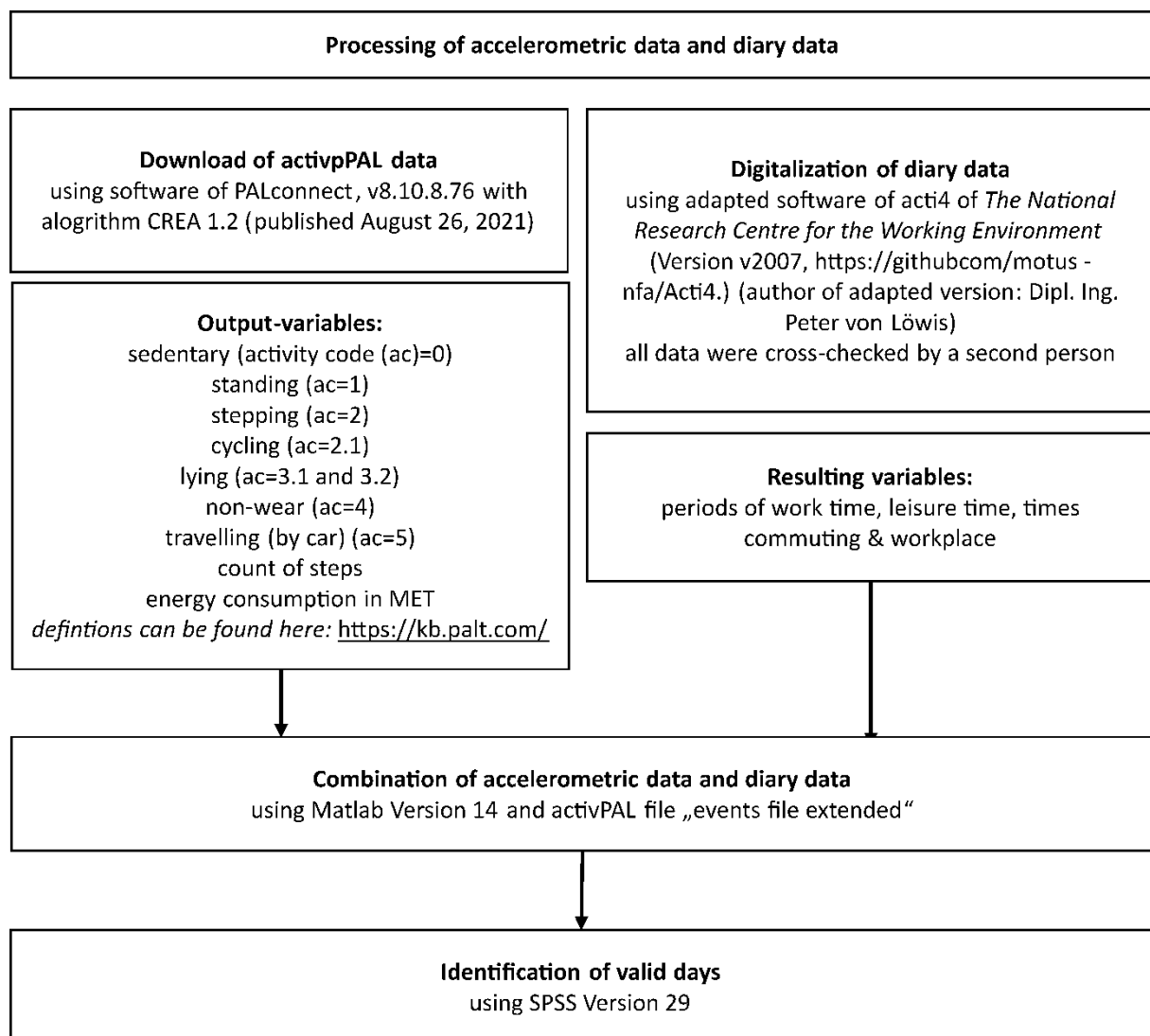


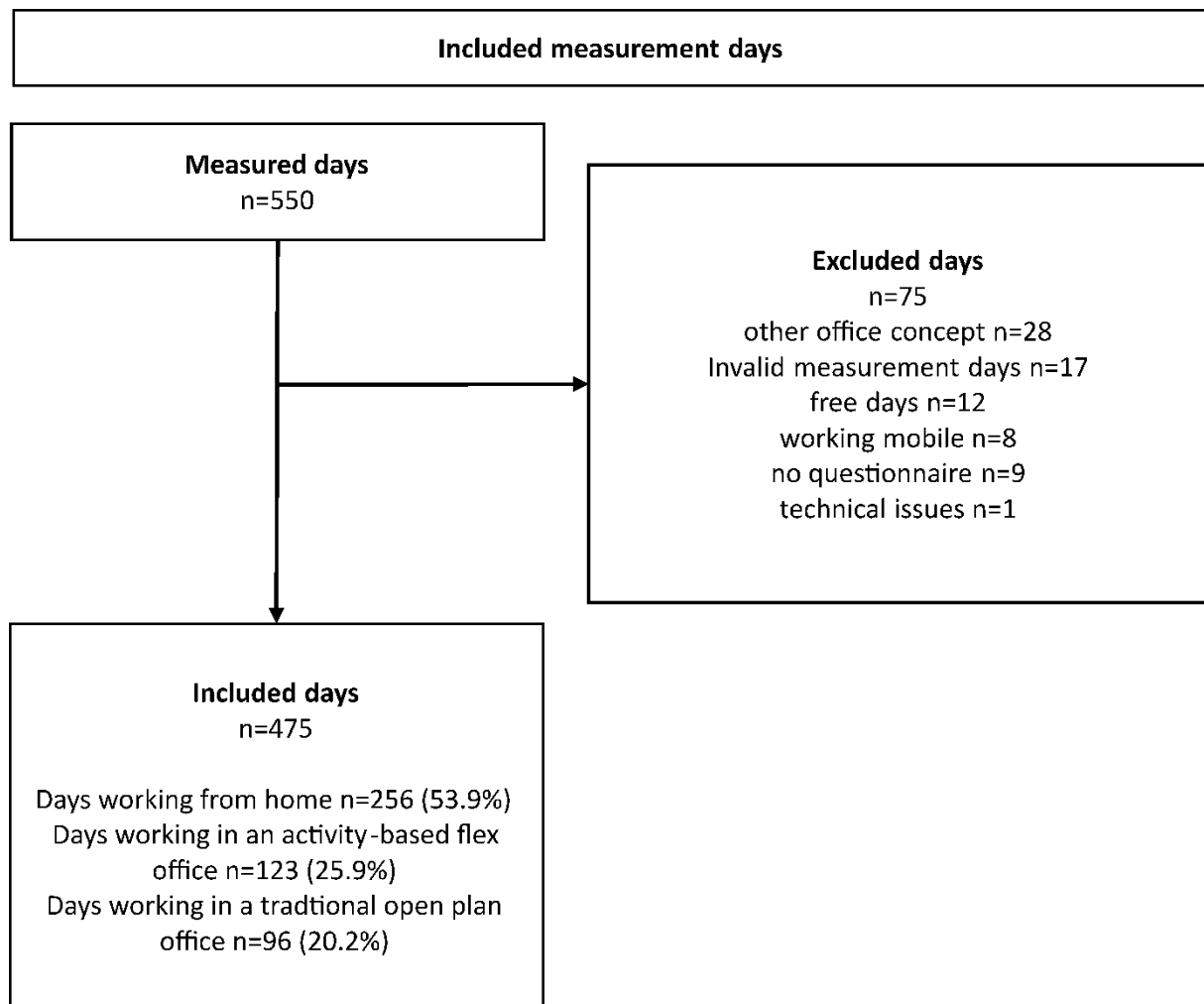
Comparison of sedentary time, number of steps and sit-to-stand-transitions of desk-based workers in different office environments including working from home: analysis of quantitative accelerometer data from the cross-sectional part of the SITFLEX Study¹

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1. Supplementary material
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Supplementary figure S1. Processing of accelerometric data and diary data



Supplementary figure S2. Development of included measurement days

Supplementary table S1. Further information about operationalization of variables

Variables	Used Questionnaire/Measurement method	Definitions/Question and answers	Proceeding
Sedentary time (Outcome variable)	activPAL3 (<i>accelerometric measurement</i>)	Sedentary (ac=0) + lying (ac: 3.1 and 3.1, during total time awake) + traveling (by car) (ac=5)	-
Sit-to-stand-transition (Outcome variable)	activPAL3 (<i>accelerometric measurement</i>)	the change in activity code from sedentary (ac=1), lying (ac=3.1 and 3.2, during total time awake) or travelling (by car) (ac=5) to standing (ac=1) or stepping (ac=2).	-
General health	Copenhagen Psychosocial Questionnaire (COPSOQ)	Participants were asked to rate their general health with a number between 0 and 10	-

<i>(Descriptive variable)</i>		(10 relates to a very good health status).	
Smoking status <i>(Descriptive variable)</i>	According to Robert Koch Institute	“Do you smoke?” Possible answers (single choice): “yes, every day”, “yes, sometimes”, “no, I stopped” or “no, I never smoked”.	The number and percentage of non-smokers were identified by adding up the categories “no, I stopped” and “no, I never smoked”
