SUPPLEMENTARY DATA

Supplementary Table 1. Effect sizes, risk allele frequencies, and proportion missing of 38 T2D-related Single Nucleotide Polymorphisms by ethnicity in the Third National Health and Nutrition Examination Survey DNA Bank (NHANES III, 1991-1994)

SNP	Chr	Position (Hg19)	Risk allele	Other allele	Odds ratio	Closest gene	Risk Allele Frequency (%)				Missing (%)			
							All	NHW	NHB	MA	All	NHW	NHB	MA
rs10203174	2	43543534	C	T	1.11	*THADA*	82.5	89.0	65.8	91.2	4.1	3.5	5.4	3.7
rs10811661	9	22124094	T	C	1.21	*CDKN2A/B*	87.4	82.8	93.2	87.4	1.8	2.3	1.5	1.5
rs10830963	11	92348358	G	C	1.09	*MTNR1B*	19.9	20.0	19.8	20.0	0.8	0.8	1.0	0.6
rs10842994	12	27856417	C	T	1.08	*KLHDC5*	85.9	85.6	86.8	85.4	1.0	1.4	0.9	0.5
rs11063069	12	4244634	G	A	1.08	*CCND2*	17.4	20.8	19.1	11.4	3.4	2.6	5.3	2.3
rs1111875	10	94452862	C	T	1.12	*HHEX/IDE*	66.7	59.8	78.5	63.4	1.7	2.1	1.4	1.6
rs11634397	17	36102381	A	G	1.10	*ZAND6*	48.9	48.0	61.0	37.6	3.2	2.7	5.2	1.8
rs11717195	3	124548468	A	G	1.10	*ADCY5*	78.8	78.5	78.4	79.6	0.9	1.0	1.0	0.6
rs12427353	12	119911284	G	C	1.11	*HNF1A (TCF1)*	88.1	80.8	96.5	88.9	2.9	2.4	4.8	1.6
rs12571751	10	80612637	A	G	1.09	*ZMIZ1*	52.8	53.6	53.4	51.1	5.6	5.4	6.4	5.1
rs12779790	10	12368016	G	A	1.09	*VPS26A*	16.9	17.2	14.0	19.5	3.3	2.7	4.8	2.5
rs12899811	15	89345080	G	A	1.08	*PRC1*	51.4	32.4	63.1	63.6	3.4	2.7	5.3	2.2
rs12970134	18	56035730	A	G	1.08	*MC4R*	19.4	27.5	13.8	14.8	3.5	2.9	5.5	2.3
rs13266634	8	118253964	C	T	1.14	*SLC30A8*	76.7	68.8	90.1	73.2	1.0	1.0	1.0	1.1
rs1552224	11	72110746	A	C	1.10	*CENTD2*	91.2	85.6	96.7	92.8	2.6	2.2	4.0	1.8
rs163184	11	2803645	G	T	1.11	*KCNQ1*	37.8	47.7	18.4	44.8	4.3	3.8	5.1	4.2
rs17168486	7	14864807	T	C	1.08	*DGKB*	23.3	16.9	9.4	45.4	3.7	2.9	5.4	3.0
rs1801282	3	12368125	C	G	1.14	*PPARG*	9.6	13.1	2.3	12.6	0.5	0.5	0.6	0.4
rs2261181	12	64498585	T	C	1.11	*HMGA2*	13.0	9.7	21.8	8.3	5.5	4.9	8.2	3.6
rs2334499	11	1653425	T	C	1.05	*DUSP8*	35.4	41.3	15.5	48.2	6.2	5.8	6.5	6.5
rs243021	2	60438323	A	G	1.07	*BCL11A*	46.8	46.8	37.8	56.0	2.4	1.9	4.0	1.4
rs2908282	7	44215353	A	G	1.04	*YKT6*	23.2	17.7	21.3	32.2	1.6	1.4	1.7	1.6
rs2943640	2	226801829	C	A	1.09	*IRS1*	78.4	65.0	90.7	83.0	3.6	3.2	5.2	2.6
rs340874	1	212225879	C	T	1.07	*PROX1*	38.4	52.1	19.1	40.7	1.4	1.6	1.5	1.2
rs459193	5	55842508	G	A	1.05	*ANKRD55*	69.4	75.0	57.8	74.0	4.0	3.7	4.9	3.6
rs5215	11	17365206	C	T	1.09	*KCNJ11*	28.8	36.2	8.8	39.7	0.3	0.5	0.2	0.1
rs6795735	3	64680405	C	T	1.05	*ADAMTS9*	35.5	57.1	18.1	25.8	5.8	5.1	7.5	4.9
rs6878122	5	76463067	G	A	1.08	*ZBED3*	28.0	32.2	15.7	35.0	2.8	2.1	4.8	1.6
rs7034200	9	4279050	A	C	1.06	*GLIS3*	55.9	55.4	57.0	55.5	1.1	1.1	1.3	0.9
rs7177055	15	75619817	A	G	1.09	*HMG20A*	59.3	71.3	38.9	64.8	2.9	2.2	5.0	1.7
rs7202877	16	73804746	T	G	1.08	*BCAR1*	88.7	90.0	82.5	93.4	3.3	2.6	5.3	2.3
rs7593730	2	160879700	C	T	1.06	*RBMS1*	76.7	79.5	64.4	85.5	2.4	1.9	4.0	1.5
rs7756992	6	20787688	G	A	1.15	*CDKAL1*	36.7	26.0	57.0	29.7	9.6	8.2	11.3	9.6
rs780094	2	27594741	C	T	1.06	*GCKR*	67.2	66.6	67.2	67.9	0.9	1.0	1.0	0.6
rs7903146	10	114748339	T	C	1.33	*TCF7L2*	26.4	25.7	26.7	26.8	1.1	1.5	1.0	0.7
rs7961581	12	69949369	C	T	1.06	*TSPAN8*	22.1	27.3	20.5	17.1	8.2	8.1	4.6	12.2
rs849135	7	28162938	G	A	1.10	*JAZF1*	62.6	50.8	74.8	65.1	4.2	3.8	5.2	3.7
rs9939609	16	52378028	A	T	1.10	*FTO*	37.7	40.0	47.0	25.4	4.5	4.5	5.0	4.0

