

Supplementary Table 1 Age-adjusted and multiple-adjusted mean levels of pulmonary function parameters among US adults aged ≥ 20 years, by status of metabolic syndrome and its components and by body mass index category, National Health and Nutrition Examination Survey 2007-2010

Lung function parameter	Age-adjusted			Multiple-adjusted*		
	Metabolic syndrome		P-value	Metabolic syndrome		P-value
	Yes (N=92)	No (N=735)		Yes (N=92)	No (N=735)	
Normal weight (18.5-<25 kg/m²)						
FEV1 (ml)	3442.0 (150.2)	3274.0 (32.1)	0.281	3349.1 (77.0)	3281.6 (26.9)	0.435
FEV1, % predicted	95.1 (1.9)	96.3 (0.7)	0.545	97.3 (1.6)	96.2 (0.6)	0.566
FVC (ml)	4367.2 (172.7)	4216.1 (40.4)	0.412	4214.4 (76.9)	4228.6 (32.1)	0.874
FVC, % predicted	97.8 (1.5)	100.4 (0.7)	0.133	99.8 (1.5)	100.2 (0.5)	0.790
FEV1/FVC (%)	78.2 (0.9)	77.7 (0.3)	0.510	78.8 (0.8)	77.6 (0.3)	0.139
Abdominal obesity						
	Yes (N=133)	No (N=694)	P-value	Yes (N=133)	No (N=694)	P-value
FEV1 (ml)	3056.0 (45.5)	3314.0 (33.7)	<0.001	3393.1 (54.6)	3274.2 (24.6)	0.033
FEV1, % predicted	96.8 (1.3)	96.2 (0.7)	0.659	95.2 (1.3)	96.4 (0.6)	0.450
FVC (ml)	3901.0 (65.3)	4266.0 (41.0)	<0.001	4396.5 (78.1)	4207.6 (30.4)	0.027
FVC, % predicted	101.4 (1.6)	100.1 (0.7)	0.450	100.0 (1.7)	100.2 (0.5)	0.911
FEV1/FVC (%)	78.2 (0.8)	77.7 (0.3)	0.501	77.1 (0.7)	77.8 (0.3)	0.329
Hypertriglyceridemia						
	Yes (N=130)	No (N=697)	P-value	Yes (N=130)	No (N=697)	P-value
FEV1 (ml)	3416.3 (99.3)	3265.3 (31.5)	0.151	3289.3 (54.6)	3286.3 (27.6)	0.963
FEV1, % predicted	94.9 (1.5)	96.5 (0.7)	0.410	96.7 (1.4)	96.2 (0.6)	0.746
FVC (ml)	4384.2 (113.2)	4201.6 (37.5)	0.124	4167.3 (51.1)	4237.5 (32.7)	0.247
FVC, % predicted	98.4 (1.2)	100.5 (0.7)	0.133	99.6 (1.1)	100.3 (0.6)	0.583
FEV1/FVC (%)	77.7 (0.8)	77.7 (0.3)	0.929	78.6 (0.7)	77.6 (0.3)	0.221
Low HDLC						
	Yes (N=140)	No (N=687)	P-value	Yes (N=140)	No (N=687)	P-value
FEV1 (ml)	3216.7 (82.6)	3300.9 (35.5)	0.375	3252.0 (57.1)	3293.8 (28.1)	0.533
FEV1, % predicted	93.6 (1.6)	96.8 (0.7)	0.082	95.8 (1.6)	96.3 (0.6)	0.806
FVC (ml)	4201.4 (85.5)	4232.8 (46.6)	0.773	4207.5 (55.5)	4231.5 (34.4)	0.728
FVC, % predicted	98.7 (1.3)	100.5 (0.7)	0.229	100.4 (1.2)	100.2 (0.6)	0.858
FEV1/FVC (%)	76.5 (0.9)	78.0 (0.3)	0.134	77.2 (0.9)	77.8 (0.3)	0.519
Elevated blood pressure						
	Yes (N=146)	No (N=681)	P-value	Yes (N=146)	No (N=681)	P-value
FEV1 (ml)	3259.7 (75.2)	3290.9 (32.8)	0.690	3263.3 (40.8)	3290.3 (25.9)	0.523
FEV1, % predicted	96.4 (1.4)	96.2 (0.6)	0.869	97.1 (1.2)	96.1 (0.5)	0.428
FVC (ml)	4189.8 (121.3)	4233.3 (38.5)	0.731	4192.2 (66.8)	4232.9 (30.9)	0.564

