

Measuring Baseline Physical Activity Levels in Junior High School Students



School Students

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Background

- Physical activity is globally regarded as a vital aspect of health and well-being¹, and is an important aspect of a child's physical, mental and social development.²
- Regular physical activity is associated with improved cognitive performance among students.³
- In 2022, only 28% of Canadian children obtained the recommended 60 minutes of moderate-to-vigorous physical activity (MVPA) daily.^{4,5}
- MVPA levels decline as children reach junior high school age.⁶
- Approximately 6000 steps per school day would indicate that students are getting 60 minutes of MVPA per day as recommended by current 24 hour movement guidelines.^{7,8}
- The purpose of this study was to collect baseline data on student activity prior to installation of new playground equipment at EB Chandler Junior High School.
- Students at the school were engaged in data collection as 'peer researchers'.

Methods

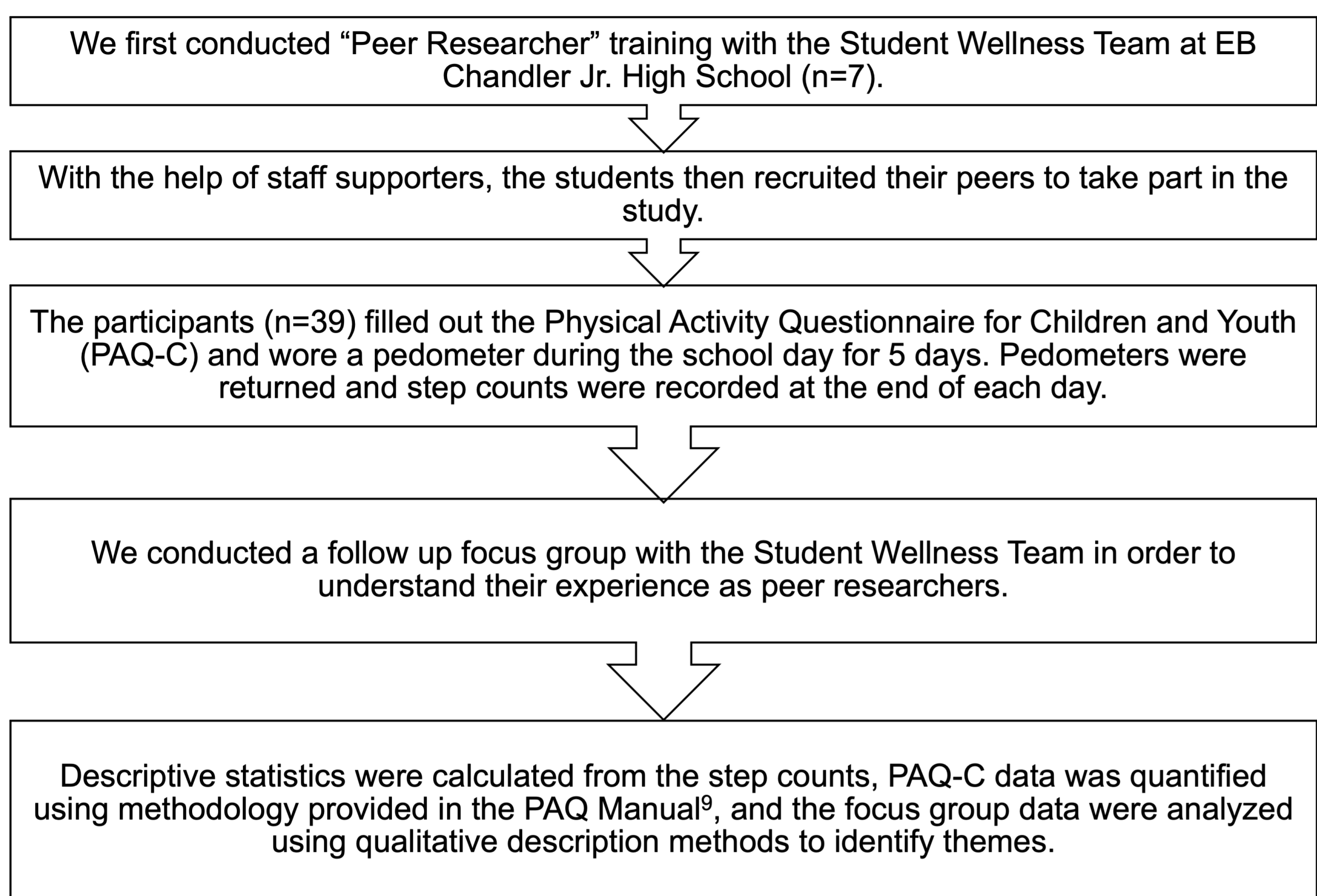


Figure 1: Flow chart describing the methodology of this study.

