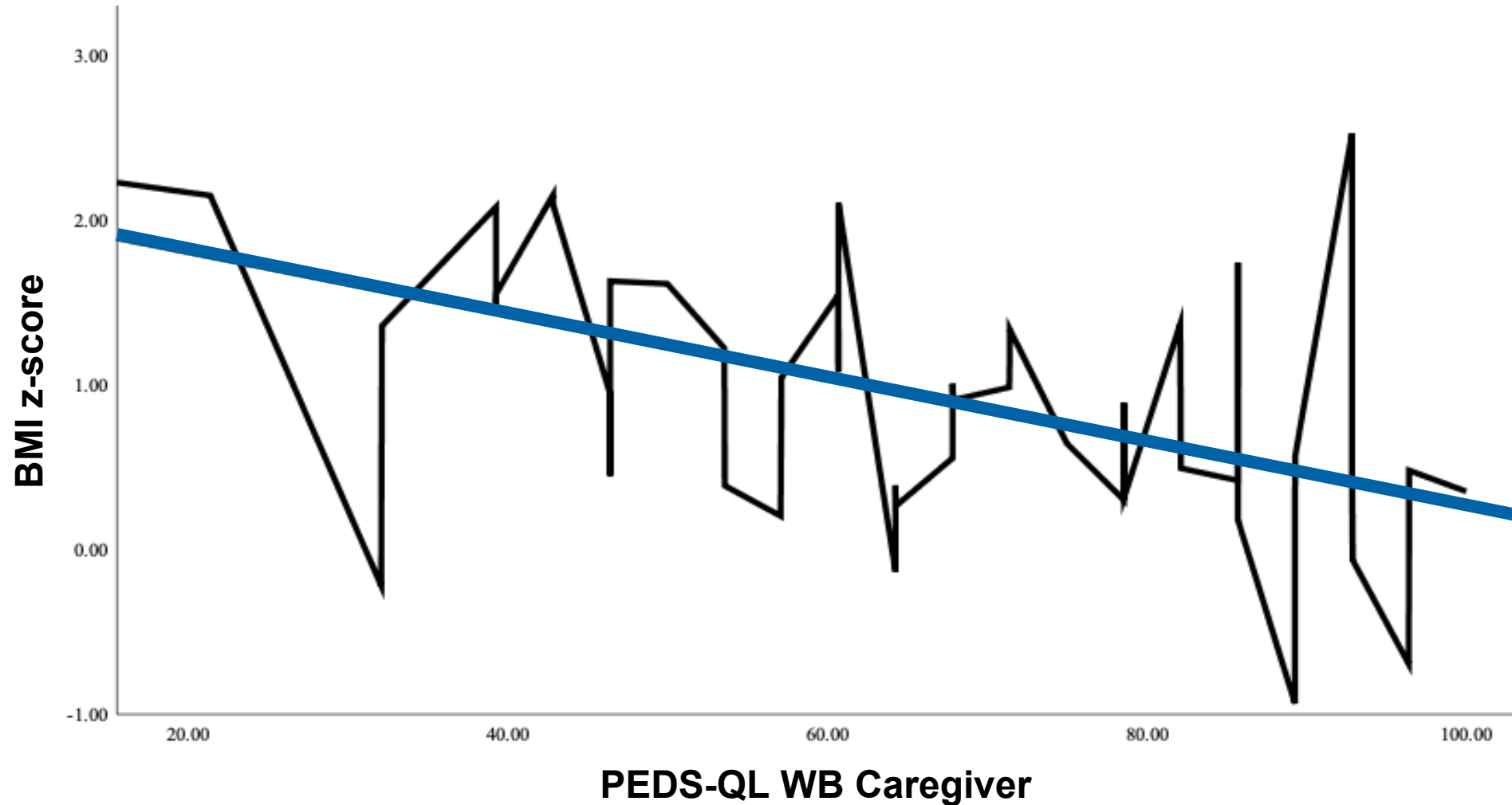
# Results: BMI by Medication

- 54.3% on medication
- Not taking medication was associated with a decrease in BMI z-scores ( $t = -2.12, p = 0.035$ )
- 28.4% on SSRI/SNRI