NHW: Non-Hispanic Whites; NHB: Non-Hispanic Blacks; MA: Mexican Americans. Chr: chromosome; Transethnic effect sizes were odds ratios obtained from a meta-analysis of genome wide association studies on type 2 diabetes by Maharajan et al (DIAGRAM version 4).

SUPPLEMENTARY DATA

Supplementary Table 2. Association of type 2 diabetes genetic risk score with baseline clinical type 2 diabetes, socio-demographic, clinical and behavioral modifiable risk factors by ethnicity in the Third National Health and Nutrition Examination Survey DNA Bank (NHANES III, 1991-1994) accounting for sampling weights and complex survey design

	All ethnicities (n = 6,501)			NHW (N=2,538)			NHB (N=1,979)			MA (N=1,994)		
	OR	95%CI	*P*	OR	95%CI	*P*	OR	95%CI	P	OR	95%CI	*P*
Categorical clinical risk factors												
T2D	1.05	(1.02-1.08)	0.003	1.05	(1.01-1.10)	0.01	0.99	(0.95-1.03)	0.71	1.05	(1.02-1.09)	0.01
T2D Family history	1.03	(1.01-1.06)	0.003	1.04	(1.01-1.07)	0.02	1.02	(1.00-1.05)	0.05	1.01	(0.98-1.04)	0.62
Hypertension	0.99	(0.97-1.02)	0.70	0.99	(0.96-1.03)	0.64	1.00	(0.97-1.04)	0.85	0.99	(0.96-1.02)	0.41
Categorical socio-demographic and behavioral factors												
Sex	1.00	(0.98-1.02)	0.70	1.00	(0.98-1.02)	0.84	0.99	(0.97-1.01)	0.37	0.98	(0.95-1.00)	0.10
Physical Activity												
1-5 times/week vs. Never	1.00	(0.97-1.02)	0.67	1.00	(0.97-1.03)	0.89	0.99	(0.95-1.03)	0.67	1.00	(0.97-1.04)	0.82
≥ 5 times/week vs. Never	0.98	(0.96-1.00)	0.08	0.98	(0.96-1.01)	0.20	0.97	(0.92-1.02)	0.20	0.98	(0.95-1.01)	0.17
Smoking												
Former vs. Never	1.01	(0.98-1.04)	0.62	1.01	(0.98-1.05)	0.36	0.96	(0.91-1.01)	0.10	1.02	(0.99-1.05)	0.27
Current vs. Never	1.00	(0.98-1.03)	0.78	1.01	(0.98-1.04)	0.73	0.97	(0.94-1.00)	0.06	1.03	(1.00-1.06)	0.02
Educational attainment												
12 years vs. < 12 years	0.99	(0.97-1.01)	0.25	0.99	(0.97-1.02)	0.59	1.00	(0.97-1.02)	0.71	1.01	(0.98-1.04)	0.65
>12 years vs. < 12 years	0.98	(0.96-1.01)	0.13	0.99	(0.96-1.02)	0.43	1.02	(0.98-1.05)	0.44	0.99	(0.95-1.04)	0.74
Alcohol consumption												
1-3 drinks/week	0.98	(0.95-1.01)	0.19	0.98	(0.95-1.02)	0.28	0.99	(0.96-1.02)	0.38	0.99	(0.95-1.04)	0.75
>3 drinks/week	1.00	(0.99-1.01)	0.88	1.00	(0.98-1.02)	0.92	1.02	(0.99-1.05)	0.31	0.98	(0.95-1.00)	0.10
Insurance coverage	0.96	(0.93-1.00)	0.03	0.97	(0.92-1.02)	0.22	1.00	(0.97-1.02)	0.75	0.99	(0.96-1.01)	0.23
Insurance coverage adjusted for ethnicity*	0.97	(0.94-1.01)	0.16	-			-			-		
	All ethnicities (N=6,501)			**NHW (N=2,538)**			**NHB (N=1,979)**			**MA (N=1,994)**		