Results

Step Counts

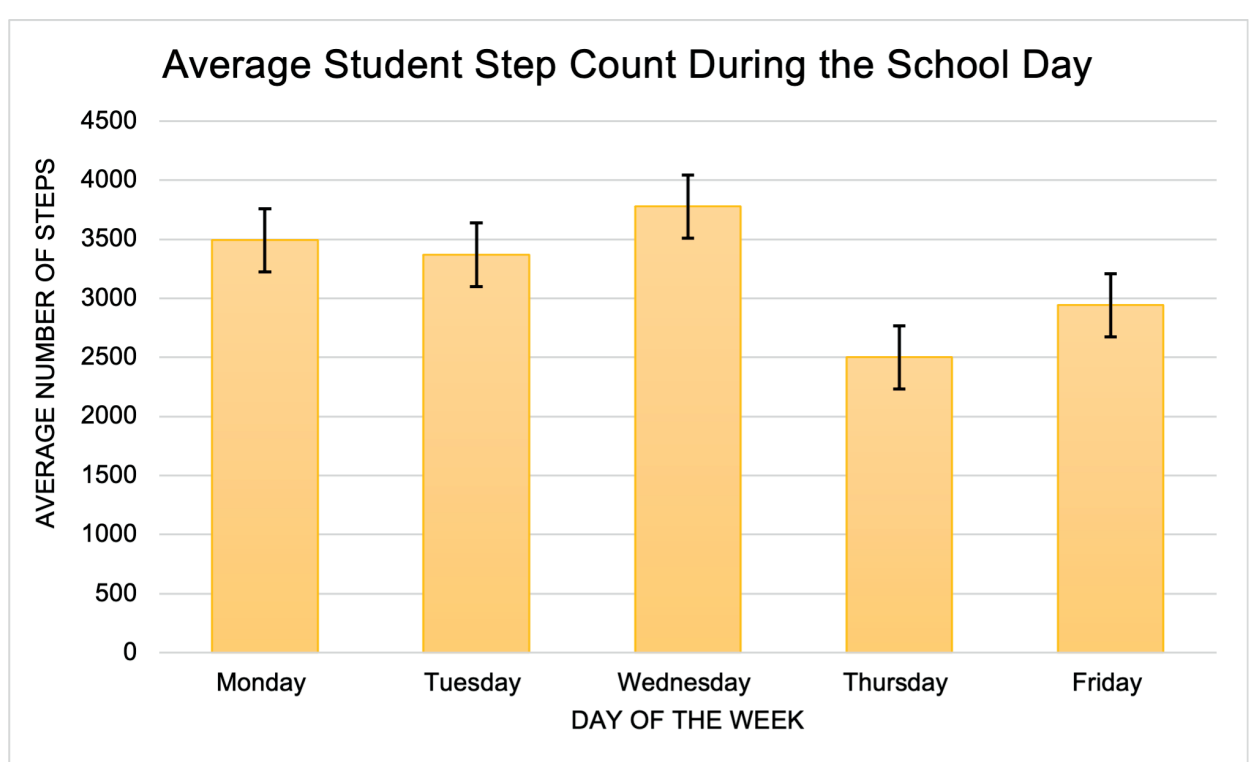


Figure 2: Mean and standard deviations of step counts for students during the school day for 1 week.