FVC, % predicted	100.9 (1.1)	100.1 (0.7)	0.509	101.6 (0.8)	100.0 (0.6)	0.121
FEV1/FVC (%)	77.4 (0.9)	77.8 (0.3)	0.669	77.4 (0.7)	77.8 (0.3)	0.631

	Hyperglycemia		P-value	Hyperglycemia		P-value
	Yes (N=267)	No (N=560)		Yes (N=267)	No (N=560)	
FEV1 (ml)	3406.9 (75.7)	3238.4 (37.2)	0.064	3247.0 (49.9)	3302.7 (29.1)	0.354
FEV1, % predicted	94.3 (1.4)	97.0 (0.7)	0.100	95.4 (1.1)	96.6 (0.7)	0.412
FVC (ml)	4468.4 (75.7)	4130.6 (48.9)	0.001	4245.7 (43.9)	4220.2 (37.2)	0.663
FVC, % predicted	99.4 (0.9)	100.5 (0.8)	0.339	100.7 (0.7)	100.0 (0.7)	0.463
FEV1/FVC (%)	76.2 (0.8)	78.4 (0.3)	0.013	76.5 (0.6)	78.2 (0.2)	0.010

Overweight (25-<30 kg/m²)

	Metabolic syndrome		P-value	Metabolic syndrome		P-value
	Yes (N=410)	No (N=692)		Yes (N=410)	No (N=692)	
FEV1 (ml)	3332.3 (56.5)	3358.2 (43.9)	0.695	3335.5 (35.0)	3356.7 (26.8)	0.482
FEV1, % predicted	95.3 (1.0)	97.5 (0.8)	0.044	95.5 (1.0)	97.4 (0.7)	0.077
FVC (ml)	4310.9 (77.3)	4372.5 (54.5)	0.511	4313.5 (49.7)	4371.3 (35.8)	0.218
FVC, % predicted	98.1 (0.9)	100.9 (0.8)	0.009	98.3 (0.9)	100.8 (0.7)	0.017
FEV1/FVC (%)	77.3 (0.4)	76.9 (0.3)	0.395	77.3 (0.3)	76.9 (0.3)	0.296

	Abdominal obesity		P-value	Abdominal obesity		P-value
	Yes (N=756)	No (N=346)		Yes (N=756)	No (N=346)	
FEV1 (ml)	3213.7 (38.9)	3550.0 (56.8)	<0.001	3381.6 (33.1)	3303.5 (39.7)	0.119
FEV1, % predicted	96.7 (0.7)	96.9 (1.2)	0.857	95.6 (0.7)	98.5 (1.0)	0.012
FVC (ml)	4162.5 (50.2)	4632.6 (71.0)	<0.001	4417.6 (42.0)	4257.9 (51.0)	0.010
FVC, % predicted	100.0 (0.6)	100.0 (1.2)	0.962	99.2 (0.7)	101.1 (1.0)	0.034
FEV1/FVC (%)	77.3 (0.3)	76.7 (0.4)	0.175	76.7 (0.4)	77.6 (0.4)	0.166

	Hypertriglyceridemia		P-value	Hypertriglyceridemia		P-value
	Yes (N=332)	No (N=770)		Yes (N=332)	No (N=770)	
FEV1 (ml)	3393.3 (64.9)	3331.5 (43.4)	0.411	3330.0 (35.9)	3358.4 (29.9)	0.478
FEV1, % predicted	95.8 (1.1)	97.2 (0.8)	0.216	96.5 (1.0)	96.9 (0.7)	0.602
FVC (ml)	4371.7 (82.2)	4344.9 (52.4)	0.778	4271.8 (46.6)	4387.4 (39.3)	0.030
FVC, % predicted	98.0 (1.0)	100.8 (0.8)	0.010	98.5 (0.9)	100.6 (0.8)	0.027
FEV1/FVC (%)	77.6 (0.3)	76.8 (0.3)	0.049	77.9 (0.3)	76.7 (0.3)	0.002

