
Exercise supervision is important for cardiometabolic health improvements in the workplace: a 16-week randomised controlled trial

Dr Jayden Hunter
Charles Sturt University
Bathurst, New South Wales, 2795, Australia
jhunter@csu.edu.au

Dr Brett Gordon
La Trobe University
Bendigo, Victoria, 3552, Australia
B.Gordon@latrobe.edu.au

Professor Stephen Bird
RMIT University
Bundoora, Victoria 3083, Australia
stephen.bird@rmit.edu.au

Dr Amanda Benson
RMIT University
Bundoora, Victoria 3083, Australia
amanda.benson@rmit.edu.au

Abstract

Introduction: Low cardiorespiratory fitness (CRF) and poor muscular strength are risk factors for cardiometabolic disease. This randomised controlled trial compared direct, indirect and no exercise supervision on cardiometabolic fitness.

Methods: Eighty-five Australian university employees (62 female; mean±SD 43.2±9.8 years) were randomised to either direct 1:1 supervision (DIR; N=28), indirect supervision (IND; N=28) or unsupervised control (CON; N=29) exercise groups for a 16-week individually-tailored, moderate-to-high intensity aerobic and resistance exercise program. Changes to CRF (VO₂ peak) and muscular strength (1RM bench and leg press) were analysed using repeated measures ANOVA.

Results: Mean changes to CRF were greater (p<0.01) with DIR (+10.4±11.1%) compared to CON (+3.8±8.9%), but not different compared to IND (+8.6±8.2%) supervision. When compared to CON (+1.7±7.7%), mean upper body strength changes were significantly greater with DIR (+12.8±8.4%; p<0.001) and IND (+8.4±7.3%; p<0.05). Mean lower body strength changes were greater with DIR (+26.3±12.7%) compared to IND (+15.0 ± 14.6%; p<0.05) and CON (+4.1 ± 12.4%; p<0.001), and IND compared to CON (p<0.01).

Discussion: Direct exercise supervision achieved greater increases to muscular strength compared to indirect and no exercise supervision. Exercise supervision is necessary to obtain CRF benefits in university employees over a 16-week intervention.
Key words: workplace, exercise supervision, aerobic training, resistance training, metabolic health