

Supplementary Table S-F5-1. Weight Status Summary of the Qualifying Original Research Articles

Citation	Study Type	Duration of Follow-Up	Sample Size	Age	Body Mass Index (BMI)	Gender/ Sex	Ethnicity/Race	Summary of Weight Outcome Results
Adair, LS, Gultiano, S, Suchindran, C. (2011). 20-year trends in Filipino women's weight reflect substantial secular and age effects. The Journal of nutrition 141: 667-673.	Cohort study	23 years	N=3005 in 1983-84, N=2442 in 1984-85, N=2211 in 1985-86, N=2218 in 1991, N=2166 in 1994, N=1938 in 1998, N=2072 in 2002, N=2004 in 2005	27.1±6.0 years	20.7±2.6 kg/m ²	Women	Filipino	Energy expenditure in moderate-intensity work (Regression Coefficient: -1.36, 95% CI: -1.78, 0.95) and heavy-intensity work (Regression Coefficient: -1.09, 95% CI: -1.55, 0.634)
Basterra-Gortari, FJ, Bes-Rastrollo, M, Pardo-Fernandez, M, et al. (2009). Changes in weight and physical activity over two years in Spanish alumni. Medicine and science in sports and exercise 41: 516-522.	Cohort study	27 months	11,974	~47-49 years for men and ~40-41 years for women	Men: 25.4±3.0 kg/m ² ; Women: 22.0±2.8 kg/m ²	Men and Women	Spain - otherwise not specified	Participants who decreased their leisure activity during follow-up experienced a significant increase in BMI [men = 0.41 (95% CI = 0.31–0.52); women = 0.57 (95% CI = 0.47–0.67). Men who increased their leisure activity during follow-up experienced a non-significant reduction in BMI of -0.02 (95% CI = -0.12 to 0.08) and women who increased their leisure activity experienced a

								<p>slight weight gain of 0.19 (95% CI = 0.10–0.28).</p> <p>Participants with a baseline BMI >25 kg/m² had a significantly greater BMI gain associated to decreased physical activity with relative increase of 1.0% (95% CI = 0.5–1.4%) for men and 1.6% (95% CI = 0.5–2.6%) for women. Participants with a baseline BMI ≤25 kg/m², the increases in BMI associated with decreased activity were 0.8% (95% CI = 0.3–1.2%) for men and 0.9% (95% CI = 0.5–1.2%) for women.</p> <p>Men or women who decreased their leisure activity during follow-up exhibited a statistically significant higher risk of gaining >5 kg compared with participants who were initially in the highest tertile of baseline leisure activity and who also increased their leisure activity during follow-up.</p> <p>Among men, after adjusting for relevant confounders, the OR for</p>
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								decreased leisure activity was 3.76 (95% CI = 2.32–6.09) in the highest baseline tertile, 2.66 (95% CI = 1.61–4.40) in the middle baseline tertile, and 2.99 (95% CI = 1.82–4.93) in the lowest baseline tertile. Among women, these estimates were 2.70 (95% CI = 1.80–4.07), 2.23 (95% CI = 1.46–3.41), and 2.84 (95% CI = 1.84–4.38), respectively.
Bea, JW, Cussler, EC, Going, SB, et al. (2010). Resistance training predicts 6-yr body composition change in postmenopausal women. <i>Medicine and science in sports and exercise</i> 42: 1286-1295.	Block-randomized clinical trial with follow-up at 6 years	6 years	122	56.3±4.3 years	25.5±3.8 kg/m ²	Women		Weight gain over a 6-year period occurred in stepwise fashion with controls gaining the greatest amount of weight (2.1±4.3kg controls, 0.7±4.4kg crossovers, 0.4±6.2 kg exercisers). Significant gains in weight and total body fat were found between baseline and 6 years in controls only (p<0.05). In the regression models, exercise frequency and volume of weight lifted were significant, independent predictors of body weight, total body fat, and regional body fat (trunk, arm, and leg) over 6 years. Associations were inverse, indicating that increased training resulted

								in decreased weight and fat ($p < 0.03$ across models of weight and fat).
Blanck, HM, McCullough, ML, Patel, AV, et al. (2007). Sedentary behavior, recreational physical activity, and 7-year weight gain among postmenopausal U.S. women. <i>Obesity</i> (Silver Spring, Md) 15: 1578-1588.	Prospective cohort study with participants completing questionnaires in 1992 and 1999	7 years	18,583	40 to 69 years		Women		<p>Among non-overweight women, amount of time engaged in recreational physical activity was not related to odds of 5- to 9-pound weight gain vs. stable weight over the 7-year follow-up period.</p> <p>Overweight or obese women who reported no recreational physical activity had 29% lower odds of 5- to 9-pound weight gain compared with those who reported >0 to 4.0 MET h/wk of physical activity [OR: 0.71; 95% confidence interval, 0.56, 0.90], with no difference in odds with greater reported physical activity compared to >0 to 4.0 MET h/wk of PA. There was no association between sedentary behavior and 5- to 9-pound weight gain in either weight group. Among women who were</p>