	Low HDLC		P-value	Low HDLC		P-value
	Yes (N=308)	No (N=794)		Yes (N=308)	No (N=794)	
FEV1 (ml)	3230.5 (57.9)	3396.6 (41.2)	0.012	3285.7 (37.8)	3375.0 (27.2)	0.015
FEV1, % predicted	94.6 (1.3)	97.6 (0.8)	0.031	95.4 (1.1)	97.4 (0.7)	0.090
FVC (ml)	4199.4 (79.8)	4412.8 (50.1)	0.021	4266.4 (57.1)	4386.7 (36.0)	0.040
FVC, % predicted	97.9 (1.1)	100.8 (0.8)	0.033	98.5 (1.0)	100.6 (0.8)	0.085

FEV1/FVC (%)	77.0 (0.6)	77.1 (0.2)	0.821	77.1 (0.5)	77.0 (0.2)	0.974
	<u>Elevated blood pressure</u>			<u>Elevated blood pressure</u>		
	Yes (N=308)	No (N=794)		Yes (N=308)	No (N=794)	
FEV1 (ml)	3304.0 (93.0)	3364.8 (27.9)	0.470	3291.1 (53.4)	3368.9 (21.8)	0.081
FEV1, % predicted	94.4 (1.3)	97.5 (0.7)	0.014	94.9 (1.3)	97.4 (0.6)	0.044
FVC (ml)	4313.8 (119.6)	4365.5 (36.0)	0.652	4282.9 (68.1)	4375.4 (31.3)	0.129
FVC, % predicted	98.1 (1.2)	100.6 (0.8)	0.053	98.3 (1.2)	100.5 (0.7)	0.093
FEV1/FVC (%)	76.5 (0.5)	77.2 (0.3)	0.256	76.8 (0.4)	77.1 (0.3)	0.528
	<u>Hyperglycemia</u>			<u>Hyperglycemia</u>		
	Yes (N=578)	No (N=524)		Yes (N=578)	No (N=524)	
FEV1 (ml)	3450.7 (39.8)	3254.8 (53.8)	0.002	3339.6 (32.2)	3359.8 (34.1)	0.624
FEV1, % predicted	95.7 (1.0)	97.8 (0.8)	0.048	95.9 (0.9)	97.6 (0.8)	0.128
FVC (ml)	4496.0 (56.0)	4217.7 (69.5)	0.002	4338.8 (48.2)	4366.2 (43.2)	0.649
FVC, % predicted	98.9 (1.0)	101.0 (0.8)	0.034	99.1 (0.9)	100.8 (0.8)	0.085
FEV1/FVC (%)	76.9 (0.5)	77.2 (0.3)	0.707	77.1 (0.5)	77.0 (0.3)	0.766
Obese (≥ 30 kg/m²)						
	<u>Metabolic syndrome</u>			<u>Metabolic syndrome</u>		
	Yes (N=737)	No (N=411)	P- value	Yes (N=737)	No (N=411)	P- value
FEV1 (ml)	3103.3 (39.7)	3154.2 (44.3)	0.404	3077.1 (25.0)	3197.5 (35.7)	0.013
FEV1, % predicted	92.1 (0.6)	96.8 (0.9)	<0.001	92.4 (0.6)	96.3 (0.8)	<0.001
FVC (ml)	3966.6 (54.3)	4035.5 (62.3)	0.387	3929.1 (33.0)	4097.6 (53.2)	0.014
FVC, % predicted	93.7 (0.6)	98.7 (0.9)	<0.001	94.0 (0.5)	98.3 (0.9)	<0.001
FEV1/FVC (%)	78.3 (0.3)	78.4 (0.4)	0.848	78.4 (0.2)	78.2 (0.4)	0.703
	<u>Abdominal obesity</u>			<u>Abdominal obesity</u>		
	Yes (N=1117)	No (N=31)		Yes (N=1117)	No (N=31)	
FEV1 (ml)	3114.3 (30.8)	3358.3 (128.9)	0.075	3127.9 (20.3)	2968.2 (116.9)	0.193
FEV1, % predicted	93.7 (0.5)	98.1 (3.5)	0.205	93.7 (0.5)	98.4 (3.6)	0.191
FVC (ml)	3981.7 (43.4)	4304.2 (160.8)	0.048	4001.0 (28.1)	3751.4 (122.8)	0.050
FVC, % predicted	95.4 (0.5)	99.9 (3.3)	0.175	95.4 (0.5)	99.9 (3.3)	0.163
FEV1/FVC (%)	78.3 (0.2)	77.7 (1.6)	0.706	78.3 (0.2)	78.5 (1.6)	0.874
	<u>Hypertriglyceridemia</u>			<u>Hypertriglyceridemia</u>		
	Yes (N=436)	No (N=712)		Yes (N=436)	No (N=712)	
FEV1 (ml)	3080.2 (36.5)	3146.5 (42.7)	0.260	3059.4 (30.2)	3158.3 (31.6)	0.057
FEV1, % predicted	91.5 (0.6)	95.3 (0.8)	0.001	92.2 (0.6)	94.9 (0.8)	0.023
FVC (ml)	3947.9 (49.4)	4017.9 (59.5)	0.357	3915.1 (42.3)	4036.6 (42.0)	0.076
FVC, % predicted	93.2 (0.6)	96.9 (0.8)	0.001	93.9 (0.7)	96.6 (0.8)	0.023
FEV1/FVC (%)	78.1 (0.3)	78.4 (0.3)	0.481	78.3 (0.3)	78.3 (0.3)	0.944