PAQ-C

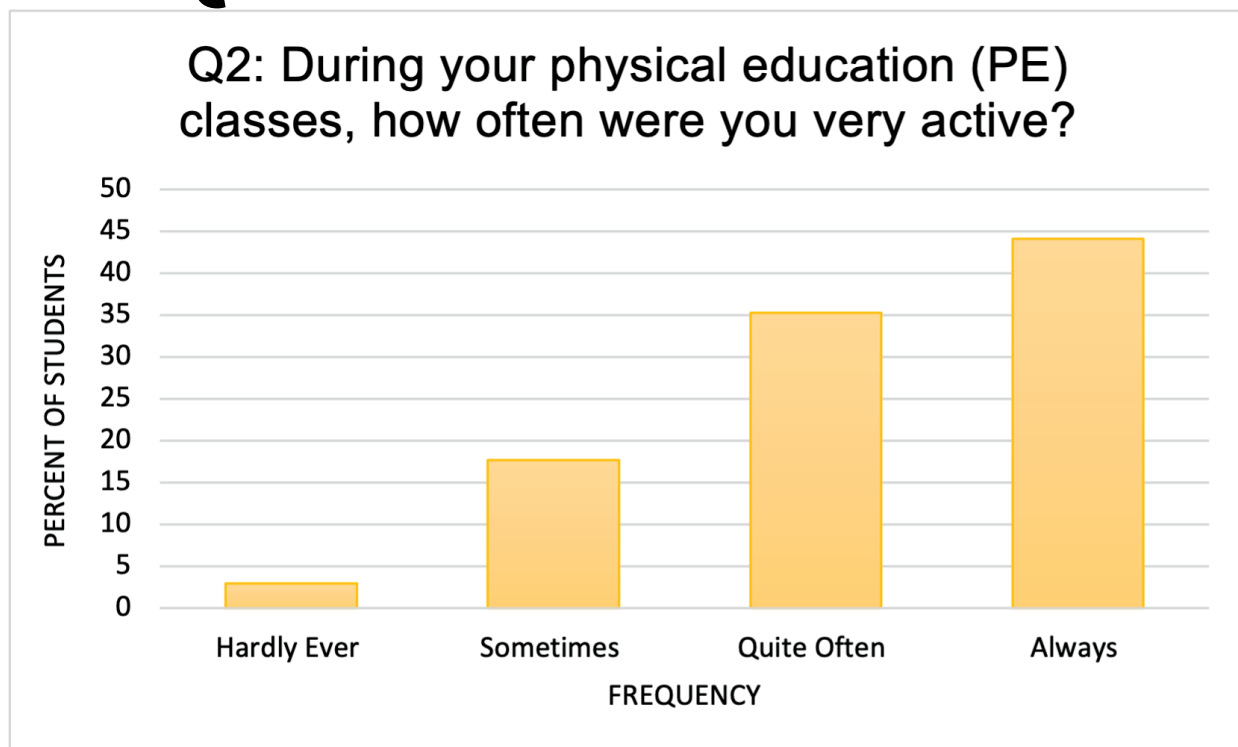


Figure 3: Frequency of students being 'very active' during physical education class for one week.

