

Introduction

- **Puberty** is mostly associated with physical changes but marks an increase in **mental health symptoms** (MHS) for females (Knight et al., 2020; Viner et al., 2017).
- Adolescent **sleep** and **physical activity** (PA) both shift through puberty but appear to be protective factors against MHS (Crowley et al., 2018; Nabkasorn et al., 2005).

Primary Aims

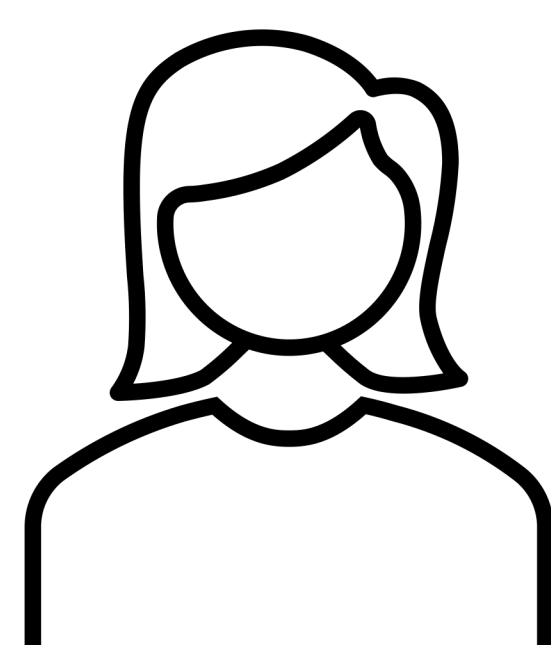
Aim 1: Determine association between current pubertal status, anxiety, and depressive symptoms in the months leading up to menarche

Aim 2: Determine the relationship of sleep health and physical activity and these symptoms