Known blood pressure <i>(Descriptive variable)</i>	According to Robert Koch Institute	“Have you ever been diagnosed with high blood pressure by a doctor?”, “Did you have high blood pressure in the last 12 months?”, “Are you currently taking antihypertensive medication?”	-
Limiting disorders of the cervical and lumbar spine <i>(Descriptive variable)</i>	German Version of the Nordic Musculoskeletal Questionnaire	“Did you have pain in lumbar/cervical spine the last four weeks?” Possible answers: “yes” or “no” If “yes”, the following was asked: “Did this pain limit you in the last four weeks during your work or in your leisure time?” Possible answers: “yes” or “no”	Information of the two questions were combined, resulting in a variable that indicated if an employee had limiting pain in their [lumbar/cervical] spine in the last four weeks (“yes” or “no”). Employees who had no pain or no limiting pain were categorized into “no”.
Measured blood pressure <i>(Descriptive variable)</i>	In seated position three times during the study visit after at least 10 minutes of rest and at least 2 minutes time between the measurements with the device X7 Smart (Omron)	-	Mean values of systolic and diastolic blood pressures was calculated
Height	Measured without shoes with two decimals in meter with and Stadiometer (Seca 213)	-	-
Weight	Measured without shoes and in light clothing to one decimal place in kilograms with an electronic scale (Soehnle)	-	-
Body Mass Index <i>(Descriptive variable)</i>	Calculated with measured height and weight according to World Health Organization (WHO)	-	-