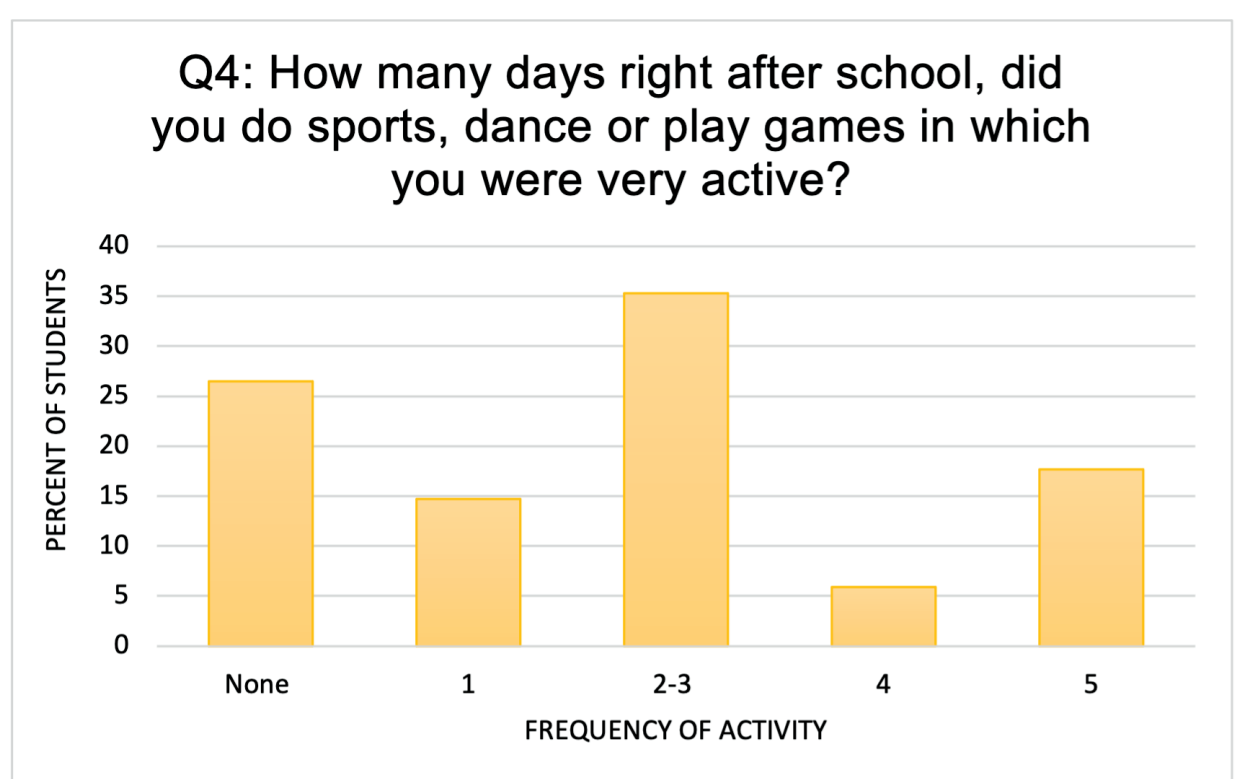


Figure 5: Frequency of student activity right after school for one week.

Focus Groups Themes from Student Feedback Strengths

- Participation
- Teamwork

Challenges

- Public Speaking
- Dishonesty

Next Steps: Increase student contribution

- The students at EB Chandler Jr. High school took on average 3215 ± 268 steps during the school day.

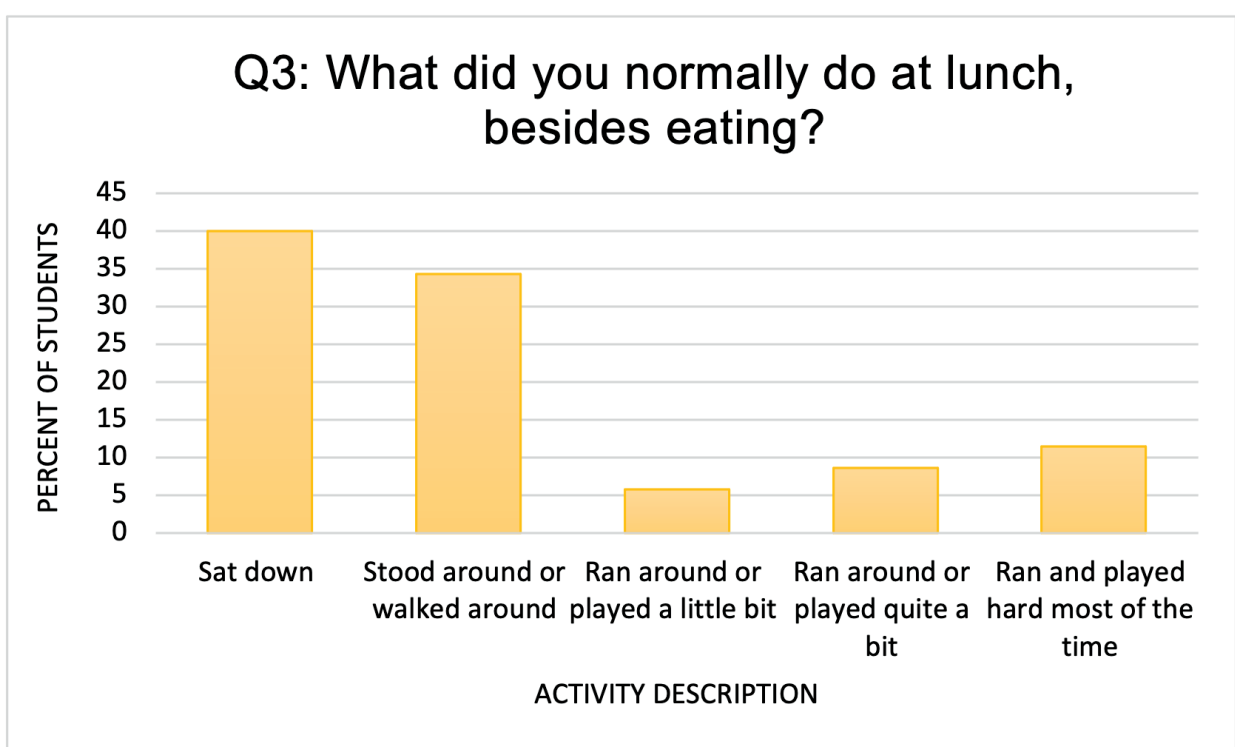


Figure 4: Type and frequency of student activity during lunch break for one week.

