

Supplemental material

Table S1. General characteristics of The Maastricht Study participants with a spouse that also participated in the study and participants with a spouse that did not participated in The Maastricht Study, for men and women separately.

	Men		Women	
	Without spouse information, n= 1,231	Spouse information, n= 326	Without spouse information, n= 997	Spouse information, n= 326
	Median (iqr)			
Socio-demographics				
Age	62.0 (56.0-66.0)	62.0 (56.2-66.0)	59.0 (52.0-65.0)	59.0 (53.0-64.0)
Risk factors				
Physical activity dimensions				
Total wake time (minutes)	6,158.8 (5,487.8-6,660.4)	6,387.0 (5,669.8-6,705.6)*	6,165.1 (5,577.7-6,591.4)	6,026.9 (5,613.6-6,662.1)
Mean stepping minutes/day	114.1 (83.2-145.7)	121.7 (90.5-150.5)*	119.0 (95.5-147.8)	124.4 (102.3-146.2)
Time spent in HPA (%)	1.4 (0.7-2.7)	1.5 (0.7-2.9)	2.3 (1.4-3.7)	2.7 (1.5-3.7)
Time spent in LPA (%)	9.9 (7.5-12.4)	10.4 (7.9-13.1)*	10.0 (8.1-12.0)	10.4 (8.5-12.1)
Sedentary time (%)	63.1 (56.3-69.8)	62.9 (55.0-68.1)	56.8 (50.2-63.2)	55.0 (49.0-61.2)*
Diet indicators				
Dutch Healthy Diet Index	79.5 (69.8-88.3)	79.8 (70.7-90.5)	87.2(77.2-97.5)	89.9 (80.5-97.2)
Total energy intake	2,285.7 (1,898.2-,740.7)	2,361.2 (1,961.3-,737.4)	1,928.4 (1,608.5-,311.8)	1,921.8 (1,652.2-,293.8)
Adiposity measures				
BMI	27.1 (25.0-29.7)	26.5 (24.4-28.9)*	25.7 (23.0-29.3)	24.8 (22.5-27.3)*
Percentage of body fat	28.9 (25.5-32.8)	27.7 (24.5-32.2)*	38.9 (35.2-42.1)	37.9 (34.8-41.1)*
Waist circumference	100.5 (93.5-108.1)	99.1* (92.4-107.0)	88.5 (80.8-98.0)	86.7 (80.1-94.3)*
Waist to hip ratio	0.99 (0.95-1.04)	0.99 (0.94-1.02)*	0.87 (0.82-0.92)	0.86 (0.83-0.91)
Pathophysiological markers				
Insulin sensitivity indices				
Matsuda index	2.9 (1.7-4.6)	3.1 (1.9-4.7)	3.9 (2.3-5.8)	4.2 (2.6-5.7)
HOMA2-IR	1.5 (1.0-2.3)	1.4 (1.0-2.1)	1.2 (0.8-1.8)	1.1 (0.9-1.6)
Beta cell function indices				
C-peptidogenic index	292.3 (159.3-471.3)	374.1 (235.6-561.4)*	378.3 (243.8-606.9)	423.3 (268.3-724.9)*
Glucose sensitivity index	21.2 (12.2-32.8)	26.0 (17.8-36.9)*	25.6 (16.1-38.0)	27.2 (18.4-38.4)
C-peptide AUC	173.0 (125.3-225.9)	187.5 (148.9-251.9)*	193.6 (144.7-239.9)	197.5 (159.8-250.8)
Rate sensitivity index	215.7	211.0	215.7	208.2