								<p>not overweight at baseline, those in the highest category of recreational PA had lower odds of ≥ 10-pound weight gain compared with those with stable weight (OR, 0.88; 95% CI, 0.77, 0.99 for ≥ 18 MET h/wk compared with >0 to 4 MET h/wk). Sedentary behavior was also related to ≥ 10-pound weight gain among women who were not overweight. The odds of ≥ 10-pound weight gain were 16% higher among women who reported 3 to 5 h/d of sedentary behavior (OR, 1.16; 95% CI, 1.04, 1.28) and 47% higher among women who reported ≥ 6 h/d of sedentary behavior (OR, 1.47; 95% CI, 1.21, 1.79) than among those who reported <3 h/d; however, sedentary behavior was not significantly associated with weight gain among women who were already overweight or obese at baseline.</p>
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Botoseneanu, A, Liang, J. (2012). The effect of stability and change in health behaviors on trajectories of body mass index in older Americans: a 14-year longitudinal study. The journals of gerontology Series A, Biological sciences and medical sciences 67: 1075-1084.	Cohort Study	14 years	10,314	55.8±3.2 years	26.98±4.96 kg/m ²	Men and Women	mixed - 10.3% non-Hispanic black, 6.5% Hispanic	Individuals engaged in vigorous physical activity (b = - 0.549, p<.001) and those who initiated physical activity (b = - 0.381, p<.001) had lower BMI trajectories over time.
Brien, SE, Katzmarzyk, PT, Craig, CL, et al. 2007	Cohort Study	20 years	459	Age in 1981 = 32.8±9.6 years; Age in 1988 = 39.7±9.6 years	In 1981: 23.2±3.1 kg/m ² ; In 1988: 24.4±3.3 kg/m ²	Men and Women		Mean physical activity in 1981 and 1988 were not predictive of overweight, obesity, or 10 kg weight gain in 2002-04 in the total sample, men, or women.
Brown, WJ, Kabir, E, Clark, BK, et al. 2016	Cohort Study	16 years	4,881	20.7±1.4 years	21.6±1.7 kg/m ²	Women	Australian	Adjusted Odds Ratios of physical activity for maintaining a healthy BMI (≥18.5 to <25): None (<40 MET/min/wk): OR=1.00; Low (40 to <500 MET/min/wk): OR=1.18 (1.00, 1.40); Moderate (500 to <1000 MET/min/wk): OR=1.23 (1.03, 1.47); High (≥1000 MET/min/wk): OR=1.44 (1.20, 1.72). Adjust OR of sitting time for maintainining a healthy BMI: Low (<4.5 hrs/day): 1.00; Moderate (≥4.5 to 8 hrs/day): 0.87 (0.77, 0.99);

								High (≥ 8 hrs/day): 0.78 (0.68, 0.91). Weight gain in "Healthy-Healthy" = 0.19 (95%CI: 0.18, 0.20) kg/year; "Healthy-Overweight" = 0.83 (0.82, 0.84) kg/year; "Healthy-Obese" = 1.73 (1.67, 1.77) kg/year.
Chiriboga, DE, Ma, Y, Li, W, et al. 2008	Cohort Study	1 year	572	47.8 \pm 12.3 years	27.38 \pm 5.5 kg/m ²	Men and Women	86.7% white	Bivariate analysis showed that baseline leisure-time physical activity was not associated with weight change across the 1-year period. Multivariable longitudinal analysis showed that an increase in leisure-time physical activity was associated with weight loss in women, with no association being observed in men.
Colchero, MA, Caballero, B, Bishai, D. 2008	Cohort Study	19 years	2,952	26.3 \pm 6.1 years	20.6 \pm 2.7 kg/m ²	Women	Filipino	On average, BMI among women whose previous occupation was classified as low-level activity was 0.29 kg/m ² (standard error 0.11) larger compared to women occupied in high level activities. BMI among women previously engaged in medium level activities was 0.12 kg/m ² (standard error 0.05) larger compared to