SUPPLEMENTARY DATA

	β	95%CI	P	β	95%CI	P	β	95%CI	P	β	95%CI	P
Continuous clinical risk factors												
BMI (continuous) kgm^{-2}	-0.05	(-0.01, -0.08)	0.02	-0.06	(-0.09, -0.02)	0.01	-0.07	(-0.17, 0.03)	0.18	-0.01	(-0.06, 0.04)	0.67
Waist circumference, cm	-0.15	(-0.27, -0.03)	0.02	-0.18	(-0.32, -0.04)	0.02	-0.17	(-0.44, 0.08)	0.19	-0.03	(-0.19, 0.13)	0.71
Total cholesterol, mmol/L	-0.00	(-0.01, 0.00)	0.95	-0.00	(-0.01, 0.01)	0.81	-0.00	(-0.02, 0.02)	0.96	0.01	(0.00, 0.02)	0.03
HDL, mmol/L	-0.00	(-0.00, 0.00)	0.84	0.00	(-0.00, 0.00)	0.97	0.00	(-0.00, 0.01)	0.11	0.00	(-0.00, 0.00)	0.97
Continuous socio-demographic and behavioral factors												
Age (years)	-0.05	(-0.19, 0.10)	0.52	-0.02	(-0.21, 0.17)	0.84	0.17	(-0.01, 0.34)	0.05	-0.03	(-0.17, 011)	0.64
Healthy Eating Index	-0.04	(-0.18, 0.10)	0.56	-0.05	(-0.22, 0.12)	0.57	0.02	(-0.15, 0.18)	0.85	0.02	(-0.15, 0.19)	0.82

All models were adjusted for age and sex; NHW: Non-Hispanic Whites; NHB: Non-Hispanic Blacks; MA: Mexican Americans. OR: Odds Ratio; 95%CI: 95 percent confidence interval; BMI: body-mass-index; HDL: High-Density Lipoprotein cholesterol; β: β coefficient

Supplementary Table 3. Association between T2D with mortality risk by ethnicity in the Third National health and Nutrition Examination Survey DNA Bank (NHANES III, 1991-1994) accounting for sampling weights and complex survey design

Model	Variable	All ethnicities (N=6,501)			NHW (N=2,538)			NHB (N=1,979)			MA (N=1,994)		
		OR	95%CI	*P*	OR	95%CI	*P*	OR	95%CI	*P*	OR	95%CI	*P*
BMI-adjusted	**T2D**	1.90	(1.26-2.86)	0.002	1.97	(1.19-3.27)	0.01	1.80	(1.32-2.45)	0.002	1.82	(1.20-2.77)	0.01
Fully-adjusted	**T2D**	1.73	(1.17-2.55)	0.006	1.77	(1.11-2.83)	0.02	1.82	(1.27-2.62)	0.001	1.62	(1.02-2.58)	0.04

