

Supplementary Table S-F2-8. Summary of Original Research Studies on Sedentary Behavior and Cancer Mortality Identified in the Systematic Reviews and Meta-Analyses

Reference	Year of Publication	Population	Sample Size	Age	Definition of Sedentary Behavior	Mortality Follow-up Period	Main Results	Dose-Response
Katzmarzyk et al. 2009	2009	Canadian Adults; Canada Fitness Survey Mortality Follow-up Study	17,013	18-90 y	Daily sitting time	1981 to 1993 Mean of 12.0 y	HR (95% CI) across levels of daily sitting time in fully adjusted model: 0%: 1.00 (reference) 25%: 0.92 (0.71-1.20) 50%: 0.91 (0.69-1.20) 75%: 0.96 (0.69-1.33) 100% 1.07 (0.72-1.61) P for trend NS	No
Patel et al. 2010	2010	U.S. Adults; Cancer Prevention Study II (CPS-II) Nutrition Cohort	123,216	50-74 y	Daily leisure sitting time	1992 to 2006 Mean of ~14 y	HR (95% CI) across levels of daily sitting time in fully adjusted model: <u>Men</u> <3 h/d: 1.00 (reference) 3-5 h/d: 1.05 (0.98-1.12) ≥5 h/d: 1.04 (0.94-1.15) P for trend = 0.29 <u>Women</u> <3 h/d: 1.00 (reference) 3-5 h/d: 1.07 (0.99-1.16) ≥5 h/d: 1.30 (1.16-1.46) P for trend <0.0001	Men: No Women: Yes
Dunstan et al. 2010	2010	Australian Adults; The Australian Diabetes, Obesity and Lifestyle Study (AusDiab)	8,800	≥25 y	TV viewing time	1999-2000 to 2006 Median of 6.6 y	HR (95% CI) across levels of TV viewing time in fully adjusted model: <2 h/d: 1.00 (reference) 2-<4 h/d: 1.12 (0.75-1.66)	No

							<p>≥4 h/d: 1.48 (0.88-2.49)</p> <p>No significant effect modification by age, sex, education, smoking status, hypertension, waist circumference, BMI, and glucose tolerance status.</p> <p>No significant interaction between TV viewing time and leisure-time exercise (p>0.01).</p>	
Wijndaele et al. 2011	2011	UK Adults; European Prospective Investigation into Cancer and Nutrition Study (EPIC) - Norfolk	13,197	Mean of 61.5 y	TV viewing time	1998-2000 to 2009 Mean of 9.5 y	<p>HR (95% CI) per hour of TV viewing = 1.04 (0.98-1.10), p=0.18</p> <p>No significant interactions between TV time and sex, age, education and BMI.</p> <p>No significant interaction between TV viewing and physical activity EE (p=0.45).</p>	No
Matthews et al. 2012	2012	U.S. Adults; NIH-AARP Diet and Health Study	240,819	50-71 y	Daily sitting time, TV viewing time	1995-96 to 2005 Mean of 8.5 y	<p>HR (95% CI) across levels of daily sitting time in fully adjusted model:</p> <p><3 h/d: 1.00 (reference) 3-4 h/d: 1.02 (0.96-1.09) 5-6 h/d: 1.04 (0.97-1.11) 7-8 h/d: 0.99 (0.92-1.08) ≥9 h/d: 1.12 (1.02-1.24) P for trend = 0.12</p> <p>HR (95% CI) across levels of TV viewing in fully adjusted model:</p>	<p>Sitting: No</p> <p>TV viewing: Yes</p>

							<p><1 h/d: 1.00 (reference) 1-2 h/d: 1.04 (0.93-1.16) 3-4 h/d: 1.09 (0.98-1.21) 5-6 h/d: 1.14 (1.02-1.28) ≥7 h/d: 1.22 (1.06-1.40) P for trend <0.001</p>	
Kim et al. 2013	2013	U.S. Adults; Multiethnic Cohort Study	134,596	45-75 y	Daily sitting time; TV viewing time	1993-96 to 2007 Median of 13.7 y	<p>HR (95% CI) across quartiles of daily sitting time in fully adjusted model: <u>Men</u> <5 h/d: 1.00 (reference) 5-<10h/d: 0.96 (0.88-1.05) ≥10 h/d: 0.97 (0.87-1.07) P for trend = 0.62 <u>Women</u> <5 h/d: 1.00 (reference) 5-<10h/d: 0.97 (0.87-1.07) ≥10 h/d: 0.97 (0.87-1.09) P for trend = 0.75</p> <p>HR (95% CI) across quartiles of TV viewing time in fully adjusted model: <u>Men</u> <1 h/d: 1.00 (reference) 1-4 h/d: 1.11 (0.99-1.24) ≥5 h/d: 1.16 (1.00-1.33) P for trend =0.16 <u>Women</u> <1 h/d: 1.00 (reference) 1-4 h/d: 0.96 (0.85-1.07) ≥5 h/d: 1.07 (0.92-1.25)</p>	No