	(109.2-368.1)	(116.4-368.9)*	(109.2-368.1)	(125.3-383.1)
Potential factor	1.4 (1.1-1.8)	1.5 (1.1-1.9) *	1.5 (1.1-2.0)	1.6 (1.2-2.1)
Disposition index	0.5 (0.2-0.8)	0.6 (0.4-0.9)*	0.7 (0.4-1.1)	0.8 (0.5-1.1)*
Glucose metabolism indicators				
Fasting plasma glucose (mmol/L)	5.9 (5.3-7.2)	5.6 (5.2-6.1)*	5.3 (4.9-5.9)	5.2 (4.9-5.6)*
2h plasma glucose (mmol/L)	6.7 (5.2-12.0)	6.1 (4.8-8.0)*	6.0 (5.1-8.3)	5.7 (4.8-7.0) *
Hemoglobin A1c (mmol/mol)	40.0 (36.0-49.0)	37.0 (34.0-41.0)*	38.0 (35.0-42.0)	37.0 (34.0-40.0)*
Hemoglobin A1c (%)	5.8 (5.4 -6.6)	5.6 (5.3 – 5.9)*	5.6 (5.3 – 6.0)	5.5 (5.2 – 5.8)*

Differences were assessed with a Mann-Whitney test. *Indicates that groups are not identical. The number of missing values varied for each variable.

Table S2. Socio demographic characteristics, chronic disease and behavioral risk factors of The Maastricht Study participants with a spouse that also participated in the study and participants with a spouse that did not participated in The Maastricht Study, for men and women separately

	Men		Women	
	Without spouse information, n= 1,231	Spouse information, n= 326	Without spouse information, n= 997	Spouse information, n= 326
	n (%)			
Socio demographic characteristics				
Low educational level	823 (71.0)	231 (71.5)	714 (72.2)	216 (67.9)
Chronic disease background				
Type 2 diabetes diagnosis	486 (39.4)	61 (18.7)*	195 (19.5)	41 (12.5)*
Hypertension diagnosis	811 (67.0)	220 (68.7)	464 (46.6)	127 (38.9)*
History of CVD	237 (19.4)	53 (16.3)	143 (14.5)	35 (11.0)
Family history of diabetes	219 (31.1)	71 (27.2)	224 (37.0)	77 (30.8)
Behavioral risk factors				
High alcohol consumption	288 (23.3)	85 (26.1)	266 (26.7)	103 (32.1)
Current smokers	168 (13.7)	25 (7.7)*	122 (12.2)	28 (8.7)

* Indicates that groups are different. Differences assessed with a Chi-square test. The number of missing values varied by variable

Table S3. General characteristics of The Maastricht Study participants comparing spouses with complete data to those with incomplete data stratified by sex

	Men		Women	
	Incomplete data n = 154	Complete data n = 172	Incomplete data n = 154	Complete data n = 172
	Median (iqr)			
Socio-demographics				
Age	61.5 (57.0 – 67.0)	62.0 (56.0 – 66.0)	59.0 (52.2 – 63.0)	59.0 (53.7 – 64.0)
Risk factors				
Physical activity dimensions				
Total wake time (minutes)	6,324.3 (5,714.5-6,711.7)	6,399.0 (5,651.0 – 6,685.0)	6,339.0 (5,669.0 – 6,665.0)	6,244.0 (5,594.2 – 6,643.7)
Mean stepping minutes/day	119.5 (85.3 – 149.9)	121.3 (91.2 – 151.8)	120.7 (96.9 – 151.1)	125.1 (105.1 – 145.4)
Time spent in HPA (%)	1.4 (0.7 – 2.8)	1.5 (0.7 – 2.9)	2.7 (1.6 – 3.7)	2.5 (1.4 – 3.7)
Time spent in LPA (%)	10.2 (7.4 – 12.9)	10.7 (8.2 – 13.1)	10.3 (8.1 – 12.4)	10.6 (8.8 – 12.1)
Sedentary time (%)	63.4 (54.5 – 69.4)	62.3 (55.3 – 67.8)	54.6 (49.0 – 62.1)	55.0 (49.0 – 60.2)
Diet indicators				
Dutch Healthy Diet Index	79.2 (69.3 – 88.0)	81.7 (72.3 – 94.3)	88.2 (80.6 – 97.3)	90.8 (79.8 – 97.0)
Total energy intake	2,425.4 (2,032.2 – 2,820.8)	2,334.6 (1,945.2 – 2,691.2)	1,932.3 (1,651.1 – 2,286.0)	1,914.5 (1,658.3 – 2,296.7)
Adiposity measures				
BMI	26.6 (24.5 – 29.3)	26.5 (24.4 – 28.7)	24.8 (22.9 – 27.7)	24.9 (22.4 – 27.3)
Percentage of body fat	27.9 (25.0 – 32.6)	27.6 (24.3 -31.2)	37.8 (34.9 – 40.9)	37.9 (34.8 – 41.3)
Waist circumference	100.0 (93.0 – 107.3)	98.1 (91.9 – 106.8)	85.9 (79.6 – 94.3)	87.0 (81.0 – 93.9)
Waist to hip ratio	0.9 (0.9 – 1.0)	0.9 (0.9 – 1.0)	0.8 (0.8 – 0.9)	0.8 (0.8 – 0.9)
Pathophysiological markers				
Insulin sensitivity indices				
Matsuda index	3.3 (2.0 - 4.7)	3.0 (1.9 – 4.7)	4.0 (2.7 – 5.8)	4.3 (2.6 – 5.7)
HOMA2-IR	1.4 (1.1 – 2.1)	1.4 (1.0 – 2.2)	1.1 (0.9 – 1.6)	1.1 (0.8 – 1.6)
Beta cell function indices				
C-peptidogenic index	359.5 (209.6 – 558.5)	390.4 (250.3 – 562.3)	451.3 (275.8 – 708.5)	395.8 (262.8 – 724.9)

