

# Effects of a mobile-based physical activity just-in-time adaptive intervention for adults: protocol for a proof-of-concept study



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## Background

- Regular physical activity (PA) is associated with a myriad of health benefits,<sup>1</sup> but less than half of Canadian adults meet the guideline of 150 min of moderate-to-vigorous physical activity MVPA per week<sup>2</sup>
- In-person exercise programs have limited reach, often have high barriers for participation and tend to be resource-intensive<sup>3</sup>
- Just-in-time adaptive interventions (JITAs) address the dynamic needs of individuals by tailoring type, timing, and amount of support<sup>4</sup>
- Limited data on JITAs with tailored content modules directly triggered by wearable activity tracker measures

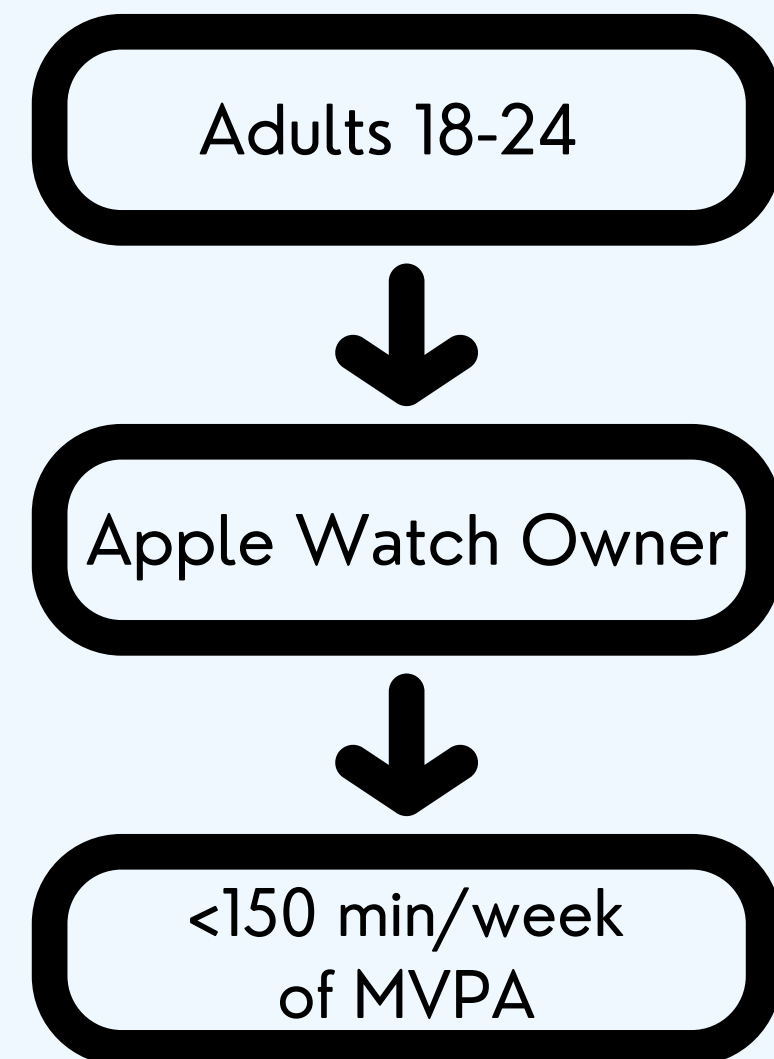
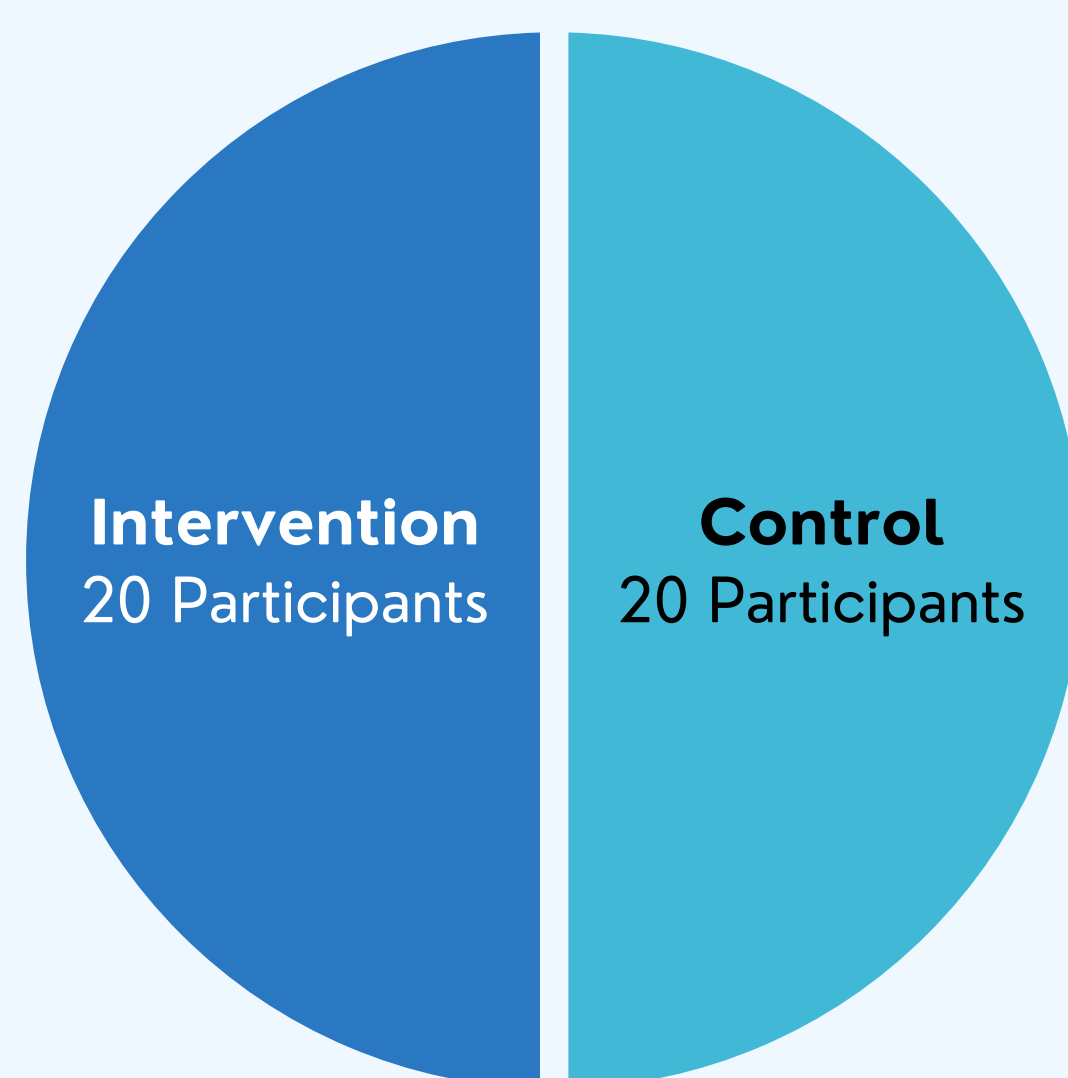
## Objective