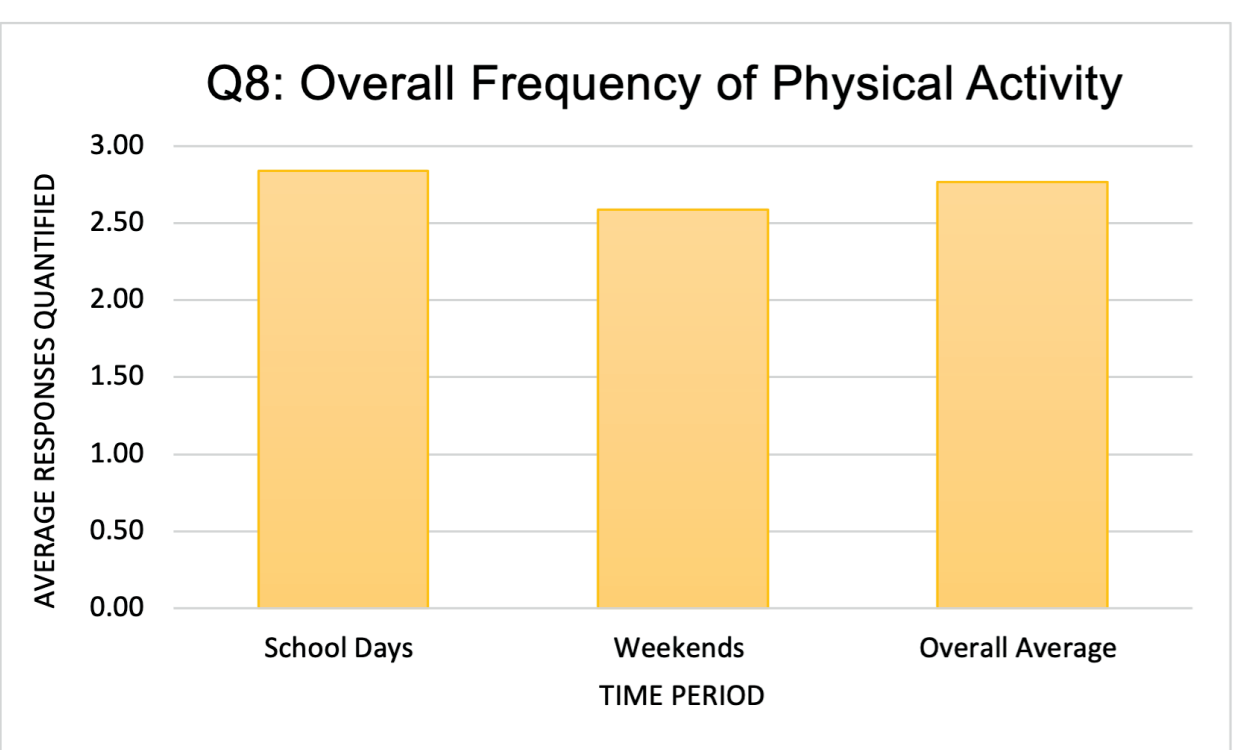
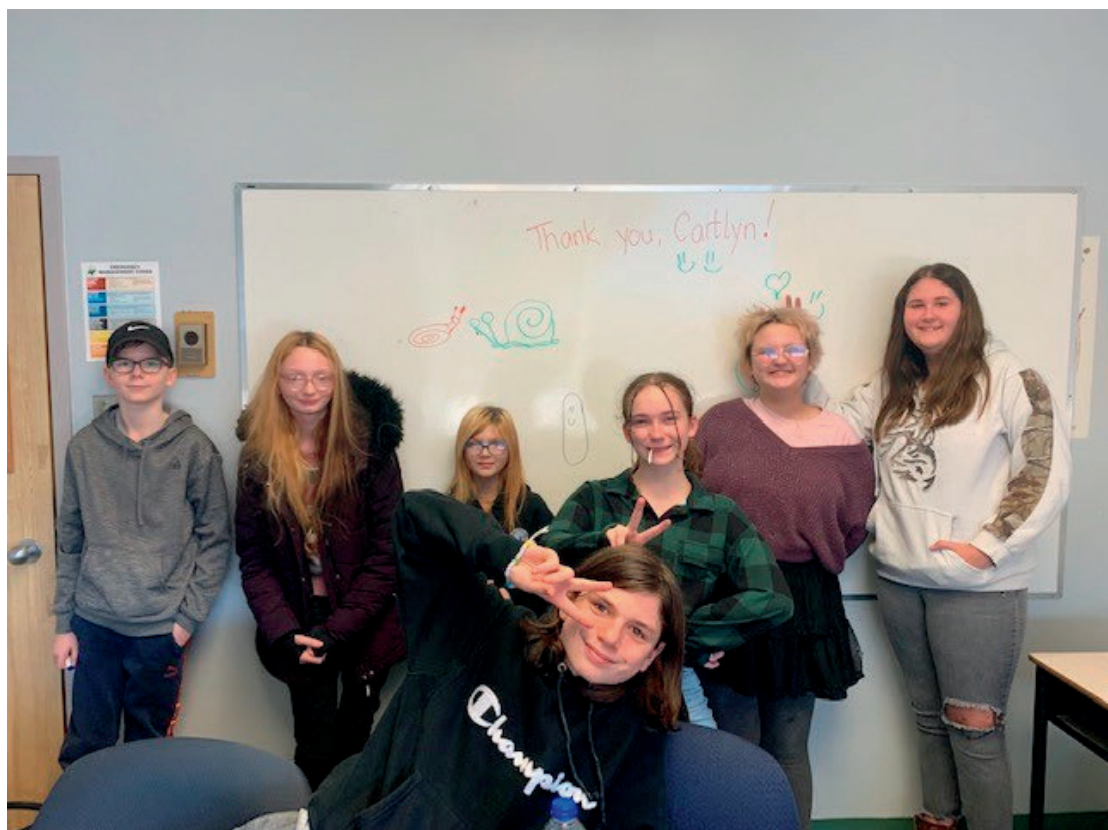


