

Supplementary Table 1

Number of participants included in the analyses calculating unadjusted and multivariate adjusted¹ prevalence of indicators referring to different elements of PA recommendations (health-enhancing aerobic activity; muscle strengthening) depending on self-reported non-communicable diseases (according to STROBE checklist item no. 14)

	Health-enhancing aerobic activity (≥ 150 min/week of at least moderate PA)		Muscle strengthening ≥ 2 times/week		Both recommendations for health-enhancing aerobic activity and muscle strengthening fulfilled	
	<i>n</i> , unadjusted analysis	<i>n</i> , adjusted analysis	<i>n</i> , unadjusted analysis	<i>n</i> , adjusted analysis	<i>n</i> , unadjusted analysis	<i>n</i> , adjusted analysis
Non-communicable diseases (NCD)						
Coronary heart disease	21.704	21.663	22.305	22.262	21.583	21.542
Stroke	21.673	21.632	22.274	22.231	21.552	21.511
Diabetes mellitus	22.336	22.295	22.987	22.943	22.206	22.165
Obesity	22.766	22.727	23.423	23.381	22.630	22.591
COPD	21.748	21.708	22.362	22.320	21.627	21.587
Cancer diseases	22.239	22.198	22.875	22.831	22.110	22.069
Osteoarthritis	21.806	21.765	22.420	22.376	21.683	21.642
Low back pain	22.030	21.989	22.660	22.616	21.907	21.866
Neck pain	21.932	21.891	22.546	22.502	21.807	22.766
Depressive symptoms	22.614	22.574	23.529	23.216	22.488	22.448

Note. ¹ Adjustments of prevalence considered sex (female, male), four age groups (18-29y; 30-44y; 45-64y; 65y and older), socioeconomic status (low, medium, high) and education level (low, medium, high)

Supplementary Table 2

Unadjusted prevalence of indicators referring to different elements of PA recommendations (health-enhancing aerobic activity; muscle strengthening) depending on self-reported non-communicable diseases (according to STROBE checklist item no. 16)

	Health-enhancing aerobic activity (≥ 150 min/week of at least moderate PA)		Muscle strengthening ≥ 2 times/week		Both recommendations for health-enhancing aerobic activity and muscle strengthening fulfilled	
	%	(95 %-CI)	%	(95 %-CI)	%	(95 %-CI)
Non-communicable diseases (NCD)						
Coronary heart disease	36.0	(33.3–40.5)	25.9	(22.3–29.5)	18.7	(15.2–22.2)
Stroke	29.4	(23.2–35.5)	25.4	(19.4–31.5)	16.2	(10.5–22.0)
Diabetes mellitus	32.7	(29.8–35.6)	21.0	(18.7–23.3)	14.0	(12.0–16.1)
Obesity	31.7	(29.9–33.5)	19.6	(18.2–21.1)	13.0	(11.8–14.2)
COPD	30.0	(26.8–33.2)	25.4	(22.6–28.3)	16.6	(14.0–19.1)
Cancer diseases	43.0	(38.6–47.3)	28.4	(24.7–32.1)	21.4	(17.9–24.9)
Osteoarthritis	43.6	(41.4–45.8)	31.7	(29.8–33.5)	22.9	(21.1–24.7)
Low back pain	41.4	(39.9–42.9)	29.5	(28.5–30.6)	21.2	(20.1–22.4)
Neck pain	41.9	(40.3–43.4)	29.0	(27.7–30.3)	20.7	(19.5–21.9)
Depressive symptoms	30.4	(27.9–32.8)	22.7	(20.6–24.8)	15.0	(13.0–17.0)

Supplementary Table 3

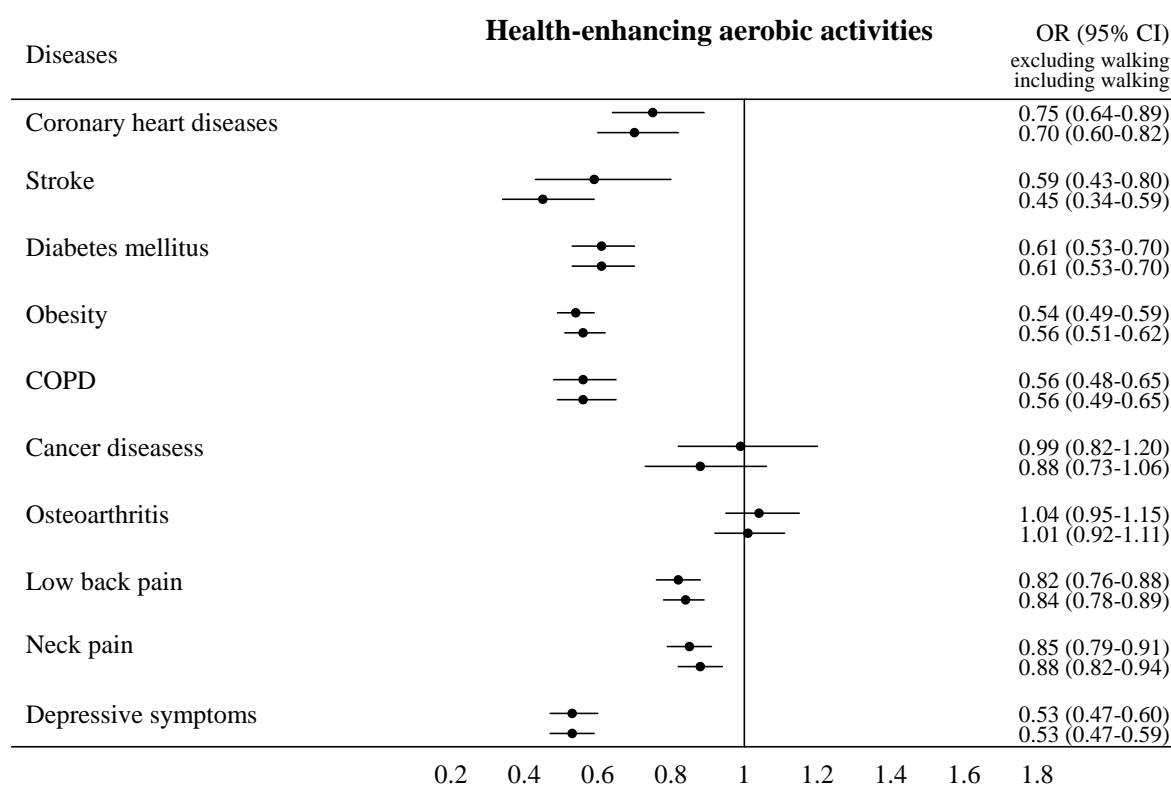
Comparison of adjusted prevalence¹ of different indicators for health-enhancing aerobic activities (excluding and including transport-related walking) depending on self-reported non-communicable diseases (sensitivity analysis)