	Low HDLC			Low HDLC		
	Yes (N=482)	No (N=666)		Yes (N=482)	No (N=666)	
FEV1 (ml)	3032.1 (44.5)	3190.2 (36.9)	0.009	3076.4 (31.4)	3157.0 (26.8)	0.071
FEV1, % predicted	91.3 (0.7)	95.8 (0.8)	<0.001	91.6 (0.7)	95.6 (0.8)	0.001
FVC (ml)	3869.6 (62.6)	4084.6 (52.3)	0.008	3930.0 (42.1)	4039.4 (38.5)	0.071
FVC, % predicted	92.8 (0.7)	97.6 (0.8)	<0.001	93.2 (0.7)	97.4 (0.8)	0.001
FEV1/FVC (%)	78.4 (0.4)	78.2 (0.3)	0.643	78.4 (0.3)	78.2 (0.3)	0.755
	Elevated blood pressure			Elevated blood pressure		
	Yes (N=507)	No (N=641)		Yes (N=507)	No (N=641)	
FEV1 (ml)	3074.5 (55.0)	3155.2 (39.9)	0.277	3074.1 (41.1)	3155.5 (25.7)	0.138
FEV1, % predicted	92.6 (1.0)	94.8 (0.7)	0.118	92.6 (1.0)	94.8 (0.7)	0.102
FVC (ml)	3933.3 (69.3)	4032.9 (62.1)	0.321	3934.2 (48.6)	4032.3 (40.1)	0.165
FVC, % predicted	94.2 (0.8)	96.5 (0.8)	0.058	94.2 (0.8)	96.5 (0.7)	0.053
FEV1/FVC (%)	78.4 (0.4)	78.2 (0.4)	0.785	78.4 (0.3)	78.3 (0.3)	0.826
	Hyperglycemia			Hyperglycemia		
	Yes (N=753)	No (N=395)		Yes (N=753)	No (N=395)	
FEV1 (ml)	3152.3 (46.4)	3072.2 (42.2)	0.246	3097.1 (26.3)	3165.3 (28.1)	0.090
FEV1, % predicted	92.5 (0.7)	96.2 (0.9)	0.003	92.9 (0.7)	95.6 (0.9)	0.026
FVC (ml)	4022.8 (58.3)	3941.5 (59.9)	0.319	3944.8 (30.3)	4073.0 (44.0)	0.014
FVC, % predicted	93.9 (0.5)	98.4 (0.9)	<0.001	94.2 (0.5)	97.9 (0.9)	0.001
FEV1/FVC (%)	78.4 (0.3)	78.1 (0.4)	0.631	78.6 (0.3)	77.9 (0.4)	0.262

FEV1 = forced expiratory volume in 1 second; FVC = forced vital capacity.