Supplementary table S2. Estimated means of sedentary behavior and steps – data corresponding to figure 2

	OPO	AFO	WFH
	Mean (95% CI)	Mean (95% CI)	Mean (95% CI)
Work time			
sedentary time in min	351 (322–380)	333 (308–358)	378 (359–396)
steps n	2763 (2460–3066)	2906 (2645–3167)	1257 (1063–1452)
STS n	16.6 (13.6–19.6)	19.1 (16.6–21.7)	20.9 (19.0–22.8)
Total time awake			
sedentary time in min	643 (608–677)	637 (608–667)	660 (637–682)
steps n	9694 (8779–10 609)	9015 (8215–9814)	7140 (6563–7717)
STS n	43.4 (38.7–48.2)	43.1 (39.1–47.2)	49.6 (46.5–52.7)
Results are adjusted for gender, age, current profession and measurement phase and standardized of outcome variables to an eight-hour working day and a 16-hour day, respectively. Abbreviations: AFO – activity-based flex office; CI – confidence interval; min – minutes, n – number; STS – sit-to-stand-transitions; OPO – traditional open plan office; WFH – working from home			

Supplementary table S3. Mean difference between working from home and working at the office with 95% confidence interval for ILR1 und ILR2 and for OPO and AFO – data corresponding to figure 3.

	ILR₁	ILR₂
	Mean difference (95% CI)	Mean difference (95% CI)
Work time		
WFH-WAO	0.55 (0.45–0.65)	0.12 (0.04–0.20)
OPO-AFO	0.14 (-0.14–0.42)	-0.02 (-0.24–0.19)
Total time awake		
WFH-WAO	0.15 (0.09–0.21)	0.05 (0.01–0.10)
OPO-AFO	0.03 (-0.14–0.20)	-0.06 (-0.18–0.07)
Abbreviations: AFO – activity-based flex office; CI – confidence interval; ILR₁ – Isometric log-ratio 1 (SB/Stand and PA); ILR₂ – Isometric log-ratio 2 (STAND/PA); OPO – traditional open plan office; WAO – working at the office; WFH – working from home		

Supplementary table S5. Estimated difference in workplace and office concepts – data corresponding to figure 4

	OPO vs. AFO (ref.)	WFH vs. WAO (ref.)
	Mean (95% CI)	Mean (95% CI)
Estimated difference during work time		
Δ sedentary time in min	9 (-23–41)	+ 46 (35–56)
Δ steps n	-159(-540–223)	-1487 (-1658– -1317)
Δ STS n	-1.7 (-5.5–2.1)	3.5 (2.1–5.0)
Estimated difference during total time awake		
	Mean (95% CI)	Mean (95% CI)
Δ sedentary time in min	+10 (-35–55)	+31 (17–46)
Δ steps n	337 (-867–1542)	-2020 (-2608– -1432)
Δ STS n	1.3 (-4.9–7.6)	7.0 (4.8–9.2)
Results are adjusted for gender, age, current profession and measurement phase and standardized of outcome variables to an eight-hour working day and a 16-hour day, respectively. Abbreviations: AFO – activity-based flex office; CI – confidence interval; min – minutes; n – number; OPO – traditional open plan office, WAO – working at the office WFH – working from home; STS – sit-to-stand-transitions; Δ – delta		

Supplementary table S6. Unadjusted estimated difference between working environments

	OPO vs. AFO (ref.)	WFH vs. WAO (ref.)
	Mean (95% CI)	Mean (95% CI)
Estimated difference during work time		
Δ sedentary time in min	18 (-20–56)	36 (21–50)
Δ steps n	-143 (-543–257)	-1577 (-1752– -1402)
Δ STS n	-2.5 (-6.4–1.4)	3.0 (1.5–4.5)
Estimated difference during total time awake		
	Mean (95% CI)	Mean (95% CI)
Δ sedentary time in min	6 (-40–51)	20 (4–36)
Δ steps n	679 (-536–1894)	-2214 (-2817– -1611)

Δ STS n	0.3 (-6.0–6.5)	6.3 (4.0–8.6)
abbreviations: AFO – activity-based flex office; CI – confidence interval; min – minutes; n – number; OPO – traditional open plan office; WAO – working at the office; WFH – working from home; STS – sit-to-stand-transitions; Δ – delta		