

Predictors of Adherence to a 12-Week Exercise Intervention in Healthcare Workers

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Background

Healthcare workers (HCWs) tend to report higher stress levels than the general population.¹ Exercise is well-evidenced to reduce stress and improve physical and mental health.² Mobile health (mHealth) exercise interventions provide an accessible method for intervention delivery, potentially removing several barriers to regular exercise. Efficacy of mHealth interventions depends on adherence. Individual, technological, and intervention characteristics may affect adherence to mHealth interventions.³

Objective

To explore individual-level predictors of adherence to a 12-week mHealth exercise intervention in HCWs.

Methods

Trial Design

The COVID-19 Pandemic and Exercise Trial (COPE-HCW) explored whether exercise can reduce depressive symptoms, burnout, and absenteeism in HCWs. HCWs (N=288) were randomized to a 12-week exercise intervention (four 20-minute app-based sessions per week) or waitlist control.⁴

Statistical Analysis

Adherence (i.e., minutes of app-based exercise per week) trajectories across the 12 weeks were explored via growth mixture modeling. Fit indices and class size were compared for several linear and quadratic models. Class membership was regressed on baseline sociodemographic, behavioural, occupational, psychological, and health-related predictors in univariable multinomial logistic regression models. Statistically significant predictors were then added to a multivariable multinomial logistic regression model.

Results

Participant Characteristics

In total, 140 HCWs were randomized to the exercise intervention and completed the study. Of these, 87% were females, 35% were registered nurses, and 78% worked at least 40 hours/week. Mean age was 40.5 ± 11.3.

Adherence Trajectories

The model of best fit was a linear 3-class model: adherers, early adherers, and low adherers (Fig 1).

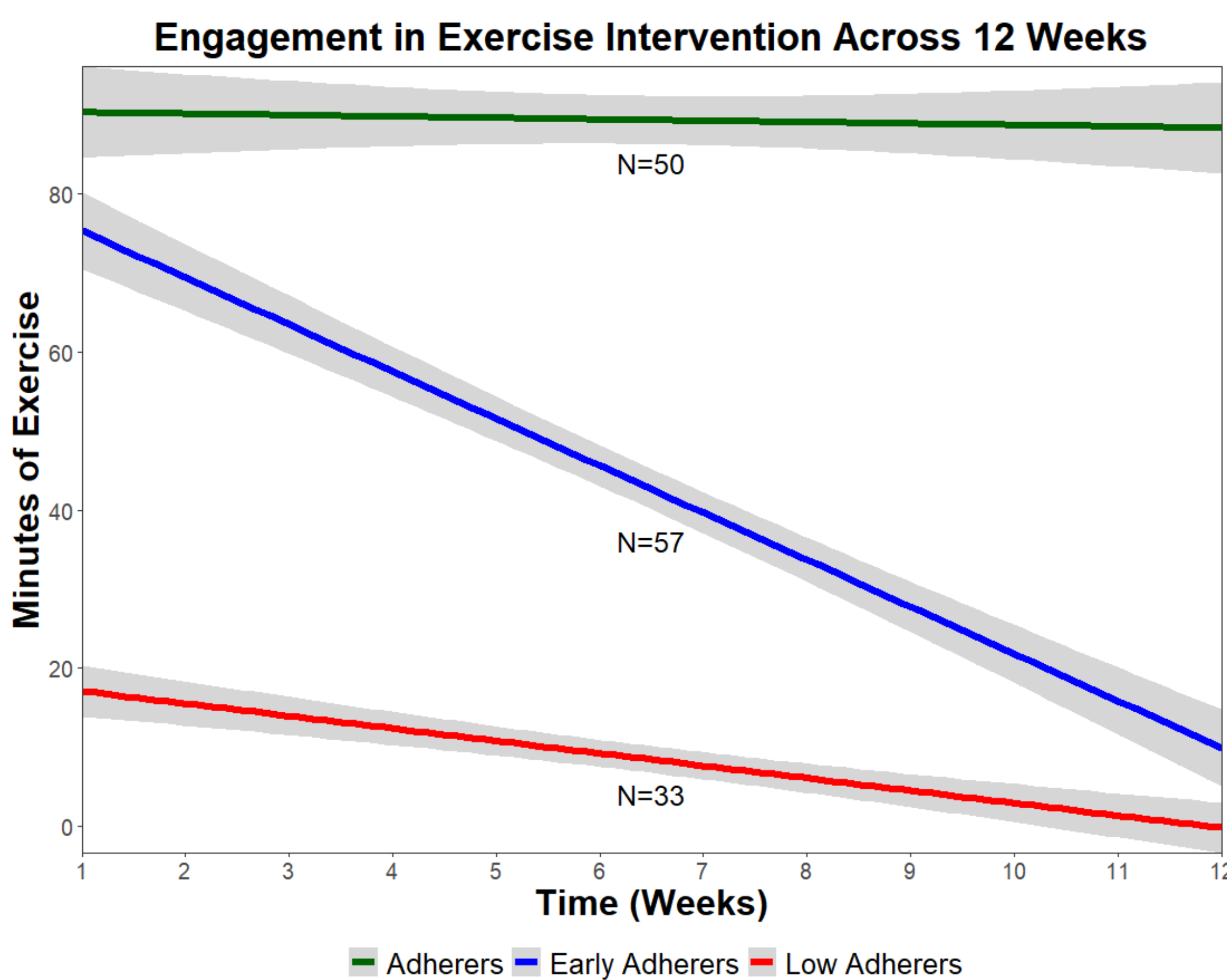


Figure 1. Growth mixture model of adherence trajectories.