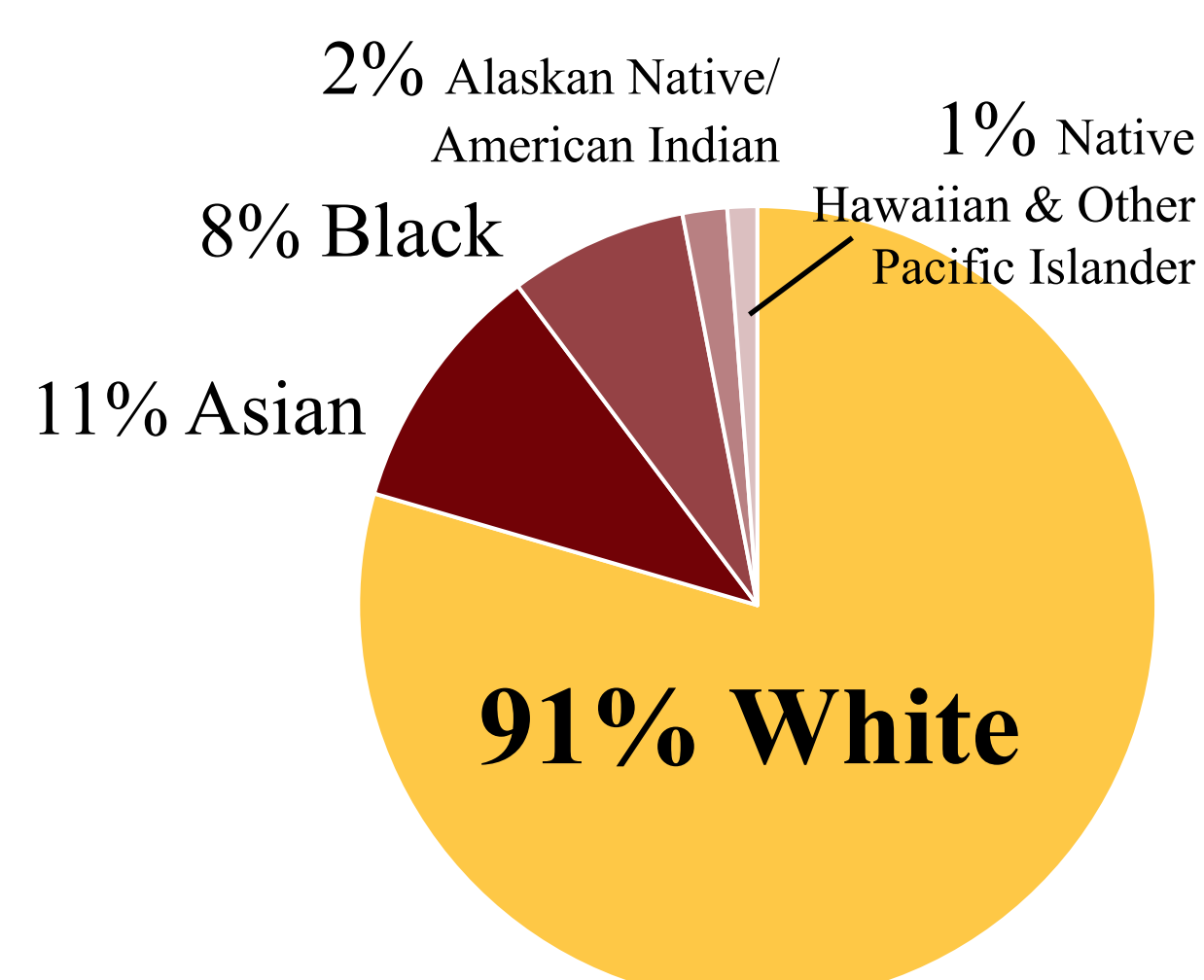
Methods

- Participant (N = 146) examination from a Midwestern metropolitan area.
- **Pubertal Status:** Tanner Staging Developmental Questionnaire for breast and pubic hair growth. Validated by a nurse when requested
- **Anxiety/Depressive Symptoms:** Short-Form PROMIS Pediatric Profile
- **Sleep Health:** Actigraph device and 7-Day Daily track sleep duration and sleep behaviors
 - *Sleep parameters: sleep duration, bedtime, waketime, & sleep efficiency*
- **Physical Activity:** Parents-directed questions regarding their child's physical activity
 - *During the past seven days, how many days was YOUR CHILD physically active for a total of at least 60 minutes per day?*

Participants



11.13
years old



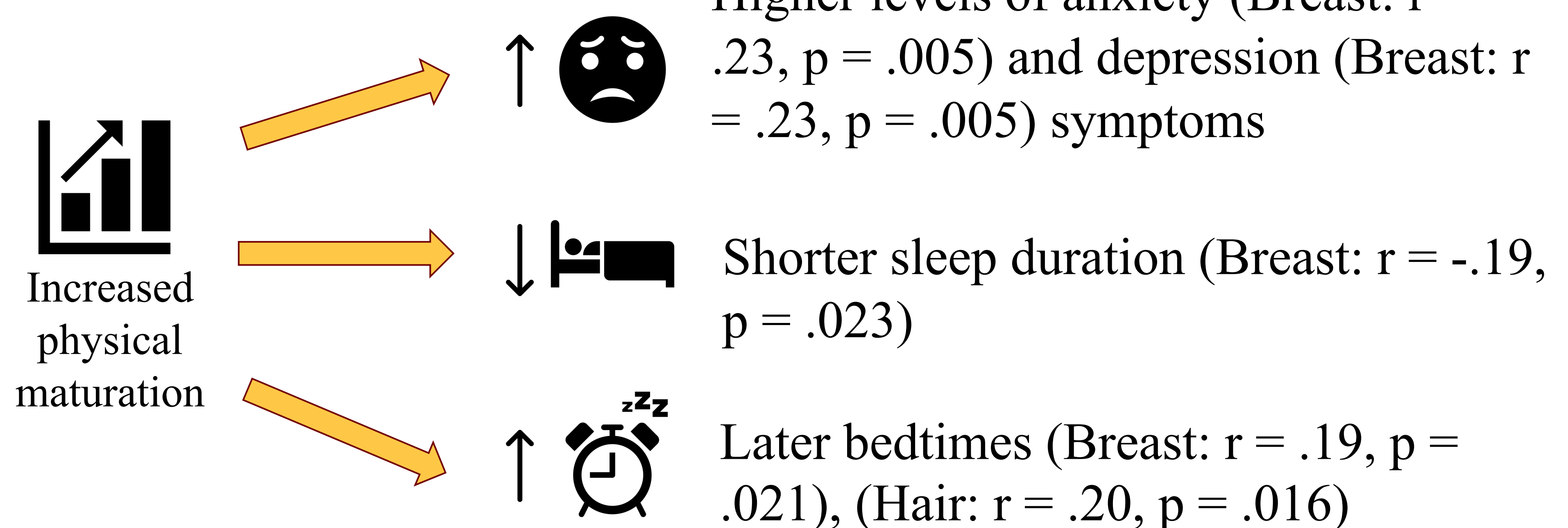
SD = 0.93, Min = 10, Max = 14

Results

Table 1: Descriptives of Mental and Physical Health Parameters

Measure	Mean	Min	Max
Anxiety Symptoms	15.2	8	36
Depressive Symptoms	12.98	8	31
Sleep Duration (Hours)	9.1	6.2	11
Bedtime	10:23PM	8:30PM	10:55PM
Physical Activity (Days)	4.6	0	7

Aim 1:



Aim 2:

No significance found between sleep health and physical activity on MHS

Discussion

- Results suggest that more pubertal development (approaching menstruation) is associated with an increase in mild to moderate levels of anxiety/depression and later/less sleep
- Further investigation is needed into behavioral changes in a more diverse sample

Acknowledgements

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