All models were adjusted for age, sex and ethnicity. Fully-adjusted model additionally included BMI, family history, educational attainment, insurance coverage, physical activity, health eating index, smoking, alcohol consumption, total cholesterol, high density lipoprotein cholesterol, waist circumference, and hypertension with multiple imputation for missing values. T2D: type 2 diabetes; NHW: Non-Hispanic Whites; NHB: Non-Hispanic Blacks; MA: Mexican Americans. OR: Odds Ratio; 95%CI: 95 percent confidence interval

SUPPLEMENTARY DATA

Supplementary Table 4. Estimated mortality risk per weighted allele by ethnicity adjusting for body-mass-index and type 2 diabetes status at baseline in the Third National health and Nutrition Examination Survey DNA Bank (NHANES III, 1991-1994) accounting for sampling weights and complex survey design

Model	Variable	All ethnicities (N=6,501)			NHW (N=2,528)			NHB (N=1,979)			MA (N=1,994)		
		OR	95%CI	*P*	OR	95%CI	*P*	OR	95%CI	*P*	OR	95%CI	*P*
Adjusted for BMI	**Weighted GRS**	1.04	(1.00-1.07)	0.05	1.04	(1.00-1.09)	0.08	1.04	(1.01-1.06)	0.002	0.95	(0.90-1.01)	0.07
Adjusted for BMI and T2D	**Weighted GRS**	1.03	(1.00-1.07)	0.08	1.04	(0.99-1.08)	0.11	1.04	(1.01-1.06)	0.002	0.95	(0.90-1.00)	0.04
Fully adjusted including T2D	**Weighted GRS**	1.04	(1.00-1.08)	0.04	1.05	(1.00-1.10)	0.05	1.03	(1.00-1.06)	0.05	0.95	(0.89-1.01)	0.10

All models were adjusted for age, sex and ethnicity. Fully-adjusted model additionally included T2D, family history, educational attainment, insurance coverage, physical activity, health eating index, smoking, alcohol consumption, total cholesterol, high density lipoprotein cholesterol, waist circumference, and hypertension among 5,144 participants with complete data. NHW: Non-Hispanic Whites; NHB: Non-Hispanic Blacks; MA: Mexican Americans. OR: Odds Ratio; 95%CI: 95 percent confidence interval; BMI: body-mass-index. T2D: type 2 diabetes

Supplementary Table 5. Estimated mortality risk per weighted type 2 diabetes risk allele by ethnicity in using Cox regression the Third National health and Nutrition Examination Survey DNA Bank (NHANES III, 1991-1994) accounting for sampling weights and complex survey design

Model	Variable	All ethnicities (N=6,501)			NHW (N=2,528)			NHB (N=1,979)			MA (N=1,994)		
		HR	95%CI	*P*	OR	95%CI	*P*	OR	95%CI	*P*	OR	95%CI	*P*
Adjusted for BMI	**Weighted GRS**	**1.03**	**(1.00-1.05)**	**0.04**	**1.03**	**(1.00-1.06)**	**0.05**	**1.03**	**(1.02-1.05)**	**0.0004**	**0.95**	**(0.91-1.00)**	**0.05**
Fully-adjusted	**Weighted GRS**	**1.03**	**(1.00-1.05)**	**0.03**	**1.03**	**(1.00-1.06)**	**0.04**	**1.03**	**(1.00-1.06)**	**0.04**	0.96	(0.91-1.01)	0.11

Bolded effect estimates had P<0.05. N/A: All models were adjusted for age, sex and ethnicity. Fully-adjusted model additionally included family history, educational attainment, insurance coverage, physical activity, health eating index, smoking, alcohol consumption, total cholesterol, high density lipoprotein cholesterol, waist circumference, and hypertension among 5,144 participants with complete data. NHW: Non-Hispanic Whites; NHB: Non-Hispanic Blacks; MA: Mexican Americans. OR: Odds Ratio; 95%CI: 95 percent confidence interval; BMI: body-mass-index.