								women occupied in heavier activities.
de Munter, JS, Tynelius, P, Magnusson, C, et al. 2015	Cohort Study	8 years	23,108	48.3±16.0 years	24.9±3.7 kg/m ²	Men and Women	Swedish	Both the men and women who reported a low level of physical activity in 2002, 2007 and 2010 gained more weight than the individuals who reported a high level of physical activity throughout the period of observation. The positive effects of physical activity were also observed in those individuals who improved their lifestyle during the eight years of follow-up. Men and women who were inactive in 2002 but who had increased their physical activity to include regular exercise in 2010 had decreased their BMI and were of lower risk to develop overweight and/or obesity compared with the men who remained inactive.

Drenowatz, C, Gribben, N, Wirth, MD, et al. 2016	Cohort Study	1 year	383	27.8±3.7 years	25.2±3.8 kg/m ²	Men and Women	mixed	<p>Participants who gained weight (>3% of baseline weight) reduced time spent in moderate intensity physical activity during weekdays, as well as Saturdays and Sundays ($p \leq 0.04$), while they increased time spent in light intensity physical activity during weekdays and weekend ($p \leq 0.01$).</p> <p>Participants who lost weight (>3% of baseline weight) had a significant increase in light intensity physical activity during the weekend ($p = 0.02$) along with a reduction in time spent sedentary ($p = 0.04$).</p> <p>No significant changes were observed during weekdays in the participants who lost weight. Participants who maintained their weight within 3% of their baseline weight did not show a significant change in physical activity level during weekdays and the weekend.</p>
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Drenowatz, C, Hill, JO, Peters, JC, et al. 2016	Cohort Study	2 years	195	27.8±3.7 years	25.2±3.8 kg/m ²	Men and Women		Weight loss was associated with a significant increase in total time spent in moderate-to-vigorous physical activity (MVPA) and 10-min bouts of MVPA (P<0.01). Weight gain was associated with a significant decrease in MVPA (both total and 10-min bouts; P<0.01). At 2-year follow-up, MVPA was significantly higher in the weight-loss group compared with both the weight-gain and weight-maintenance groups after adjustment for sex and baseline values (P<=0.05). Time spent in light physical activity did not differ across weight change groups at follow-up and differences in time spent sedentary reached borderline significance (P = 0.06) with higher sedentary time in participants who gained weight.
French, SA, Mitchell, NR, Hannan, PJ. 2012	Secondary Analysis of a Randomized trial	1 year	153	41 years	median = 27.2 kg/m ²			The change in BMI was not associated with change in television viewing or physical activity in adults.

Gebel, K, Ding, D, Bauman, AE. 2014	Cohort Study	3 years	32,087	59.5±9.3 years	27±11 kg/m ²	Men and Women	Australians	10% reduction in the odds of weight gain (≥2kg) with ≥ 300 min/week of MVPA compared with <150min of MVPA (150-249 min/wk not predictive of weight change). No relation between vigorous PA and weight change. Total daily sitting time (hr/wk) was not associated with weight gain (OR: 1.001. 95% CI: 0.993, 1.009).
Gradidge, PJ, Norris, SA, Micklesfield, LK, et al. 2015	Cohort Study	10 years	430	41±5.4 years	30.8 ± 6.70 kg/m ²	Women	Black South African	Mean weight gain over follow-up= 5.17 ± 8.86 kg; Vigorous PA at baseline was inversely associated with absolute changes in measures of adiposity that included waist circumference (Beta coefficient=-0.15, p=0.002), BMI (Beta coefficient = -0.11, p=0.02), total body fat (Beta coefficient = -0.12, p=0.04), central adiposity (Beta coefficient = -0.15, p=0.01), peripheral adiposity (Beta coefficient = -0.13, p=0.04).