- Develop and examine the feasibility of a mobile JITAI (Activeverse) focused on helping adult smartwatch users increase their PA levels, with intervention modules triggered by smartwatch activity measurements using the Pathverse app

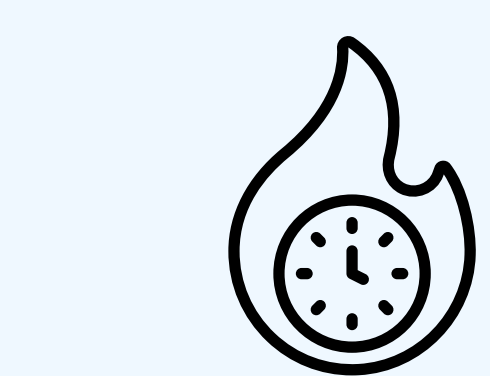
## Methods

### Participants

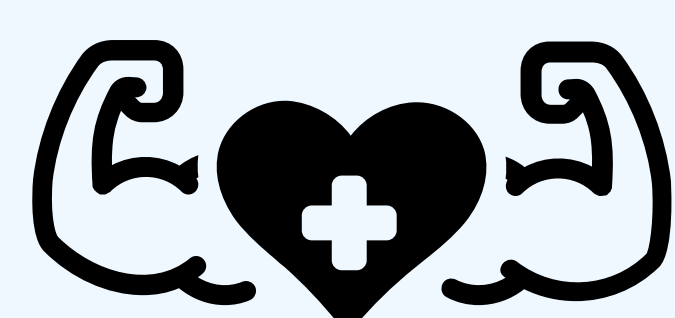
### Inclusion Criteria



## Data Collection



- MVPA, also known as "Active Minutes" will be collected from Apple Health by the Pathverse app
  - 1 week of pre-program data
  - 4 weeks of intervention data
  - 1 week of post-program data



- PA and mental wellbeing questionnaires pre- and post-program



- Intervention group participants will also complete the mHealth App Usability Questionnaire post-program<sup>5</sup>