Supplementary Table 6. Estimated mortality risk per weighted and unweighted type 2 diabetes risk allele by ethnicity in the Third National health and Nutrition Examination Survey DNA Bank (NHANES III, 1991-1994) accounting for sampling weights and complex survey design

Model	Variable	All ethnicities (N=6,501)			NHW (N=2,528)			NHB (N=1,979)			MA (N=1,994)		
		OR	95%CI	*P*	OR	95%CI	*P*	OR	95%CI	*P*	OR	95%CI	*P*
Adjusted for BMI	**Weighted GRS**	1.04	(1.00-1.07)	0.05	1.04	(1.00-1.09)	0.08	1.04	(1.01-1.06)	0.002	0.95	(0.90-1.01)	0.07
Fully-adjusted	**Weighted GRS**	1.04	(1.00-1.08)	0.05	1.04	(1.00-1.10)	0.06	1.03	(1.01-1.06)	0.007	0.95	(0.89-1.01)	0.10
Adjusted for BMI	**Unweighted GRS**	1.04	(0.99-1.08)	0.09	1.04	(0.99-1.10)	0.09	1.02	(0.99-1.05)	0.12	0.96	(0.91-1.02)	0.21
Fully-adjusted	**Unweighted GRS**	1.04	(0.99-1.09)	0.09	1.05	(0.99-1.12)	0.07	1.02	(1.00-1.04)	0.11	0.97	(0.91-1.03)	0.26

All models were adjusted for age, sex and ethnicity. Fully-adjusted model additionally included BMI, family history, educational attainment, insurance coverage, physical activity, health eating index, smoking, alcohol consumption, total cholesterol, high density lipoprotein cholesterol, waist circumference, and hypertension with multiple imputation for missing values. GRS: Genetic risk score; NHW: Non-Hispanic Whites; NHB: Non-Hispanic Blacks; MA: Mexican Americans. OR: Odds Ratio; 95%CI: 95 percent confidence interval

Supplementary Table 7. Interaction for Body-mass-index with type 2 diabetes genetic risk score for mortality risk by ethnicity in the Third National health and Nutrition Examination Survey DNA Bank (NHANES III, 1991-1994) accounting for sampling weights and complex survey design

BMI	GRS	All ethnicities	NHW	NHB	MA
Continuous	**continuous**	*P*=0.94	*P*=0.99	*P*=0.60	***P*=0.03**
overweight vs. normal weight	**continuous**	*P*=0.51	*P*=0.53	*P*=0.99	*P*=0.44
obese vs. normal weight	**continuous**	***P*=0.07**	***P*=0.07**	*P*=0.95	*P*=0.10
continuous	**High vs. low**	*P*=0.46	*P*=0.53	***P*=0.09**	***P*=0.01**
overweight vs. normal weight	**high vs. low**	*P*=0.35	*P*=0.24	*P*=0.37	*P*=0.12
obese vs. normal weight	**High vs. low**	*P*=0.25	*P*=0.24	*P*=0.27	***P*=0.002**

All models were adjusted for age, sex and ethnicity; GRS: Genetic risk score NHW: Non-Hispanic Whites; NHB: Non-Hispanic Blacks; MA: Mexican Americans. OR: Odds Ratio; 95%CI: 95 percent confidence interval; Body-mass-index; BMI (categories) is a three-level variable, normal weight (<25 kgm^{-2}), overweight (25-30 kgm^{-2}), and Obese (BMI >30 kgm^{-2}). GRS (categories) is a two-level variable, high GRS (≥ median ethnic-specific GRS) and low (< ethnic-specific GRS). Interaction P value <0.1 are in bold.

Supplementary Table 8. Estimated mortality risk per type 2 diabetes risk allele within BMI categories (normal weight, overweight and obese) by ethnicity in the Third National health and Nutrition Examination Survey DNA Bank (NHANES III, 1991-1994) accounting for sampling weights and complex survey design