Hamer, M, Brunner, EJ, Bell, J, et al. 2013	Cohort Study	10 years	4,880	49.3± 5.9 years	25.1± 3.5 kg/m ²	Men and Women	<p>Cross-sectionally at baseline, meeting established guidelines for physical activity, particularly through vigorous activity, was associated with lower WC (beta=-2.08 cm, 95% CI, -1.39, -0.75) and BMI (beta=-0.34 kg/m(2) , -0.10, -0.59). "high adherence" to the guidelines compared to "rare adherence" over follow-up was associated with lower BMI (adjusted difference, -0.43 kg/m(2) , 95% CI, -0.79, -0.08) and WC (-2.50 cm, 95% CI, -3.46, -1.54) at follow-up. Compared to participants that remained stable between 1997 and 2002 (change of <2.5 h/week), those that reported an increase in moderate-vigorous physical activity of at least 2.5 h/week displayed lower BMI (-0.40 kg/m(2) , 95% CI, -0.71, -0.08) and WC (-1.10 cm, 95% CI, -1.95, -0.75). After removing participants with obesity at baseline, participants who always met the physical activity guidelines were at lower risk of incident central adiposity (OR = 0.71 (95%</p>
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								CI: 0.54, 0.92) after adjusting for covariates. There was no association between meeting the physical activity guidelines and incident obesity defined by BMI.
Hankinson, AL, Daviglus, ML, Bouchard, C, et al. 2010	Cohort Study	20 years	3,554	~25 years	~24 kg/m ²	Men and Women	Black and White	Men maintaining high activity gained 2.6 fewer kg (0.15 BMI units per year; 95% confidence interval [CI], 0.11-0.18 vs 0.20 in the lower activity group; 95% CI, 0.17-0.23), and women maintaining higher activity gained 6.1 fewer kg (0.17 BMI units per year; 95% CI, 0.12-0.21 vs 0.30 in the lower activity group; 95% CI, 0.25-0.34). Men maintaining high activity gained 3.1 fewer centimeters in waist circumference (0.52 cm per year; 95% CI, 0.43-0.61 cm vs 0.67 cm in the lower activity group; 95% CI, 0.60-0.75 cm) and women maintaining higher activity gained 3.8 fewer centimeters (0.49 cm per year; 95% CI, 0.39-0.58 cm vs 0.67 cm in the lower activity group; 95% CI, 0.60-0.75 cm) [corrected]. Men and women meeting

								HHS-recommended activity levels gained 1.8 and 4.7 fewer kg, respectively over 20 years, compared with participants who did not meet the HHS-recommended levels of activity.
Hillemeier, MM, Weisman, CS, Chuang, C, et al. 2011	Cohort Study	2 year follow-up	689	32.8 for normal weight, 33.4 for overweight	Normal/Healthy Weight (BMI: 18.5-24.9), Overweight (BMI: 25-29.9)	Women	Mixed	Among women of normal weight at baseline, 18% became overweight or obese by follow-up; 25% of women overweight at baseline became obese. In multiple regression analyses, low physical activity at baseline was significantly associated with a 2-fold elevation in the odds of transitioning from normal BMI to overweight/obesity (odds ratio [OR] 2.11, 95% confidence interval [CI] 1.06-4.20).
Kaikkonen, JE, Mikkila, V, Juonala, M, et al. 2015	Cohort Study	6 years	1,715	age: 24 to 39 years	24.4 kg/m ² in women; 25.6 kg/m ² in men.	Men and Women	Finnish	The average weight change over 6 years was 2.73±0.21 kg (0.45 kg/year) in women and 3.49±0.23 kg (0.58 kg/year in men).

Kelly, MC, Latner, JD. 2015	Cohort Study	1 year	86	Age=20.3±2.9 years	22.9±4 kg/m ²	Women	49% Asian, 33% white; 10% mixed race	Baseline physical activity did not predicted change in weight at 12 months. Baseline physical activity did not differ by weight change category.
Lee, IM, Djousse, L, Sesso, HD, et al. 2010	Cohort Study	13.1 years	34,079	~54 years	~25 kg/m ²	Women		Baseline PA did not predict weight gain; Among women consuming a usual diet, physical activity was associated with less weight gain only among women with BMI <25 kg/m ² . Women successful in maintaining normal weight and gaining <2.3 kg over 13 years averaged ~60 min/day of moderate-intensity activity over the study duration.
MacInnis, RJ, Hodge, AM, Dixon, HG, et al. 2014	Cohort Study	11.7±1.5 years	5,879	Age= 53.5±8.4 y for men and 53.6±8.2 y for women		Men and Women	Australian	Sig relation only in those age 40-49 y (no effect in those 50-59 or 60-69 years of age); PA score ≥6 predicted lower weight a f/u (β =-0.77±0.36 kg); Those performing less vig activity ≥once/week weighed less (β =-0.83±0.32) and those doing vig ≥once/week weighed less (β =-0.89±0.28 kg) compared with those reporting no baseline activity. There was no effect of

