

Appendix Table 1. Results of Multiple Linear Regression of Absolute Handgrip Strength (kg) on Biomarker Outcomes Controlling for BMI in U.S. Adults, 2011-2012

	Males				Females			
	Est	SE	B	t	Est	SE	B	t
Systolic BP (mm·Hg) ^a	0.01	0.02	0.01	0.43	-0.01	0.04	-0.01	-0.28
Diastolic BP (mm·Hg) ^a	0.10	0.02	0.15	4.45*	0.15	0.03	0.16	5.71*
TC (mg·dL ⁻¹) ^a	0.24	0.06	0.11	3.96*	0.14	0.11	0.04	1.22
HDL (mg·dL ⁻¹) ^a	-0.03	0.02	-0.04	-1.27	0.03	0.05	0.03	0.72
LDL (mg·dL ⁻¹) ^b	0.27	0.06	0.12	4.42*	-0.07	0.19	0.01	-0.38
Trig (mg·dL ⁻¹) ^b	0.16	0.25	0.05	0.63	0.07	0.27	0.01	0.24
Plasma insulin (μU·mL ⁻¹) ^b	0.01	0.03	0.01	0.23	-0.02	0.06	-0.04	-0.41
Plasma glucose (mg·dL ⁻¹) ^b	-0.07	0.06	-0.05	-1.14	0.03	0.11	-0.04	0.24

Notes: All models control for race/Hispanic origin, age, statin medication use, physical activity, and BMI. Boldface indicates statistical significance * $p < 0.01$

BP, blood pressure; TC, total cholesterol; HDL, high density lipoprotein cholesterol; LDL, low density lipoprotein cholesterol; Trig, Triglycerides

^a Calculated using examination sample (n=4,221)

^b Calculated using subsample with fasting data and corresponding fasting weights (n=1,923)

Source: NHANES

Appendix Table 2. Mean Values of Absolute Grip Strength (kg) Versus Relative Grip Strength (Strength/BMI) by Weight Status Within Sex and Age Groups in U.S. Adults, 2011-2012

Age (years)	Weight status	Absolute handgrip strength				Relative handgrip strength			
		Male		Female		Male		Female	
		Mean	SE	Mean	SE	Mean	SE	Mean	SE
20-29	Normal	90.8	1.74	56.6	0.83	4.1	0.08	2.6	0.04
	Overweight	99.3	1.77	59.9	0.79	3.7	0.07	2.2	0.03
	Obese	100.0	2.15	64.2	1.26	2.9	0.08	1.8	0.04
30-39	Normal	92.5	1.77	59.3	1.18	4.1	0.07	2.7	0.05
	Overweight	99.6	1.76	62.3	1.62	3.7	0.07	2.3	0.06
	Obese	102.0	1.60	64.4	1.14	2.9	0.04	1.7	0.04
40-49	Normal	89.5	1.66	61.3	1.34	3.9	0.08	2.8	0.05
	Overweight	94.0	1.51	58.8	1.56	3.4	0.06	2.2	0.05
	Obese	96.2	1.96	61.9	1.00	2.8	0.05	1.7	0.04
50-59	Normal	83.2	2.22	54.1	1.51	3.7	0.11	2.5	0.09
	Overweight	86.3	2.13	57.5	1.45	3.2	0.08	2.1	0.05
	Obese	91.5	3.29	55.7	1.44	2.7	0.12	1.5	0.04
60+	Normal	71.7	1.53	44.9	1.22	3.2	0.08	2.0	0.06
	Overweight	78.0	1.86	47.5	0.71	2.9	0.08	1.7	0.03
	Obese	79.4	1.59	50.3	0.80	2.3	0.09	1.4	0.02

Note: Absolute grip strength calculated as combined maximum value (kg) of trials from both hands. Relative grip strength was calculated as absolute handgrip strength divided by BMI (calculated as weight in kilograms divided by height in meters squared). Normal (BMI<25); Overweight (30<BMI≥25); Obese (BMI≥30).

Source: NHANES