BMI category	Model	Variable	All ethnicities (N=6,501)		NHW (N=2,538)		NHB (N=1,979)		MA (N=1,994)	
			OR	95%CI	OR	95%CI	OR	95%CI	OR	95%CI
Normal weight (BMI <25 kgm^{-2})	Adjusted for age and sex	Weighted GRS	1.02	(0.96-1.07)	1.02	(0.95-1.09)	1.04	(0.98-1.11)	0.91	(0.82-1.00)
Overweight (BMI 25-30 kgm^{-2})		Weighted GRS	1.03	(0.99-1.07)	1.03	(0.99-1.09)	1.04	(0.97-1.12)	0.94	(0.87-1.01)
Obese (BMI >30 kgm^{-2})		Weighted GRS	1.06	(1.02-1.11)	1.07	(1.02-1.12)	1.04	(0.98-1.10)	1.00	(0.93-1.08)
Normal weight (BMI <25 kgm^{-2})	Fully-adjusted	Weighted GRS	1.00	(0.94-1.06)	1.00	(0.93-1.09)	1.04	(0.99-1.09)	0.89	(0.81-0.98)
Overweight (BMI 25-30 kgm^{-2})		Weighted GRS	1.04	(0.99-1.10)	1.05	(0.98-1.13)	1.03	(0.97-1.09)	0.95	(0.88-1.03)
Obese (BMI >30 kgm^{-2})		Weighted GRS	1.08	(1.02-1.14)	1.09	(1.02-1.17)	1.04	(0.98-1.11)	1.00	(0.91-1.08)

All models were adjusted for age, sex and ethnicity. Fully-adjusted model additionally included family history, educational attainment, insurance coverage, physical activity, health eating index, smoking, alcohol consumption, total cholesterol, high density lipoprotein cholesterol, waist circumference, and hypertension with multiple imputation for missing values. NHW: Non-Hispanic Whites; NHB: Non-Hispanic Blacks; MA: Mexican Americans. OR: Odds Ratio; 95%CI: 95 percent confidence interval; BMI: body-mass-index. Part of these results were displayed in Figure 1 in the main manuscript.

Supplementary Table 9. Estimated mortality risk per type 2 diabetes risk allele within BMI categories (normal weight, overweight and obese) by ethnicity using Cox regression in the Third National health and Nutrition Examination Survey DNA Bank (NHANES III, 1991-1994) accounting for sampling weights and complex survey design

BMI category	Model	Variable	All ethnicities (N=6,501)		NHW (N=2,538)		NHB (N=1,979)		MA (N=1,994)	
			OR	95%CI	OR	95%CI	OR	95%CI	OR	95%CI
Normal weight (BMI <25 kgm^{-2})	Adjusted for age and sex	Weighted GRS	1.01	(0.98-1.04)	1.01	(0.98-1.04)	1.02	(0.97-1.08)	0.92	(0.85-0.99)
Overweight (BMI 25-30 kgm^{-2})		Weighted GRS	**1.04**	**(1.01-1.07)**	**1.04**	**(1.01-1.08)**	1.03	(0.99-1.07)	0.95	(0.90-1.01)
Obese (BMI >30 kgm^{-2})		Weighted GRS	**1.04**	**(1.01-1.07)**	**1.04**	**(1.00-1.08)**	1.04	(1.00-1.08)	0.99	(0.93-1.06)
Normal weight (BMI <25 kgm^{-2})	Fully-adjusted	Weighted GRS	1.02	(0.98-1.05)	1.02	(0.98-1.06)	1.03	(0.98-1.09)	N/A	N/A
Overweight (BMI 25-30 kgm^{-2})		Weighted GRS	**1.04**	**(1.00-1.08)**	**1.05**	**(1.00-1.09)**	1.04	(0.98-1.10)	0.96	(0.91-1.02)
Obese (BMI >30 kgm^{-2})		Weighted GRS	1.04	(0.99-1.08)	1.04	(0.98-1.09)	1.04	(0.99-1.09)	1.00	(0.91-1.10)

Bolded effect estimates had P<0.05. All models were adjusted for age, sex and ethnicity. Fully-adjusted model additionally included family history, educational attainment, insurance coverage, physical activity, health eating index, smoking, alcohol consumption, total cholesterol, high density lipoprotein cholesterol, waist circumference, and hypertension among 5,144 participants with complete data. NHW: Non-Hispanic Whites; NHB: Non-Hispanic Blacks; MA: Mexican Americans. OR: Odds Ratio; 95%CI: 95 percent confidence interval; N/A: Given the low event rate among normal weight MA, the fully adjusted model could not be performed. BMI: body-mass-index. Normal weight: <25 kgm^{-2}; Overweight: 25-30 kgm^{-2}; Obese: BMI >30 kgm^{-2}.