								moderate/heavy activity at work or home or frequency (times per week) of walking for any of the age categories regarding weight at the follow-up.
Moholdt, T, Wisloff, U, Lydersen, S, et al. 2014	Cohort Study	~24 years	2,673	mean baseline age depended on activity category. Range of the mean age was ~34-39 years.	Underweight, normal weight, overweight, and obese	Men and Women	Norwegian	Men: Risk of "meaningful" weight gain (+2.3kg) (most highly controlled model): Inactive: Ref. Below Rec: 1.00(.90-1.11), At Rec: .97 (.87-1.08), Above Rec: .79(.69-.91). Women: Inactive Ref. Below Rec: 1.01(.92-1.10), At Rec: 0.97(.88-1.07), Above Rec: .69(.59-.82).
Mortensen, LH, Siegler, IC, Barefoot, JC, et al. 2006	Cohort study		4,595	Recruited in 4 waves. Mean age Wave 1 - 41years, Wave 2 = 44 years, Wave 3 = 46 years, Wave 4 = 54 years.		Men and Women		Odds of becoming obese comparing those who remained non-sed and those who remained sedentary: wave 1 -2: 1.97(0.83-4.35); wave2-3: 1.17(1.00-2.15); wave 3-4: 1.42(0.70-2.84). Annualized odds: wave1-2: 1.25(0.95-1.65), wave 2-3: 1.46(1.01-2.15), wave 3-4: 1.05(0.96-1.14)

Parsons, TJ, Manor, O, Power, C. 2006	Cohort Study	22 years (data pertinent to this study for weight was collected at age 23, 33, and 45 years of age)	9,377	23 years	Men: 23.10±2.90 kg/m ² Women: 22.12±3.25 kg/m ²	Men and Women	British	PA at 11yrs had no apparent impact on BMI or BMI trajectory for males and females. PA at 16 had opposite effects for males and females; most active males at age 16 gained BMI faster (.005MBLunit/yr) than other males whereas most active females at age 16 gained BMI more slowly (.007BMIunit/yr) than other females. At age 23, activity level for males had no influence on BMI trajectory; the more active females at age 23 had a lower BMI trajectory than less active females and lower BMI at age 33. Over time, females decreasing activity gained BMI compared with women remaining active and women remaining inactive gained BMI compared with women who became active. For men, a different picture; men who were active at age 16 and became inactive had significantly bigger BMI gains than the other groups (increase PA, remain more active, remain less inactive)
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Rosenberg, L, Kipping-Ruane, KL, Boggs, DA, et al. 2013	Cohort Study	14 years	20,259	age 21-39 at baseline	18.5 to <30 kg/m ²	Women	black (USA)	Incidence of developing obesity. Statistically sign dose-response for both normal weight and overweight women. Normal weight: 0- <1hr/wk=Ref, 1-2hr/wk=0.81(.71-.93); 3-4hr/wk=.72(.61-.84); 5-6hr/wk=0.63(.51-.79); 7+hr/wk=.77(.63-.95). Overweight: 0- <1hr/wk=Ref; 1-2hr/wk=.88(.81-.95); 2-3hr/wk=.85(.78-.93), 5-6hr/wk=.90(.80-1.02), 7+hr/wk=.79(.70-.89)
Shibata, AI, Oka, K, Sugiyama, T, et al. 2016	Cohort Study	12 years	3,261	48.3±10.5 years		Men and Women		Change in waist circumference at 12 yrs by change in MVPA over 1st 5 yrs: decrease MVPA (decrease by >1 hr/wk)=+6.26cm; no change MVPA (+/-1 hr/wk of baseline)=+5.44cm; increase MVPA (increase by >1 hr/wk)=+4.72cm; all differences are stat sign as well as trend over the 3 categories. States that BMI showed similar results but data are not presented.