							P for trend=0.09	
Seguin et al. 2014	2014	U.S. Women; Women's Health Initiative (WHI)	92,234	50-79 y	Total sedentary time (sitting and lying while awake)	1993-98 to 2010 Mean of 12 y	HR (95% CI) across levels of total sedentary time in fully adjusted model: ≤4 h/d: 1.00 (reference) >4-8 h/d: 1.09 (0.98-1.22) >8-11 h/d: 1.21 (1.07-1.35) >11 h/d: 1.21 (1.07-1.37) P for trend = 0.0002 No significant interactions between sedentary time and BMI, physical functioning, race/ethnicity (white, black, Hispanic, other) and history of chronic disease. There was a significant interaction with age, with no significant association observed in 70-79 y olds. No significant interaction between sedentary time and physical activity (p=0.51).	Yes
Matthews et al. 2014	2014	U.S. Adults; Southern Community Cohort Study	63,308	40-79 y	Daily sitting time	2002-2009 to 2011 Mean of 6.4 y	HR (95% CI) across levels of daily sitting time in fully adjusted model: <u>Blacks</u> <5.76 h/d: 1.00 (reference) 5.76-8.50 h/d: 0.98 (0.82-1.18) 8.51-12.00 h/d: 1.06 (0.88-1.28) >12.0 h/d: 1.12 (0.92-1.36) P for trend = 0.17 <u>Whites</u> <5.76 h/d: 1.00 (reference)	No

							5.76-8.50 h/d: 0.88 (0.65-1.18) 8.51-12.00 h/d: 0.86 (0.63-1.19) >12.0 h/d: 1.04 (0.74-1.46) P for trend = 0.29	
--	--	--	--	--	--	--	--	--

Legend: BMI=body mass index, CI=confidence interval, HR=hazard ratio, TV=television

REFERENCES

Dunstan DW, Barr EL, Healy GN, et al. Television viewing time and mortality: the Australian Diabetes, Obesity and Lifestyle Study (AusDiab). *Circulation*. 2010;121(3):384-391. doi:10.1161/CIRCULATIONAHA.109.894824.

Katzmarzyk PT, Church TS, Craig CL, Bouchard C. Sitting time and mortality from all causes, cardiovascular disease, and cancer. *Med Sci Sports Exerc*. 2009;41:998-1005. doi:10.1249/MSS.0b013e3181930355.

Kim Y, Wilkens LR, Park SY, Goodman MT, Monroe KR, Kolonel LN. Association between various sedentary behaviours and all-cause, cardiovascular disease and cancer mortality: the Multiethnic Cohort Study. *Int J Epidemiol*. 2013;42(4):1040-1056. doi:10.1093/ije/dyt108.

Matthews CE, Cohen SS, Fowke JH, et al. Physical activity, sedentary behavior, and cause-specific mortality in black and white adults in the Southern Community Cohort Study. *Am J Epidemiol*. 2014;180(4):394-405. doi:10.1093/aje/kwu142.

Matthews CE, George SM, Moore SC, et al. Amount of time spent in sedentary behaviors and cause-specific mortality in US adults. *Am J Clin Nutr*. 2012;95(2):437-445. doi:10.3945/ajcn.111.019620.

Patel AV, Bernstein L, Deka A, et al. Leisure time spent sitting in relation to total mortality in a prospective cohort of US adults. *Am J Epidemiol*. 2010;172(4):419-429. doi:10.1093/aje/kwq155.

Seguin R, Buchner DM, Liu J, et al. Sedentary behavior and mortality in older women: the Women's Health Initiative. *Am J Prev Med*. 2014;46(2):122-135. doi:10.1016/j.amepre.2013.10.021.

Wijndaele K, Brage S, Besson H, et al. Television viewing time independently predicts all-cause and cardiovascular mortality: the EPIC Norfolk study. *Int J Epidemiol*. 2011;40(1):150-159. doi:10.1093/ije/dyq105.