*Adjusted for age, gender, race or ethnicity, educational status, smoking status, physical activity, alcohol use, and concentration of C-reactive protein.

†Models for metabolic syndrome were adjusted for age, gender, race or ethnicity, educational status, smoking status, physical activity, alcohol use, concentration of C-reactive protein, and body mass index.

Models for metabolic syndrome components were adjusted for age, gender, race or ethnicity, educational status, smoking status, physical activity, alcohol use, concentration of C-reactive protein, and other components of metabolic syndrome.

Supplementary Table 2 Age-adjusted and multiple-adjusted mean levels of pulmonary function parameters among US adults aged ≥ 20 years, by number of metabolic syndrome components and by body mass index category, National Health and Nutrition Examination Survey 2007-2010

Lung function parameter	Number of metabolic syndrome components						P Wald chi-square
	0	1	2	3	4	5	
Normal weight (18.5-<25 kg/m²)							
N	318	279	138	68	—	—	
Age-adjusted							
FEV1 (ml)	3240.8 (53.7)	3338.4 (63.8)	3224.5 (60.2)	3505.3 (167.9)	—‡	—‡	—
FEV1, % predicted	97.4 (1.2)	96.1 (1.1)	93.9 (1.0)	95.3 (2.1)	—‡	—‡	—
FVC (ml)	4109.5 (69.9)	4336.9 (75.9)	4245.7 (100.4)	4472.9 (183.6)	—‡	—‡	—
FVC, % predicted	100.4 (1.1)	100.7 (1.1)	99.8 (1.3)	98.5 (1.5)	—‡	—‡	—
FEV1/FVC	78.8 (0.4)	77.1 (0.6)	75.9 (1.0)	77.7 (1.1)	—‡	—‡	—
Multiple-adjusted*							
FEV1 (ml)	3298.5 (40.3)	3275.2 (39.7)	3250.8 (45.3)	3362.9 (83.9)	—‡	—‡	—
FEV1, % predicted	96.3 (1.1)	96.3 (0.9)	95.4 (1.0)	97.4 (1.8)	—‡	—‡	—
FVC (ml)	4206.1 (51.5)	4242.7 (47.4)	4259.2 (64.5)	4261.4 (75.0)	—‡	—‡	—
FVC, % predicted	99.4 (1.0)	100.9 (0.9)	101.0 (1.0)	100.7 (1.4)	—‡	—‡	—
FEV1/FVC	78.4 (0.4)	77.3 (0.5)	76.2 (0.9)	78.2 (1.0)	—‡	—‡	—
Overweight (25-<30 kg/m²)							
N	91	267	334	248	121	41	
Age-adjusted							
FEV1 (ml)	3524.2 (96.1)	3314.3 (60.5)	3342.3 (52.6)	3405.0 (69.8)	3166.8 (76.0)	3318.7 (165.6)	0.103
FEV1, % predicted	99.9 (1.6)	98.3 (1.1)	96.0 (1.1)	96.4 (1.1)	92.7 (1.7)	95.4 (3.2)	0.077
FVC (ml)	4568.4 (115.9)	4336.6 (78.8)	4339.6 (69.7)	4395.4 (99.6)	4082.7 (98.6)	4399.5 (211.3)	0.060
FVC, % predicted	102.9 (1.6)	102.1 (1.0)	99.1 (1.0)	99.0 (1.1)	95.1 (1.4)	100.3 (2.4)	<0.001
FEV1/FVC	77.0 (0.7)	76.7 (0.5)	77.1 (0.6)	77.4 (0.5)	77.7 (0.6)	75.4 (1.1)	0.417
Multiple-adjusted*							
FEV1 (ml)	3444.2 (67.9)	3321.8 (38.2)	3358.0 (36.2)	3355.0 (34.9)	3267.3 (52.3)	3399.5 (116.2)	0.271
FEV1, % predicted	100.7 (1.7)	97.7 (1.0)	96.0 (0.9)	96.4 (1.1)	92.6 (1.5)	97.1 (2.5)	0.763