	Health-enhancing aerobic activity			
	≥ 150 min/week of at least moderate PA (excluding walking)		≥ 150 min/week of at least moderate PA (including walking)	
	%	(95 %-CI)	%	(95 %-CI)
Reference population	45.3	(44.2–46.4)	59.9	(58.9–61.0)
Non-communicable diseases (NCDs)				
Coronary heart disease	39.0	(35.3–42.7)	51.4	(47.6–55.3)
Stroke	34.0	(27.8–40.1)	40.9	(34.7–47.1)
Diabetes mellitus	34.6	(31.6–37.6)	48.3	(45.1–51.6)
Obesity	33.4	(31.6–35.3)	48.2	(46.1–50.2)
Chronic lung diseases	33.0	(29.9–36.1)	46.5	(43.1–49.9)
Cancer diseases	45.0	(40.5–49.5)	56.7	(52.2–61.2)
Osteoarthritis	46.3	(44.0–48.6)	59.9	(57.7–62.2)
Low back pain	42.4	(40.8–44.0)	56.9	(55.4–58.4)
Neck pain	42.6	(41.0–44.2)	57.5	(56.0–59.1)
Depressive symptoms	32.7	(30.2–35.2)	46.0	(43.4–48.7)

Notes. ¹ Adjustments of prevalence considered sex (female, male), four age groups (18-29y; 30-44y; 45-64y; 65y and older), socio-economic status (low, medium, high) and education level (low, medium, high); ² Data of the general adult population refers to the whole representative sample of adults (aged 18 years or older) in Germany including all adults with and without NCDs (Finger et al., 2017).

Supplementary Figure 1

Forest plot for multivariate adjusted odds ratios (OR; adjusted for sex, age group, educational level and SES) and 95% confidence intervals for the two indicators for the fulfilment of recommendations for at least 150 minutes of aerobic activity per week (upper lines: excluding transport-related walking; lower lines: including transport-related walking) for different NCDs (reference category: specified NCD not reported); Source: GEDA-2014/15-EHIS



Supplementary Table 4

Multivariate adjusted prevalence for different indicators for the fulfillment of PA recommendations depending on the degree of multi-morbidity in terms of the sum of the NCD under study (Source: GEDA-EHIS 2014/2015)

	n		Health-enhancing aerob activity (≥ 150 min/week of at least moderate PA)		Muscle strengthening activities (≥ 2 times/week)		Recommendations for health-enhancing aerobic activity and muscle strengthening fulfilled	
			n = 22.918		n = 23.591		n = 22.781	
	unweighted	% (weighted)	%	(95 %-CI)	%	(95 %-CI)	%	(95 %-CI)
None of the studied NCD	8.441	34.4	51.4	(49.8–53.0)	31.7	(30.4–33.1)	25.8	(24.4–27.1)
1	8.486	34.8	44.4	(42.8–45.9)	29.2	(28.0–30.1)	22.0	(20.7–23.2)
2	4.247	18.1	42.4	(40.4–44.4)	30.3	(28.3–32.3)	22.2	(20.4–24.0)
3	1.808	8.1	34.4	(31.4–37.4)	25.1	(22.6–27.6)	16.8	(14.6–18.9)
4	682	2.9	31.9	(27.7–36.1)	27.5	(23.4–31.7)	18.8	(15.3–22.3)
5 or more of the studied NCD	352	1.7	26.0	(20.2–31.7)	23.5	(18.2–28.8)	14.4	(9.5–19.2)

Note: Low back pain and neck pain were combined for the analyses of multi-morbidities. Adjustments of prevalence considered sex (female, male), four age groups (18-29y; 30-44y; 45-64y; 65y and older), socio-economic status (low, medium, high) and education level (low, medium, high)