

Per protocol analysis

Weekly Exercise Frequency

On average, over the 12-week intervention period, the SMS texting arm participants exercised more frequently per week (mean 3.74, SD 1.34) compared to non-SMS texting arm participants (mean 2.52, SD 1.85). This difference (mean difference 1.21, bias-corrected and accelerated [BCa] 95% CI 0.18-2.24) was significant ($t_{37}=2.30$, $P=.03$ $d=0.76$). The effect of the SMS text messages on weekly exercise frequency was stronger after adjusting for baseline exercise self-efficacy with ANCOVA ($F_{1,36}=6.81$, $P=.01$).

Weekly exercise frequency decreased by 0.47 sessions (95% CI 0.15-0.79) from week 12 to week 24 in the overall sample ($F_{1,35}=8.74$, $P=.006$). There was no significant research arm by time interaction on weekly exercise frequency ($F_{1,35}=3.09$, $P=.09$). However, simple effects analysis revealed a significant decrease of 0.8 sessions within the SMS texting arm ($F_{1,35}=9.79$, $P=.004$), whereas no significant decrease was observed in the non-SMS texting arm ($F_{1,37}=0.85$, $P=.36$). Further, an independent t test revealed that the SMS texting arm participants did not exercise more frequently (mean 2.91, SD 1.09) than the non-SMS texting arm participants (mean 2.33, SD 1.92) at week 24. The difference between the 2 arms (mean difference 0.58, BCa 95% CI -0.35 to 1.55) was not significant at week 24 ($t_{32.7}=1.16$, $P=.26$, $d=0.39$).

Secondary Outcomes

Table 2 lists the effects of the SMS text messages on exercise self-efficacy, PA-related energy expenditure, daily sitting hours, BMI, grip strength, and lower body strength adjusted for the baseline values. There were no significant main or interaction effects ($P>.05$).

Table 2. Treatment effects on secondary outcomes.

Outcome	SMS texting, mean (SD) (n=16)			Non-SMS texting, mean (SD) (n=21)			Week 12		Week 24	
	Baseline	Change to week 12 ^a	Change to week 24 ^a	Baseline	Change to week 12 ^a	Change to week 24 ^a	Adjusted difference ^a (95% CI)	<i>P</i>	Adjusted difference ^a (95% CI)	<i>P</i>
Exercise self-efficacy score	82.73 (18.48)	-5.62 (20.08)	-1.76 (26.08)	81.55 (17.53)	-9.94 (20.06)	-14.37 (26.06)	-4.32 (- 17.86, 9.22)	.51	-12.61 (- 30.20, 4.97)	.15
PA-related energy expenditure (weekly MET-minutes)	672.80(528.48)	405.43 (862.04)	461.12 (742.44)	968.71 (1479.10)	367.18 (860.58)	163.22 (742.55)	-38.25 (- 621.66, 545.16)	.86	-297.90 (-800.37, 204.57)	.24
Daily sitting time (hours)	7.50 (3.56)	-0.35 (2.16)	-0.03 (1.92)	8.52 (2.20)	-1.21 (2.15)	-0.84 (1.92)	-0.87 (- 2.32, 0.59)	.24	-0.81 (- 2.11, 0.49)	.21
BMI (kg/m ²)	24.09 (3.20)	0.17 (0.48)	0.07 (0.68)	22.39 (2.81)	0.32 (0.50)	0.29 (0.69)	0.15 (- 0.19, 0.49)	.37	0.22 (- 0.25, 0.68)	.36
Grip strength (kg)	26.09 (9.04)	0.27 (2.04)	1.53 (2.60)	25.51 (6.34)	0.30 (2.02)	1.08 (2.56)	0.03 (- 1.34, 1.39)	.97	-0.45 (- 2.19, 1.30)	.61
Lower body strength (repetitions in 30-sec chair-stand test)	12.56 (2.40)	2.89 (3.40)	4.31 (2.72)	14.90 (3.81)	2.70 (3.34)	3.43 (2.70)	-0.19 (- 2.53, 2.15)	.87	-0.88 (- 2.76, 0.99)	.35

^a Adjusted for baseline