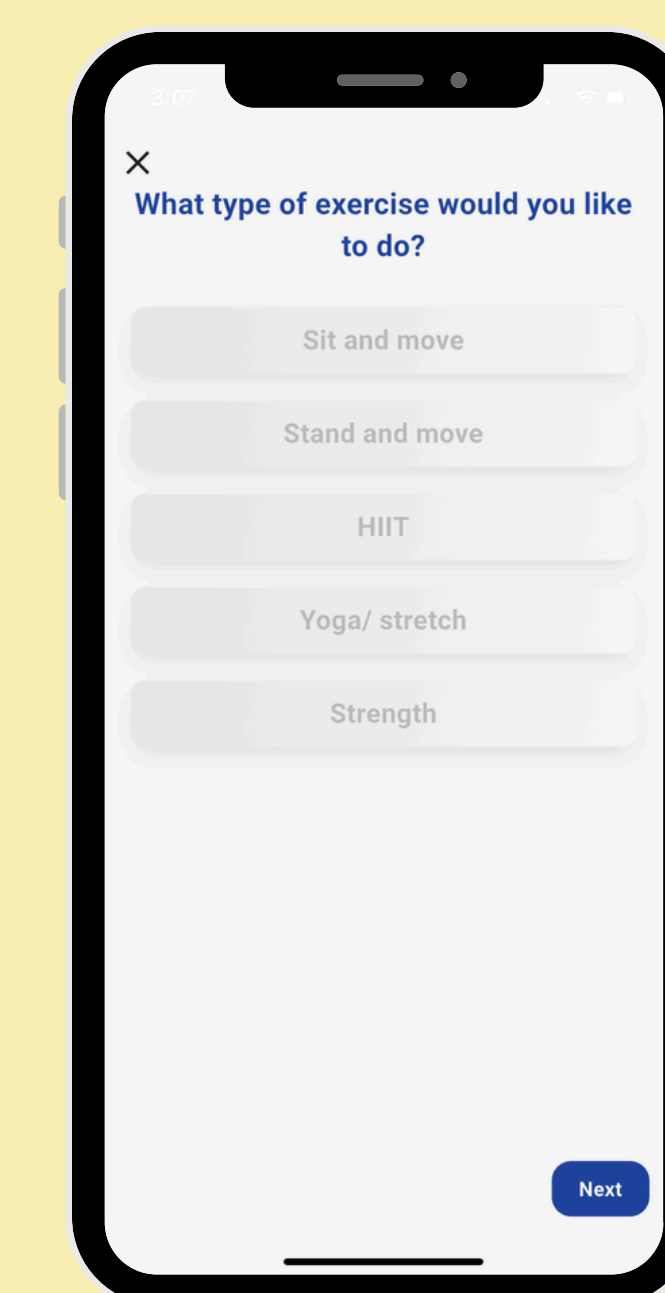
# Innovative, Scalable PA Interventions for Smartwatch Users

## Intervention

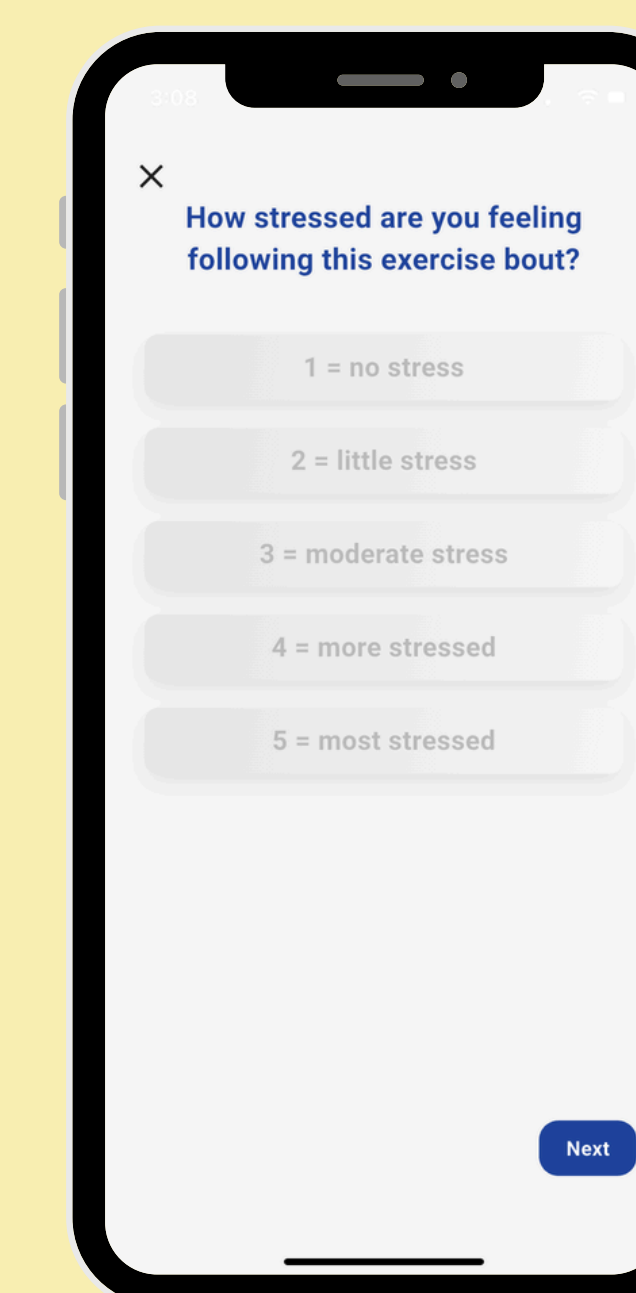
**3 Daily Notifications**  
Morning, Afternoon, Evening