Glucose sensitivity index	23.4 (16.5 – 33.4)	26.9 (18.8 – 38.8)*	27.1 (18.3 – 41.5)	27.4 (19.2 – 37.3)
C-peptide AUC	178.6 (136.1 – 243.2)	199.5 (155.4 – 254.8)	198.1 (159.4 – 263.6)	195.6 (160.5 – 242.7)
Rate sensitivity index	216.4 (112.2 – 401.2)	211.1 (118.9 – 362.0)	210.1 (137.7 – 400.5)	207.9 (115.0 – 368.0)
Potential factor	1.5 (1.2 – 1.9)	1.5 (1.1 – 1.9)	1.4 (1.1 – 1.8)	1.6 (1.2 – 2.3)*
Disposition index	0.5 (0.4 – 0.8)	0.5 (0.3 – 0.8)	0.8 (0.5 – 1.2)	0.8 (0.5 – 1.1)
Glucose metabolism indicators				
Fasting plasma glucose (mmol/L)	5.6 (5.3 – 6.2)	5.6 (5.1 – 6.1)*	5.2 (4.8 – 5.6)	5.2 (4.9 – 5.6)
2h plasma glucose (mmol/L)	6.2 (4.8 – 8.4)	6.1 (4.7 – 7.9)	5.8 (4.8 – 7.3)	5.7 (4.9 – 6.9)
Hemoglobin A1c (mmol/mol)	37.0 (34.0 – 42.0)	38.0 (34.0 – 40.0)	37.0 (34.0 – 41.0)	37.0 (34.0 – 39.0)
Hemoglobin A1c (%)	5.5 (5.3 – 6.0)	5.6 (5.3 – 5.8)	5.5 (5.3 – 5.9)	5.5 (5.2 – 5.7)

Differences were assessed with a Mann-Whitney test. *Indicates that groups are not identical. The number of missing values varied for each variable.

Table S4. Socio demographic characteristics, chronic disease and behavioral risk factors of The Maastricht Study participants comparing spouses with complete data to those with incomplete data stratified by sex

	Men		Women	
	Incomplete data n = 154	Complete data n = 172	Incomplete data n = 154	Complete data n = 172
	n (%)			
Socio demographic characteristics				
Low educational level	102 (66.2)	129 (75.0)	102 (66.2)	114 (66.2)
Chronic disease background				
Type 2 diabetes diagnosis	38 (24.6)	23 (13.3)*	25 (16.2)	16 (9.3)
Hypertension diagnosis	114 (74.0)	110 (63.9)	63 (40.9)	64 (37.2)
History of CVD	30 (19.4)	23 (13.3)	16 (10.3)	19 (11.0)
Family history of diabetes	32 (28.3)	39 (26.3)	36 (33.6)	41 (28.6)
Behavioural risk factors				
High alcohol consumption	50 (32.4)	35 (20.3)*	46 (29.8)	57 (33.1)
Current smokers	10 (6.5)	15 (8.7)	14 (9.0)	14 (8.1)