Supplementary Table 10. Association between BMI categories (overweight vs. normal weight, obese vs. normal weight) and mortality risk by ethnicity in the Third National health and Nutrition Examination Survey DNA Bank (NHANES III, 1991-1994) accounting for sampling weights and complex survey design

Model	Variable	All ethnicities (N=6,501)		NHW (N=2,538)		NHB (N=1,979)		MA (N=1,994)	
		OR	95%CI	OR	95%CI	OR	95%CI	OR	95%CI
Unadjusted	**Overweight vs. normal**	0.84	(0.63-1.11)	0.82	(0.59-1.15)	0.78	(0.51-1.18)	1.02	(0.72-1.14)
	Obese vs. Normal	**1.37**	**(1.04-1.81)**	1.49	(1.07-2.09)	0.77	(0.53-1.12)	1.17	(0.70-1.94)
Fully-adjusted	**Overweight vs. normal**	0.82	(0.50-1.32)	0.78	(0.44-1.38)	0.73	(0.41-1.31)	0.89	(0.54-1.45)
	Obese vs. Normal	1.25	(0.58-2.72)	1.34	(0.51-3.50)	0.69	(0.33-1.46)	0.71	(0.35-1.44)

Bolded effect estimates had P<0.05. All models were adjusted for age, sex and ethnicity. Fully-adjusted model additionally included family history, educational attainment, insurance coverage, physical activity, health eating index, smoking, alcohol consumption, total cholesterol, high density lipoprotein cholesterol, waist circumference, and hypertension among 5,144 participants with complete data. NHW: Non-Hispanic Whites; NHB: Non-Hispanic Blacks; MA: Mexican Americans. OR: Odds Ratio; 95%CI: 95 percent confidence interval; Normal weight: <25 kgm^{-2}; Overweight : 25-30 kgm^{-2} ; Obese: BMI >30 kgm^{-2}

Supplementary Table 11. Association between BMI categories (overweight vs. normal weight, obese vs. normal weight) and mortality within type 2 diabetes genetic risk groups by ethnicity in the Third National health and Nutrition Examination Survey DNA Bank (NHANES III, 1991-1994) accounting for sampling weights and complex survey design

Genetic risk	Model	Variable	All ethnicities (N=6,501)		NHW (N=7,350)		NHB (N=1,979)		MA (N=1,994)	
			OR	95%CI	OR	95%CI	OR	95%CI	OR	95%CI
High GRS	**Unadjusted**	**Overweight vs. Normal weight**	0.85	(0.60-1.22)	0.87	(0.57-1.33)	0.67	(0.37-1.23)	1.51	(0.86-2.65)
		Obese vs. Normal weight	1.57	(0.99-2.50)	**1.84**	**(1.04-3.25)**	0.64	(0.34-1.23)	**2.27**	**(1.33-3.88)**
Low GRS	**Unadjusted**	**Overweight vs. Normal weight**	0.77	(0.57-1.05)	0.75	(0.54-1.05)	0.90	(0.55-1.48)	0.81	(0.54-1.23)
		Obese vs. Normal weight	1.11	(0.77-1.61)	1.19	(0.77-1.83)	0.93	(0.59-1.45)	0.67	(0.34-1.35)
High GRS	**Fully adjusted***	**Overweight vs. Normal weight**	0.85	(0.47-1.53)	0.79	(0.39-1.62)	0.74	(0.35-1.53)	0.99	(0.55-1.78)
		Obese vs. Normal weight	1.80	(0.54-6.00)	1.97	(0.42-9.32)	0.77	(0.26-2.27)	1.30	(0.55-3.07)
Low GRS	**Fully adjusted***	**Overweight vs. Normal weight**	0.70	(0.44-1.13)	0.68	(0.37-1.23)	0.82	(0.35-1.91)	0.82	(0.45-1.47)
		Obese vs. Normal weight	0.74	(0.35-1.54)	0.76	(0.28-2.06)	0.61	(0.20-1.88)	0.46	(0.18-1.22)

Bolded effect estimates had P<0.05. All models were adjusted for age, sex and ethnicity. Fully-adjusted model additionally included family history, educational attainment, insurance coverage, physical activity, health eating index, smoking, alcohol consumption, total cholesterol, high density lipoprotein cholesterol, waist circumference, and hypertension among 5,144 participants with complete data. NHW: Non-Hispanic Whites; NHB: Non-Hispanic Blacks; MA: Mexican Americans. OR: Odds Ratio; 95%CI: 95 percent confidence interval; BMI: body-mass-index. Normal weight: <25 kgm^{-2}; Overweight: 25-30 kgm^{-2}; Obese: BMI >30 kgm^{-2}.