Figure 6: Comparison of average self-reported physical activity levels during one school week, one weekend and both combined. $P=0.13$.



Conclusions

- The students at EB Chandler are not meeting the 6000-step threshold and therefore likely are not meeting current 24 hours movement guidelines.
- Students overall self-reported physical activity levels are higher than their objectively measured physical activity levels.
- Peer Researchers were a key component to this project's success.
- These results show there is a need for further investigation into objectively measured physical activity levels in youth for >5 days at a time.
- Physical activity guidelines should be communicated to children and youth in age-appropriate ways
- Students should be included in information sharing and decisions regarding their opportunities to be active.

References

- World Health Organization. (2022, October 5). Physical Activity Fact Sheet . World Health Organization. Retrieved March 1, 2023, from <https://www.who.int/news-room/fact-sheets/detail/physical-activity>
- Janssen, I., & LeBlanc, A. G. (2010). Systematic review of the health benefits of physical activity and fitness in school-aged children and youth. International Journal of Behavioral Nutrition and Physical Activity, 7(1), 40. <https://doi.org/10.1186/1479-5868-7-40>
- . Centers for Disease Control and Prevention. The Association Between School-Based Physical Activity, Including Physical Education, and Academic Performance. Atlanta, GA; Centers for Disease Control and Prevention, US Department of Health and Human Services; 2010.
- Craig, W. (2020). The health of Canadian youth: Findings from the health behaviour in school-aged children study. Public Health Agency of Canada.
- ParticipACTION. Lost & Found: Pandemic-related challenges and opportunities for physical activity. The 2022 ParticipACTION Report Card on Physical Activity for Children and Youth. Toronto: ParticipACTION; 2022.
- Bradley, R. H., McRitchie, S., Houts, R. M., Nader, P., O'Brien, M., & NICHD Early Child Care Research Network (2011). Parenting and the decline of physical activity from age 9 to 15. The international journal of behavioral nutrition and physical activity, 8, 33. <https://doi.org/10.1186/1479-5868-8-33>
- Jago, R., Watson, K., Baranowski, T., Zakeri, I., Yoo, S., Baranowski, J., & Conry, K. (2006). Pedometer reliability, validity and daily activity targets among 10- to 15-year-old boys. Journal of Sports Sciences, 24(3), 241–251. <https://doi.org/10.1080/02640410500141661>
- Colley, R. C., Janssen, I., & Tremblay, M. S. (2012). Daily Step Target to Measure Adherence to Physical Activity Guidelines in Children. Medicine & Science in Sports & Exercise, 44(5), 977–982. <https://doi.org/10.1249/MSS.0b013e31823f23b1>
- Kowalski, K. C., Crocker, P. R., & Donen, R. M. (2004). The physical activity questionnaire for older children (PAQ-C) and adolescents (PAQ-A) manual. College of kinesiology, university of saskatchewan, 87(1), 1-38.