

Background & Significance

- Nursing is one of the largest health professions in the U.S.
- Nurses' physical activity (PA) impacts their health, well-being, job satisfaction, as well as patient safety
- Healthy People 2030 guidelines¹
 - provide a PA benchmark for adults
 - connect PA to health disparities
- Few studies^{2,3} have explored the factors (e.g., social determinant of health (SDOH), facilitators and barriers) impacting PA in nursing
- There is a growing need for exploring multi-level factors that impact PA to develop targeted health technology for nurses to facilitate healthy PA levels

Study Aims & Population

Study Aims

- To analyze the associations between multi-level factors (e.g., Demographics, SDOH, Sleep, Perceived Barriers and Facilitators to PA, Education) and PA
- To compare PA levels with recommended benchmark
- To explore differences between subgroups re: PA levels

Study Population: UMass Amherst Nursing BS Students (N = 163)

Primary outcome: Total weekly PA (min/week) using International Physical Activity Questionnaire (IPAQ) formula⁴

$$\text{Total PA} = \text{Work} + \text{Travel} + \text{Domestic} + \text{Leisure}$$

Methods

Phase I: Survey designed by combining validated tools (Table 1) embedded into an established National Institute of Minority Health and Health Disparities (NIHMD) Framework

Table 1: Adapted NIHMD Framework

| Domains of Influence | Levels of Influence | |
|----------------------|----------------------------|--------------------|
| | Individual | Interpersonal |
| Behavioral | IPAQ, EBBS, Motives for PA | PASSS |
| Sociocultural | PhenX SDOH toolkit | PhenX SDOH toolkit |

Phase II: Semi-structured focus groups (N=20, target: Nov. 2023)

Analytical Methods: Descriptive analytics, regression analysis, Probabilistic Graph Models (PGMs)

Results

Observed diversity in study population (Table 2)

Table 2: Study population characteristics

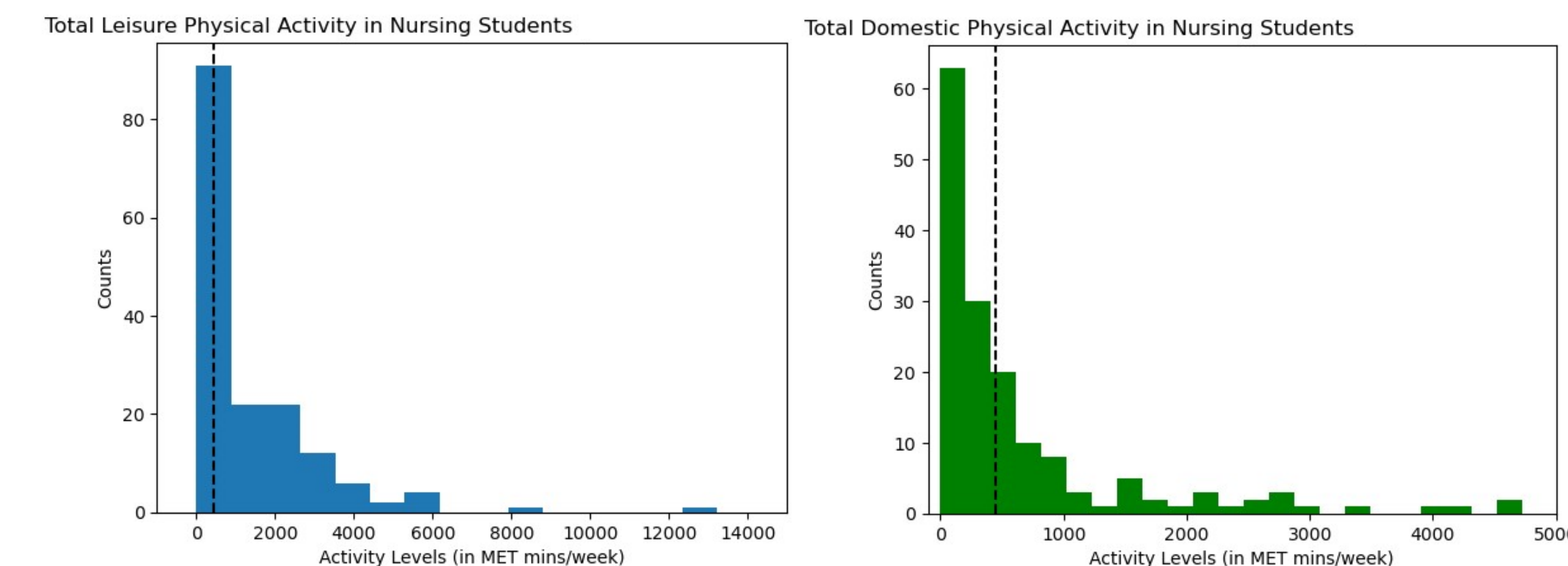
| Study Characteristics | N (% of total population) |
|---------------------------|---------------------------|
| Biological Sex | |
| Female | 139 (85.3%) |
| Male | 23 (14.1%) |
| Prefer not to answer | 1 (0.6%) |
| Race | |
| White | 100 (61.3%) |
| Black or African American | 20 (12.3%) |
| Asian | 19 (11.7%) |
| Other | 23 (14.1%) |
| Did not answer | 1 (0.6%) |

