

Title: Association between work schedules and motivation for lifestyle change in workers with overweight or obesity: a cross-sectional study in Japan

Corresponding author. Yosuke Yamamoto, MD, PhD

Department of Healthcare Epidemiology, School of Public Health in the Graduate School of Medicine, Kyoto University

Postal address: Yoshidakonoe-cho, Sakyo-ku, Kyoto, 606-8501 (Zip code), Japan

E-mail: yamamoto.yosuke.5n@kyoto-u.ac.jp

Tel: +81757534646, Fax: +81757534644

Author names and affiliations. Yukihiro Tanikawa¹, Miho Kimachi¹, Minoru Ishikawa², Tomoichiro Hisada², Shunichi Fukuhara¹, Yosuke Yamamoto¹

¹ Department of Healthcare Epidemiology, School of Public Health in the Graduate School of Medicine, Kyoto University, Kyoto, Japan

Yoshidakonoe-cho, Sakyo-ku, Kyoto, 606-8501, Japan

² Health Examination Centre Urasoe General Hospital, Urasoe, Japan
3-42-15 Iso, Urasoe, 901-2132, Japan

Word count: 2834; **Tables:** 3; **Figures:** 2, **Supplementary Tables:** 2

Supplementary table 1. Baseline characteristics between complete data group and covariates

missing group

	Total	Complete data	Covariates missing	Number of missing data
Participants	n= 9243	n= 8808	n= 435	
Male, n (%)	6765 (73.2)	6489 (73.7)	276 (63.5)	0
Night/shift workers, n (%)	1390 (15)	1282 (14.6)	108 (24.8)	0
Median age (IQR) years	46 (40 - 53)	46 (40 - 53)	40 (31 - 51)	0
Median BMI (IQR) kg/m ²	27.3 (26.0 - 29.6)	27.3 (26.0 - 29.6)	27.2 (26.0 - 29.5)	0
Comorbidities, n (%)				
Diabetes*	1023 (11.5)	1013 (11.5)	10 (10.6)	341
CAD	141 (1.5)	136 (1.5)	5 (1.1)	0
CVD	117 (1.3)	112 (1.3)	5 (1.1)	0
Cancer	202 (2.2)	192 (2.2)	10 (2.3)	0
Hours of work, n (%)				
≥10 hours/day	2753 (29.9)	2654 (30.1)	99 (24.0)	23
Hours of sleep, n (%)				
<7 hours/day	7777 (84.7)	7473 (84.8)	304 (81.9)	64
Alcohol habits, n (%)				
≥3 times/week	4680 (50.7)	4529 (51.4)	151 (35.7)	12
Smoking status, n (%)				
Current smoker	2498 (27.0)	2400 (27.3)	98 (22.7)	4

IQR, interquartile range; BMI, body mass index; CAD, coronary artery disease; CVD, cerebrovascular disorder

*Diabetes was defined as fasting plasma glucose (FPG) ≥ 7.0 mmol/L (126 mg/dL), postprandial plasma glucose (PPG) ≥ 11.2 mmol/L (200 mg/dL), HbA1c $\geq 6.5\%$, self-reported diabetes previously diagnosed by physicians, or the use of antidiabetic agents.

Supplementary table 2. The association between work schedules and SOC for lifestyle based on TTM, categorised into 3 groups—Odds ratios for primary outcome: demonstration of action or maintenance stages—

Work schedules Odds ratio (95% CI)	Crude n = 9243	Adjusted* n = 8808
Night work (n= 425)	0.82 (0.66 to 1.04)	0.84 (0.66 to 1.07)
Shift work (n= 965)	0.76 (0.64 to 0.89)	0.85 (0.72 to 1.01)
Daytime work (n= 7853)	1.00 (Ref)	1.00 (Ref)

BMI, body mass index; CI, confidence interval; CAD, coronary artery disease; CVD, cerebrovascular disorder; TTM, the transtheoretical model

* Adjusted for age (<40 years vs. \geq 40 years), sex, comorbidities (diabetes, CAD, CVD, cancer), BMI (25-29.9 kg/m² vs. \geq 30 kg/m²), current smoking status (yes vs. no), alcohol habits (<3 times/week vs. \geq 3 times/week), hours of sleep (<7 hours vs. \geq 7 hours), hours of work (<10 hours vs. \geq 10 hours).