FVC (ml)	4430.9 (72.9)	4361.4 (51.2)	4360.0 (50.9)	4325.7 (53.0)	4233.5 (69.8)	4461.3 (139.3)	0.066
FVC, % predicted	103.2 (1.5)	101.8 (0.9)	99.1 (0.9)	99.1 (1.1)	95.3 (1.3)	101.1 (2.0)	0.202
FEV1/FVC	77.6 (0.8)	76.4 (0.4)	77.2 (0.6)	77.5 (0.5)	77.3 (0.6)	76.3 (0.8)	0.141
Obese (≥ 30 kg/m²)							
N	—	130	270	360	247	130	
Age-adjusted							
FEV1 (ml)	—‡	3119.7 (77.8)	3155.5 (53.0)	3146.0 (53.1)	3091.7 (55.3)	2990.4 (84.8)	—
FEV1, % predicted	—‡	97.6 (1.2)	96.0 (1.0)	94.4 (0.8)	90.1 (1.0)	88.9 (1.5)	—
FVC (ml)	—‡	4001.7 (110.5)	4029.9 (62.5)	4008.0 (73.9)	3969.5 (76.4)	3826.2 (119.2)	—
FVC, % predicted	—‡	99.9 (1.1)	97.6 (1.0)	95.9 (0.8)	92.0 (1.0)	90.4 (1.6)	—
FEV1/FVC	—‡	78.2 (1.1)	78.5 (0.4)	78.4 (0.4)	78.0 (0.4)	78.3 (0.8)	—
Multiple-adjusted*							
FEV1 (ml)	—‡	3195.9 (62.2)	3212.5 (47.7)	3118.6 (28.8)	3060.9 (39.5)	2979.9 (53.2)	—
FEV1, % predicted	—‡	97.2 (1.2)	95.6 (0.9)	94.2 (0.8)	90.9 (1.0)	89.4 (1.2)	—
FVC (ml)	—‡	4107.1 (88.5)	4111.5 (55.1)	3969.7 (35.4)	3924.2 (54.9)	3812.2 (80.3)	—
FVC, % predicted	—‡	99.5 (1.3)	97.3 (0.9)	95.6 (0.7)	92.7 (1.0)	91.0 (1.5)	—
FEV1/FVC	—‡	78.0 (1.0)	78.3 (0.4)	78.5 (0.4)	78.1 (0.3)	78.4 (0.7)	—

FEV1 = forced expiratory volume in 1 second; FVC = forced vital capacity.

*Adjusted for age, gender, race or ethnicity, educational status, smoking status, physical activity, alcohol use, and concentration of C-reactive protein.

†Adjusted for age, gender, race or ethnicity, educational status, smoking status, physical activity, alcohol use, concentration of C-reactive protein, and body mass index.

‡Inadequate sample size.

Supplementary Table 3 Age-adjusted and multiple-adjusted mean levels of pulmonary function parameters among US adults aged ≥ 20 years, by combinations of metabolic syndrome and diabetes status and by body mass index category, National Health and Nutrition Examination Survey 2007-2010