References:

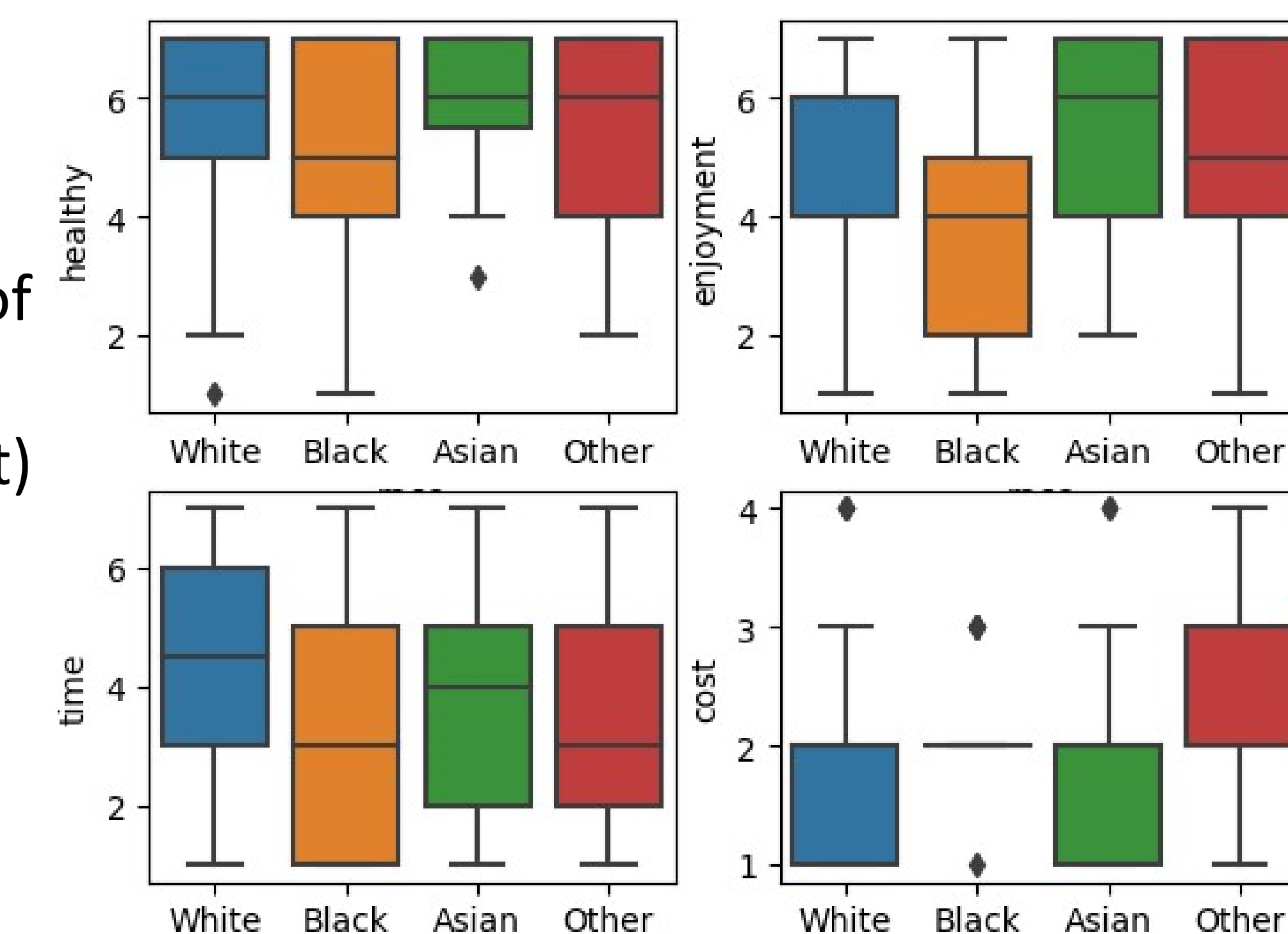
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Results

Majority above recommended PA levels⁴ (450 MET min/week)



Observed impact of race on selected barriers (time, cost) and facilitators (health benefits, enjoyment) for PA



Conclusion & Future Work

- Diversity in future nurse population can provide insights into the relationships between multi-level factors and PA levels
- Future work will include developing regression models and PGMs to quantify the relationships between SDOH, barriers and facilitators and PA outcomes