**Select Length and Mode of Exercise**  
5 or 15 Minutes  
5 Choices of Mode:



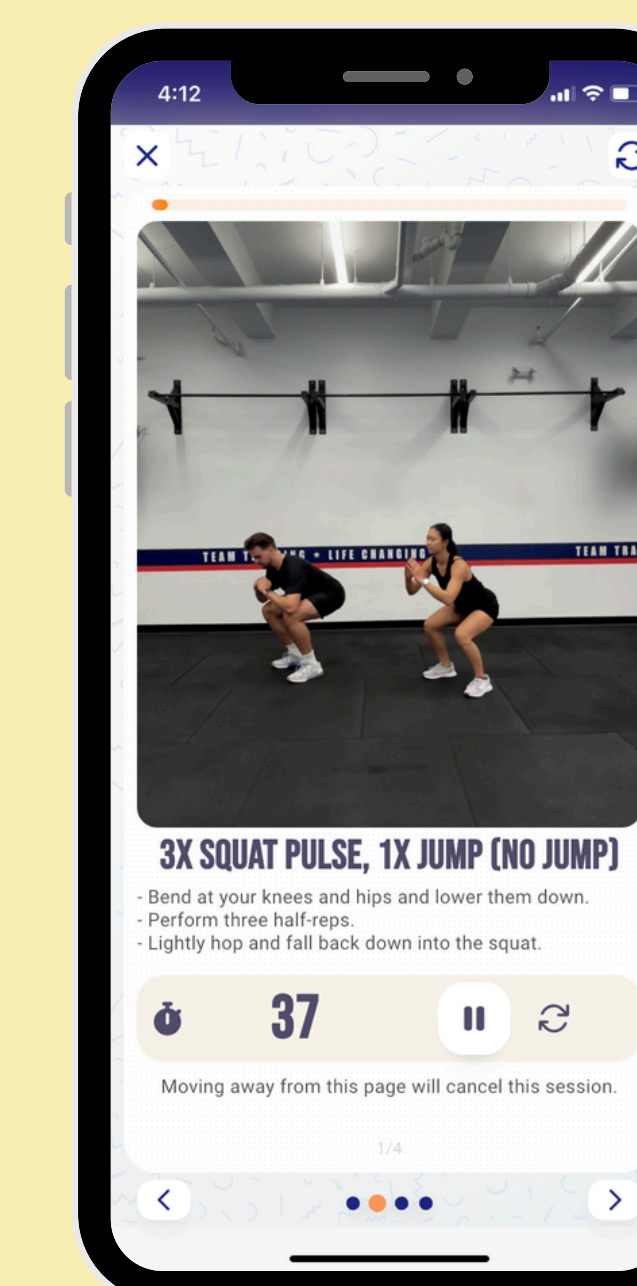
**Post-Workout Stress Questionnaire**  
Rated 1-5 by Participants



**Less Than 25 Min MVPA Previous Day**  
JITAI Module Becomes Available



**Workout**  
Visual and Written Coaching Queues are Available for All Exercises



## Conclusion

- Phase two of the study will look to evaluate whether there is an increase in participants' MVPA following the intervention
- We anticipate to see a significant increase in MVPA time in participants, due to the timing and tailoring of JITAI PA modules by the Pathverse App
- PA JITAs, including Activeverse, may be a scalable solution for inactivity. This study sets the stage for feasibility and pilot testing.



## References and Acknowledgements

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