# Results: BMI by Medication

Medications associated with BMI >85%				
Medication	On Medication	Not on	t (df)	p
	M (N)	Medication M (N)		
<b>gastrointestinal</b>	1.90 (10)	0.78 (272)	7.53 (16.13)	<i>p</i> = .000
<b>antihypertensive</b>	2.48 (2)	0.81 (280)	1.91 (280)	<i>p</i> = .05
<b>anti-emetic</b>	2.29 (6)	0.79 (276)	12.80 (13.69)	<i>p</i> = .000
<b>anxiolytic</b>	1.43 (11)	0.80 (271)	3.04 (13.27)	<i>p</i> = .009
<b>diabetes</b>	2.12 (5)	0.80 (277)	2.39 (280)	<i>p</i> = .017
<b>endocrine</b>	1.88 (5)	0.80 (277)	1.93 (280)	<i>p</i> = .05
<b>mood stabilizer</b>	1.67 (14)	0.78 (268)	2.65 (280)	<i>p</i> = .009
<b>vitamins</b>	1.23 (44)	0.75 (238)	2.38 (280)	<i>p</i> = .018
<b>SSRI/SNRI</b>	1.08 (80)	0.72 (202)	2.21 (280)	<i>p</i> = .028

# Results: BMI by Well-Being

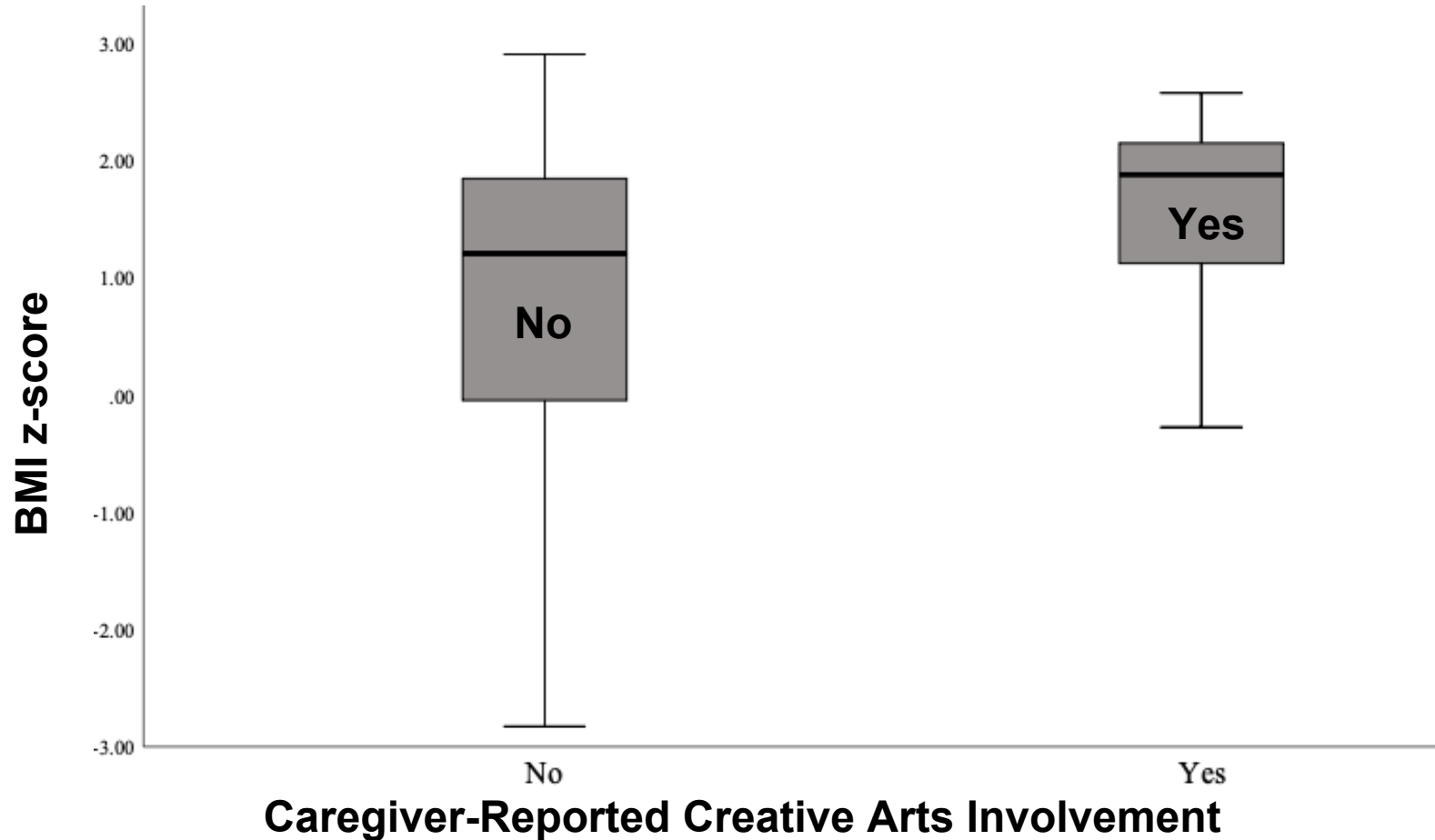


$b = -0.02, p = 0.002, R^2 = 0.06$



# Results: BMI by Recreational Activities

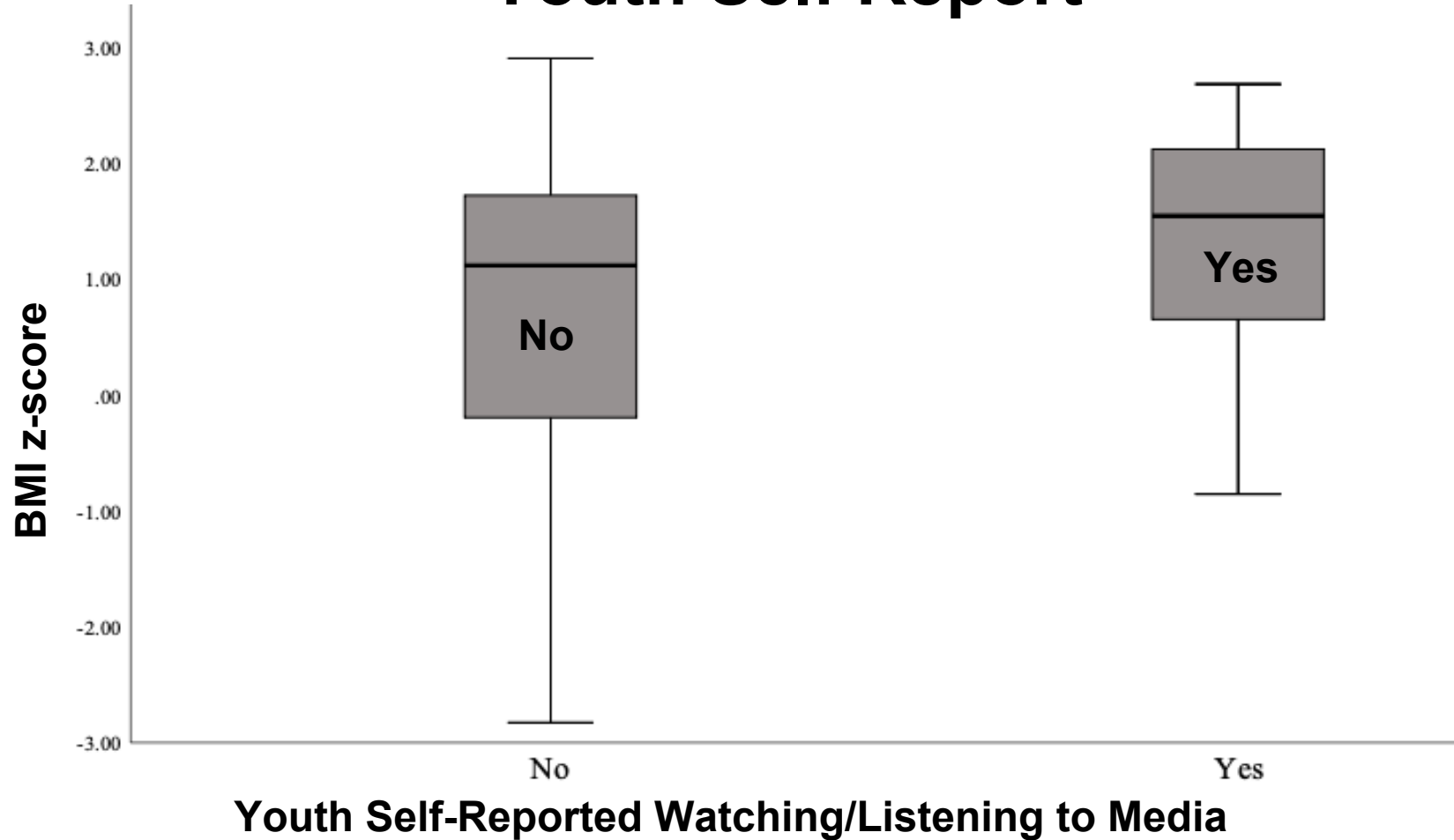
## Caregiver Report



$t = 2.0, p = 0.047$

# Results: BMI by Recreational Activities

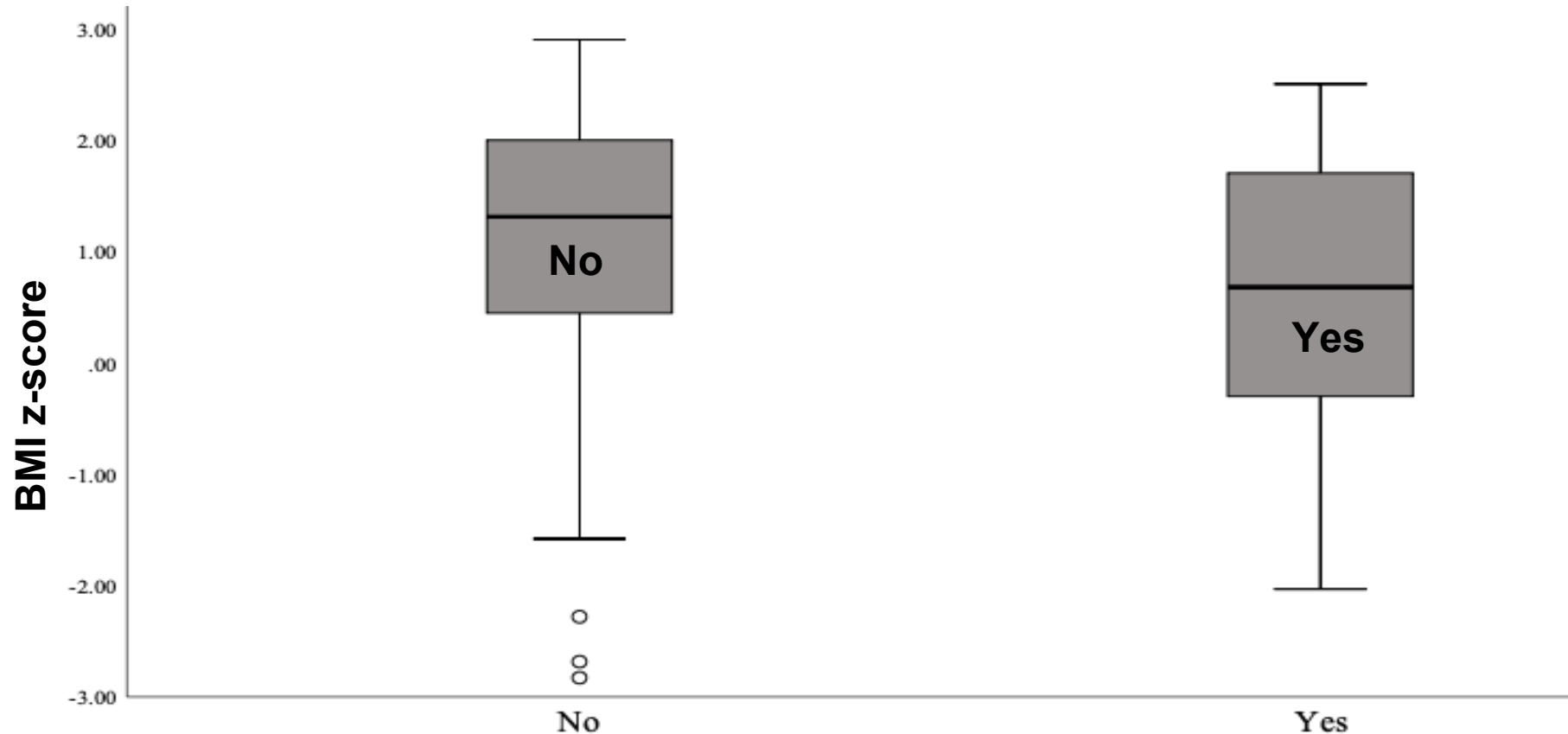
## Youth Self Report



$t = 3.62, p = 0.000$

# Results: BMI by Recreational Activities

## Youth Self Report



Youth Self-Reported Spending Time with Family and Friends

$t = -2.12, p = 0.035$

# Takeaway Message

1. Increased rates of overweight and obesity in TGD youth
2. BMI is associated with social and medical factors
3. Research on TGD youth is lacking
  - Treatment naive

# Implications

- TGD youth may be high risk for overweight & obesity
  - Monitor weight
- Improve connection with friends and family
- Decrease sedentary activities
- So much more to learn!

# Acknowledgments

Timothy Roberts, MD

Anna M. Egan, PhD

Christine N. Moser, PsyD

Department of Pediatrics

Developmental & Behavioral Pediatrics Division