* Indicates that groups are different. Differences assessed with a Chi-square test. Missing values varied for each variable

Table S5. Quantile regression models for the degree of spousal concordance in pathophysiological markers and type 2 diabetes risk factors

	Men			Women		
		Age adjusted	Multivariable adjusted		Age adjusted	Multivariable adjusted
	n	beta coefficient (95% CI)		n	beta coefficient (95% CI)	
Risk factors						
Adiposity measures						
BMI	278	0.32 (0.18, 0.34)	0.25 (0.19, 0.30)	284	0.37 (0.19, 0.60)	0.38 (0.25, 0.52)
Fat percentage	277	0.30 (0.06, 0.52)	0.21 (0.08, 0.38)	284	0.22 (0.11, 0.33)	0.22 (0.10, 0.32)
Waist circumference	278	0.35 (0.23, 0.47)	0.22 (0.08, 0.44)	283	0.38 (0.19, 0.50)	0.33 (0.17, 0.49)
Waist:hip ratio	278	0.24 (0.08, 0.38)	0.23 (0.02, 0.33)	284	0.25 (0.12, 0.37)	0.22 (0.12, 0.34)
Pathophysiological markers						
Matsuda index	243	0.06 (-0.07, 0.11)	0.01 (-0.09, 0.08)	246	0.16 (0.01, 0.34)	0.03 (-0.07, 0.22)
HOMA-IR	266	0.17 (-0.00, 0.41)	0.07 (-0.05, 0.24)	275	0.10 (0.02, 0.28)	0.07 (-0.04, 0.14)
C-peptidogenic index ₁₃₀	249	0.04 (-0.02, 0.12)	0.03 (-0.02, 0.12)	246	0.08 (-0.06, 0.27)	0.08 (-0.06, 0.25)
Rate sensitivity index	209	0.07 (-0.11, 0.33)	0.08 (-0.15, 0.39)	215	0.16 (-0.01, 0.24)	0.17 (-0.03, 0.27)
C-peptide AUC	243	0.11 (-0.17, 0.28)	0.08(-0.06, 0.29)	246	0.04 (-0.05, 0.30)	0.03 (-0.07, 0.31)
Glucose sensitivity index	249	0.04 (-0.02, 0.25)	0.08 (-0.06, 0.18)	248	0.04 (-0.08, 0.21)	0.09 (-0.10, 0.22)
Potential factor	257	-0.01 (-0.11, 0.10)	0.01 (-0.10, 0.07)	258	-0.01 (-0.23, 0.11)	-0.01 (-0.21, 0.15)
Disposition index	242	0.11 (0.02, 0.22)	0.11 (-0.01, 0.16)	245	0.24 (0.10, 0.51)	0.13 (0.00, 0.36)
Glucose metabolism indicators						
Fasting glucose	287	0.24 (0.04, 0.46)	0.19 (0.04, 0.40)	297	0.15 (0.05, 0.27)	0.10 (0.01, 0.21)
2-h plasma glucose	282	0.12 (-0.06, 0.30)	0.02 (-0.05, 0.13)	289	0.04 (0.00, 0.16)	0.03 (-0.06, 0.14)
HbA1c	285	0.15 (-0.03, 0.31)	0.08(-0.09, 0.24)	295	0.09 (-0.04, 0.22)	0.08 (0.00, 0.17)

Adiposity measures were adjusted for age, self-reported moderate to vigorous physical activity (hours/week), smoking status, Dutch Healthy Diet Index and educational level. Pathophysiological markers and glucose metabolism indicators were adjusted for age, waist circumference, self-reported moderate to vigorous physical activity (hours/week) and family history of diabetes.