Lung function parameter	MetS -, DM -	MetS +, DM -	MetS -, DM +	MetS +, DM +	P Wald chi-square
Normal weight (18.5-<25 kg/m²)					
N	712	66	23	26	
Age-adjusted					
FEV1 (ml)	3270.2 (32.7)	3515.9 (162.6)	—‡	—‡	0.288
FEV1, % predicted	96.4 (0.7)	98.2 (2.0)	—‡	—‡	<0.001
FVC (ml)	4212.5 (42.0)	4413.5 (191.1)	—‡	—‡	0.686
FVC, % predicted	100.5 (0.7)	100.0 (1.7)	—‡	—‡	<0.001
FEV1/FVC	77.7 (0.3)	79.3 (1.0)	—‡	—‡	0.129
Multiple-adjusted*					
FEV1 (ml)	3286.5 (27.4)	3463.6 (81.6)	—‡	—‡	<0.001
FEV1, % predicted	96.2 (0.6)	100.1 (1.8)	—‡	—‡	0.001
FVC (ml)	4237.9 (32.3)	4333.1 (84.7)	—‡	—‡	0.001
FVC, % predicted	100.3 (0.6)	102.1 (1.5)	—‡	—‡	0.001
FEV1/FVC	77.6 (0.3)	79.5 (1.0)	—‡	—‡	0.254
Overweight (25-<30 kg/m²)					
N	660	311	32	99	
Age-adjusted					
FEV1 (ml)	3354.0 (45.0)	3339.9 (63.1)	3479.2 (102.1)	3291.5 (63.6)	0.250
FEV1, % predicted	97.5 (0.8)	95.5 (1.1)	97.0 (2.6)	94.4 (1.4)	0.186
FVC (ml)	4367.1 (56.1)	4328.4 (84.7)	4536.8 (146.2)	4209.9 (93.0)	0.224
FVC, % predicted	100.9 (0.8)	98.4 (1.0)	100.0 (2.8)	96.3 (1.2)	0.020
FEV1/FVC	76.9 (0.3)	77.2 (0.4)	77.0 (1.4)	78.2 (1.0)	0.661
Multiple-adjusted*					
FEV1 (ml)	3359.2 (26.5)	3335.1 (37.1)	3289.2 (140.6)	3334.1 (55.1)	0.886
FEV1, % predicted	97.4 (0.7)	95.6 (1.1)	97.6 (2.7)	95.4 (1.7)	0.355
FVC (ml)	4376.3 (35.0)	4319.7 (52.9)	4250.1 (181.9)	4264.7 (67.7)	0.424
FVC, % predicted	100.8 (0.7)	98.5 (1.0)	100.1 (2.7)	97.1 (1.4)	0.076
FEV1/FVC	76.9 (0.3)	77.2 (0.3)	77.7 (1.5)	78.3 (1.0)	0.440
Obese (≥ 30 kg/m²)					
N	390	491	21	246	
Age-adjusted					
FEV1 (ml)	3163.1 (45.4)	3168.7 (34.7)	—‡	2932.8 (72.9)	0.004

FEV1, % predicted	97.1 (0.9)	93.8 (0.6)	—‡	87.8 (1.3)	<0.001
FVC (ml)	4050.0 (62.1)	4074.4 (47.8)	—‡	3685.2 (96.3)	<0.001
FVC, % predicted	99.1 (0.9)	95.9 (0.6)	—‡	88.0 (1.2)	<0.001
FEV1/FVC	78.3 (0.4)	77.8 (0.3)	—‡	79.6 (0.5)	0.003
Multiple-adjusted*					
FEV1 (ml)	3205.2 (36.2)	3127.0 (23.7)	—‡	2946.5 (46.0)	<0.001
FEV1, % predicted	96.6 (0.8)	93.9 (0.7)	—‡	88.4 (1.3)	<0.001
FVC (ml)	4108.6 (53.5)	4015.1 (29.9)	—‡	3704.3 (57.9)	<0.001
FVC, % predicted	98.6 (1.0)	96.0 (0.6)	—‡	88.6 (1.2)	<0.001
FEV1/FVC	78.2 (0.4)	77.9 (0.3)	—‡	79.6 (0.4)	0.003

FEV1 = forced expiratory volume in 1 second; FVC = forced vital capacity; MetS = metabolic syndrome; DM = diabetes.

*Adjusted for age, gender, race or ethnicity, educational status, smoking status, physical activity, alcohol use, and concentration of C-reactive protein.

†Adjusted for age, gender, race or ethnicity, educational status, smoking status, physical activity, alcohol use, concentration of C-reactive protein, and body mass index.

‡Inadequate sample size.