Supplementary Table 3. Sensitivity analyses (S1–S6) and post-hoc age stratification (S7): interaction p-values for four primary outcomes under M2

Scenario	Outcome	n	p_int (M2)
S1 weekday-only	BMI	3,652	0.976
S1 weekday-only	Fasting glucose	3,425	0.449
S1 weekday-only	Fatigue-related symptom score	3,700	0.163
S1 weekday-only	FEV_1/FVC	3,542	0.380
S2 sleep 2−16 hr	BMI	3,669	0.930
S2 sleep 2−16 hr	Fasting glucose	3,441	0.382
S2 sleep 2−16 hr	Fatigue-related symptom score	3,717	0.103
S2 sleep 2−16 hr	FEV_1/FVC	3,559	0.843
S3 exclude HTN+DM	BMI	3,068	0.792
S3 exclude HTN+DM	Fasting glucose	2,873	0.703
S3 exclude HTN+DM	Fatigue-related symptom score	3,116	0.030
S3 exclude HTN+DM	FEV_1/FVC	2,979	0.525
S4+BMI covariate	BMI		n/a
S4+BMI covariate	Fasting glucose	3,425	0.366
S4+BMI covariate	Fatigue-related symptom score	3,650	0.083
S4+BMI covariate	FEV_1/FVC	3,542	0.856
S5 simple impute covariates	BMI	3,656	0.931
S5 simple impute covariates	Fasting glucose	3,429	0.374
S5 simple impute covariates	Fatigue-related symptom score	3,705	0.110
S5 simple impute covariates	FEV_1/FVC	3,546	0.855
S6 5-cat sleep (ref 7 to <8)	BMI	3,652	0.049
S6 5-cat sleep (ref 7 to <8)	Fasting glucose	3,425	0.342
S6 5-cat sleep (ref 7 to <8)	Fatigue-related symptom score	3,700	0.081
S6 5-cat sleep (ref 7 to <8)	FEV_1/FVC	3,542	0.989
S7 Age<50	BMI	2,070	0.903
S7 Age<50	Fasting glucose	1,975	0.529
S7 Age<50	Fatigue-related symptom score	2,097	0.001
S7 Age<50	FEV_1/FVC	2,027	0.146
S7 Age≥50	BMI	1,582	0.982
S7 Age≥50	Fasting glucose	1,450	0.653
S7 Age≥50	Fatigue-related symptom score	1,603	0.832
S7 Age≥50	FEV_1/FVC	1,515	0.269

p_int (M2)=2-df LR interaction test under M2 (fully adjusted). S1, weekday-only sleep; S2, widened plausible range (2–16 hr); S3, exclude prevalent hypertension/diabetes; S4, add BMI as covariate; S5, simple imputation of missing covariates; S6, 5-category sleep scheme (ref 7 to <8 hr); S7, age stratification; M2, model 2; BMI, body mass index; FEV_1, forced expiratory volume in 1 second; FVC, forced vital capacity; HTN, hypertension; DM, diabetes mellitus; n/a, not applicable; ref, reference; LR, likelihood-ratio.