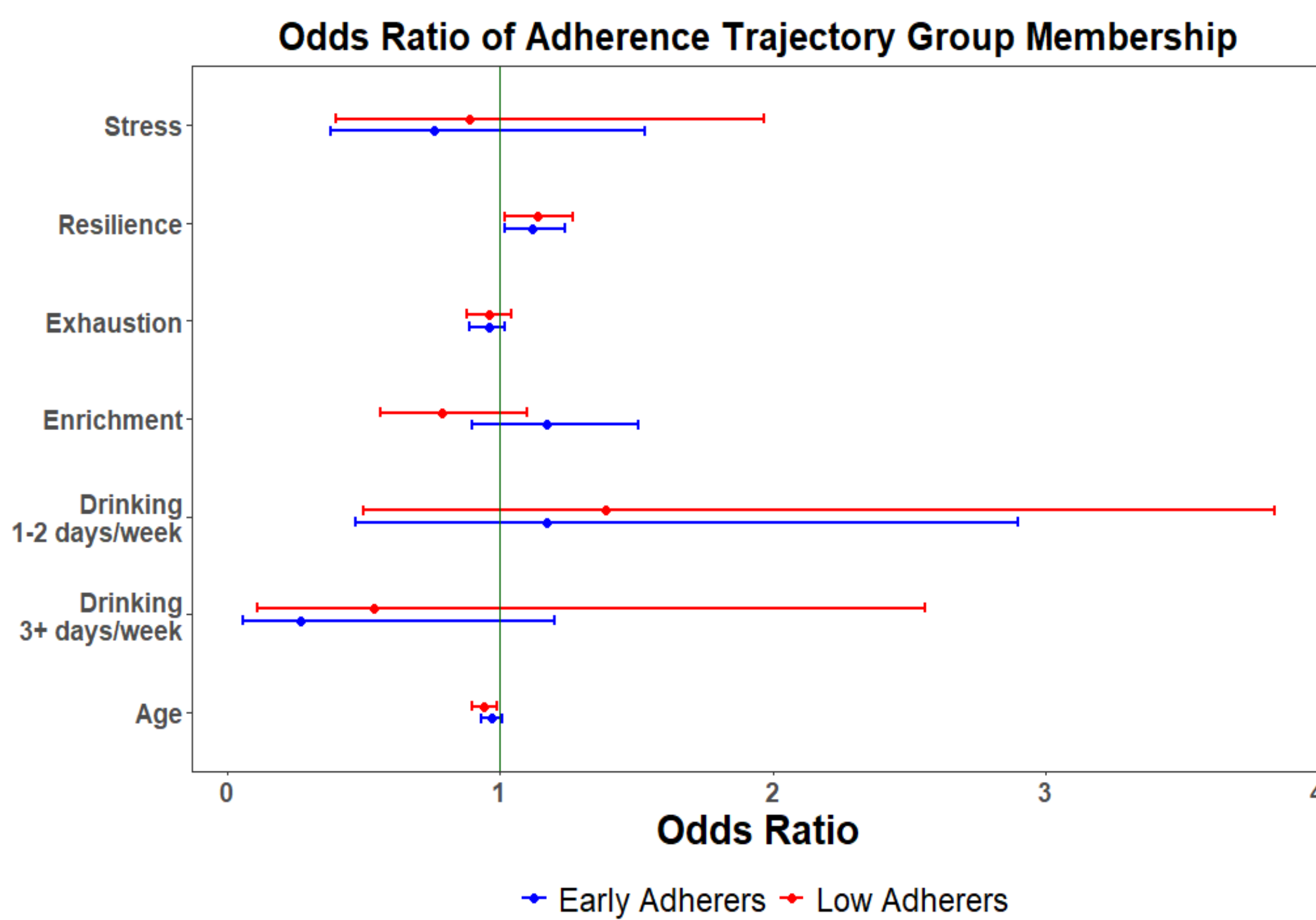


Figure 2. Odds ratios of class membership (relative to adherers group) in the multivariable model for all variables that were statistically significant in the univariable analyses.

Results Continued

Multivariable Regression

Baseline age, drinking frequency, resilience, stress, exhaustion, and work-to-family enrichment were statistically significant univariable predictors and included in the multivariable model. Older participants were more likely to adhere than be low adherers (OR=0.94). High resilience predicted early adherence (1.12) and low adherence (1.14) compared to continued adherence. Other predictors were statistically insignificant (Fig 2).

Discussion

The majority of HCWs did not adhere to the suggested 80 minutes of exercise per week. Older and less resilient HCWs at baseline were most likely to adhere to the intervention. Further research with larger sample sizes is needed to better understand predictors of mHealth exercise adherence in HCWs. Motivational, technological, and intervention characteristics should also be explored as predictors, as well as methods to optimize adherence.

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Acknowledgements

We thank the advisory team at Providence Health Care and the University of British Columbia research assistant team.