Sims, ST, Larson, JC, Lamonte, MJ, et al. 2012	Cohort Study	8 years	58,610	50-79 years	Normal weight, overweight and obese	Women	80.6% white 9.9% black 3.8% Hispanic 5.7% American Indian, Asian/Pacific Islander, Unknown	Less weight gain (P = 0.08) was observed both in those women expending <500–1200 MET-min per week (coefficient = -0.06, 95% CI = -0.19 to -0.07) and in those expending >1200 MET-min per week (coefficient = -0.10, 95% CI = -0.25 to -0.06) compared with the group expending ≤100 MET-min per week. A similar pattern was observed for BMI (P = 0.018).
Sjosten, N, Kivimaki, M, Singh-Manoux, A, et al. 2012	Cohort Study	8 years	3,812	Mean age at retirement was 56 yr (range: 48-63 years)	89.4% of participants had a BMI <30 kg/m ² and 10.6% had a BMI greater ≥30 kg/m ²	Men and Women	French	Weight gain pre to post retirement was 0.85 kg (95% CI 0.48-1.21) to 1.35 (0.79-1.90) kg greater among physically inactive persons versus those that were physically active; weight gain was -0.15 (-0.53 to 0.24) less in those increasing activity compared to those that were physically active, weight gain was 1.35 kg (95% CI 0.79-1.90) greater among person who decreased their physical activity versus those that were physically active.

Smith, KJ, Gall, SL, McNaughton, SA, et al. 2017	Cohort Study	5 years	100,155	men 31.5+2.5 and women 31.3+2.7 years	57.3% of men and 35.6% of women were overweight to obese	Men and Women	Australian adults	Compared to the reference group, additional weight (mean, 95% CI was gained among those that did not meet the guideline at follow-up, or consistently did not meet the guidelines at baseline and follow up: 2.6 kg (1.1-4.04) and 1.6 kg (0.5-2.7), respectively
Williams, PT, Thompson, PD. 2006	Cohort Study	7.4 years	6,406	Men: ~45 years, Women: ~39 years		Men and Women		Significant inverse relationships between changes in the amount of vigorous exercise (km/wk run) and changes in weight and BMI in men (slope+SE:-0.039+0.005 kg/wk and -0.012+0.002 kg/m ² per km/wk, respectively) and in older women who quit running (-0.060+0.018 kg/km per week and -0.022+0.007 kg/m ² per km/wk, respectively) and in initially sedentary men (-0.098+0.017 kg/km per wk and -0.032+0.005 kg/m ² per km/wk, respectively) and women who started running (-0.062+0.023 kg/km per wk and -0.021+0.008 kg/m ² per km/wk, respectively). Significant inverse relationships between changes in the amount of

								vigorous exercise and changes in waist circumference in wmen who quite (-0.026+0.005 cm/km per wk) or started running (-0.078+0.017 cm/km per wk)
Williams, PT, Wood, PD. 2006	Cohort Study	3.2 years in men, 2.5 years in women	12,951	46.4+10.3 years	23.5+2.3 kg/m ²	Men and Women		Prospective data indicate an annual change in physical activity equal to 1 km/wk if running is associated with changes in BMI of -0.015+0.001 and -0.009+0.001 kg/m ² in men and women, respectively; Vigorous exercise may need to increase 4.4 km/wk annually and 6.2 km/wk annually in women to compensate for the expected gain in weight associated with aging (2.7 and 3.9 lm/wk annually when corrected for the attenuation due to measurement error); changes in running distance were inversely related to changes in men's and women's BMI (slope+SE: -0.015+0.001 and -0.009+0.001 kg/m ² per change km/wk, respectively), waist circumerferences (-0.030+0.002 and -0.022+0.005 cm per

								change km/wk, respectively), and % change body weight (-0.062±0.003 and -0.041±0.003% per change km/wk, respectively) with the regression slopes steeper in men than women for change in BMI and % body weight (all p<0.0001).
Williams, PT. 2007	Cohort Study	7 years	8,340	Men: 45.3±10.1 years, Women: 39.6±9.7 years	Men: 24.1 kg/m ² ; Women: 21.5 kg/m ²	Men and Women		There is an inverse dose-response relationship between the amount of exercise sustained for 7 yr and weight gain; Vigorous exercise reduces the rate of weight gain that occurs with aging; between 35 and 44 yr in men and 30 and 39 yr in women, those who maintained <24km/wk gained, on average, 2.1 and 2.9 kg more per decade than those averaging greater than or equal to 48 km/wk with corresponding differences in waist circumference of 1.2 and 1.5 cm, respectively; the age-related attenuation in weight gain due to vigorous exercise were greater in younger than in older men but did not differ by age for waist circumference; The

								attenuation in weight gain due to vigorous exercise occurred independent of age among the women; in both men and women, running prevented more extreme increases in weight: differences in the 90th% of weight gain between greater than or equal to 48 km/wk and <24 km/wk was 5.3 and 6.5 per decade in men and women, respectively, and waist circumference 2.6 and 2.7 cm per decade, respectively.
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