Supplementary Table 12. Association between BMI categories (overweight vs. normal weight, obese vs. normal weight) and mortality within type 2 diabetes genetic risk groups by ethnicity using Cox regression in the Third National health and Nutrition Examination Survey DNA Bank (NHANES III, 1991-1994) accounting for sampling weights and complex survey design

Genetic risk	Model	Variable	All ethnicities (N=6,501)		NHW (N=7,350)		NHB (N=1,979)		MA (N=1,994)	
			OR	95%CI	OR	95%CI	OR	95%CI	OR	95%CI
High GRS	**Unadjusted**	**Overweight vs. Normal weight**	0.99	(0.79-1.25)	1.03	(0.81-1.30)	0.77	(0.49-1.22)	1.51	(0.93-2.43)
		Obese vs. Normal weight	1.28	(0.96-1.69)	1.35	(0.97-1.88)	0.80	(0.50-1.28)	**2.05**	**(1.31-3.19)**
Low GRS	**Unadjusted**	**Overweight vs. Normal weight**	0.77	(0.61-0.96)	0.74	(0.58-0.96)	0.88	(0.61-1.28)	0.93	(0.67-1.28)
		Obese vs. Normal weight	1.06	(0.83-1.37)	1.13	(0.85-1.49)	0.87	(0.62-1.23)	0.89	(0.48-1.54)
High GRS	**Fully adjusted**	**Overweight vs. Normal weight**	1.05	(0.77-1.42)	1.08	(0.81-1.45)	0.82	(0.38-1.75)	1.00	(0.66-1.52)
		Obese vs. Normal weight	1.44	(0.80-2.61)	1.51	(0.80-2.82)	0.95	(0.32-2.84)	1.25	(0.62-2.51)
Low GRS	**Fully adjusted**	**Overweight vs. Normal weight**	0.71	(0.53-0.95)	0.70	(0.49-0.98)	0.84	(0.42-1.66)	0.82	(0.50-1.34)
		Obese vs. Normal weight	0.84	(0.51-1.37)	0.88	(0.49-1.61)	0.68	(0.28-1.66)	0.59	(0.25-1.37)

Bolded effect estimates had P<0.05. N/A: All models were adjusted for age, sex and ethnicity. Fully-adjusted model additionally included family history, educational attainment, insurance coverage, physical activity, health eating index, smoking, alcohol consumption, total cholesterol, high density lipoprotein cholesterol, waist circumference, and hypertension among 5,144 participants with complete data. NHW: Non-Hispanic Whites; NHB: Non-Hispanic Blacks; MA: Mexican Americans. OR: Odds Ratio; 95%CI: 95 percent confidence interval; BMI: body-mass-index. Normal weight: <25 kgm^{-2}; Overweight: 25-30 kgm^{-2}; Obese: BMI >30 kgm^{-2}.

Supplementary Table 13. Estimated mortality risk per type 2 diabetes risk allele by ethnicity among participants aged ≥ 45 years in the Third National health and Nutrition Examination Survey DNA Bank (NHANES III, 1991-1994) accounting for sampling weights and complex survey design

Model	Variable	All ethnicities (N=6,501)			NHW (N=2,538)			NHB (N=1,979)			MA (N=1,994)		
		OR	95%CI	*P*	OR	95%CI	*P*	OR	95%CI	*P*	OR	95%CI	*P*
BMI-adjusted	**Weighted GRS**	1.04	(1.01-1.08)	0.02	1.05	(1.01-1.10)	0.02	1.02	(0.98-1.07)	0.31	0.94	(0.87-1.02)	0.14
Fully-adjusted	**Weighted GRS**	1.05	(1.00-1.05)	0.03	1.06	(1.01-1.11)	0.02	1.02	(0.97-1.06)	0.47	0.94	(0.87-1.02)	0.12

All models were adjusted for age, sex and ethnicity. Fully-adjusted model additionally included BMI, family history, educational attainment, insurance coverage, physical activity, health eating index, smoking, alcohol consumption, total cholesterol, high density lipoprotein cholesterol, waist circumference, and hypertension with multiple imputation for missing values. GRS: Genetic risk score