

Supplementary appendix

Obesity and sex-and age-specific income – evidence from the HUNT study

Christina Hansen Edwards, Johan Håkon Bjørngaard, and Jonas Minet Kinge

Christina Hansen Edwards

Email: christina.h.edwards@ntnu.no

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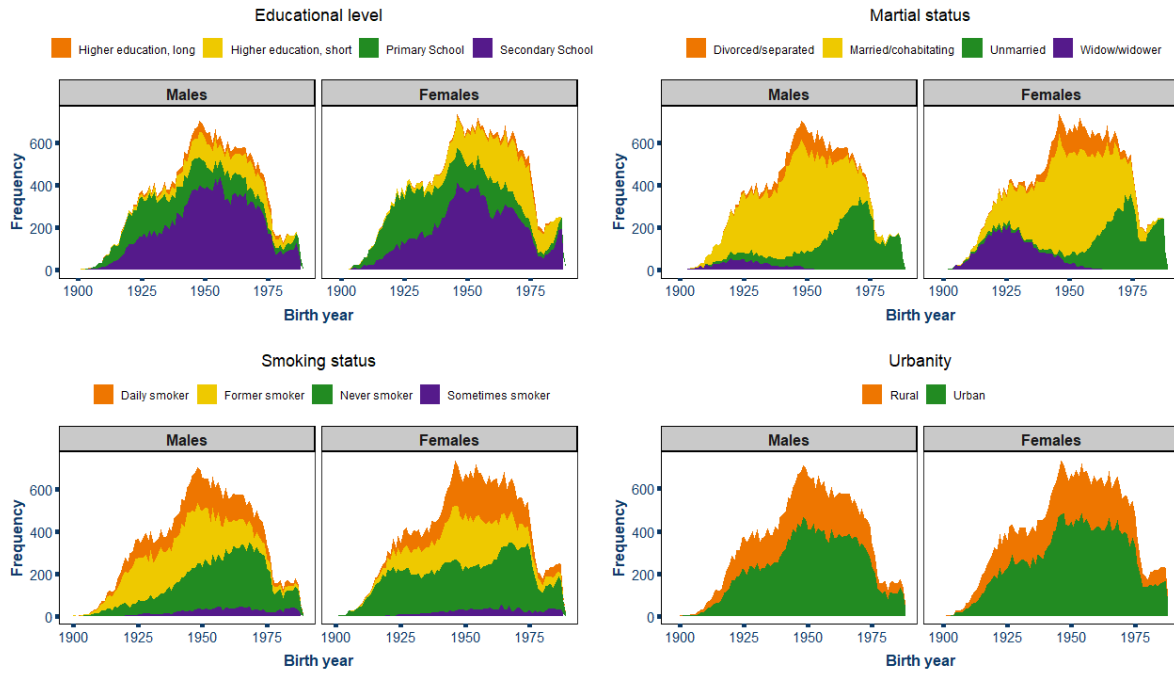


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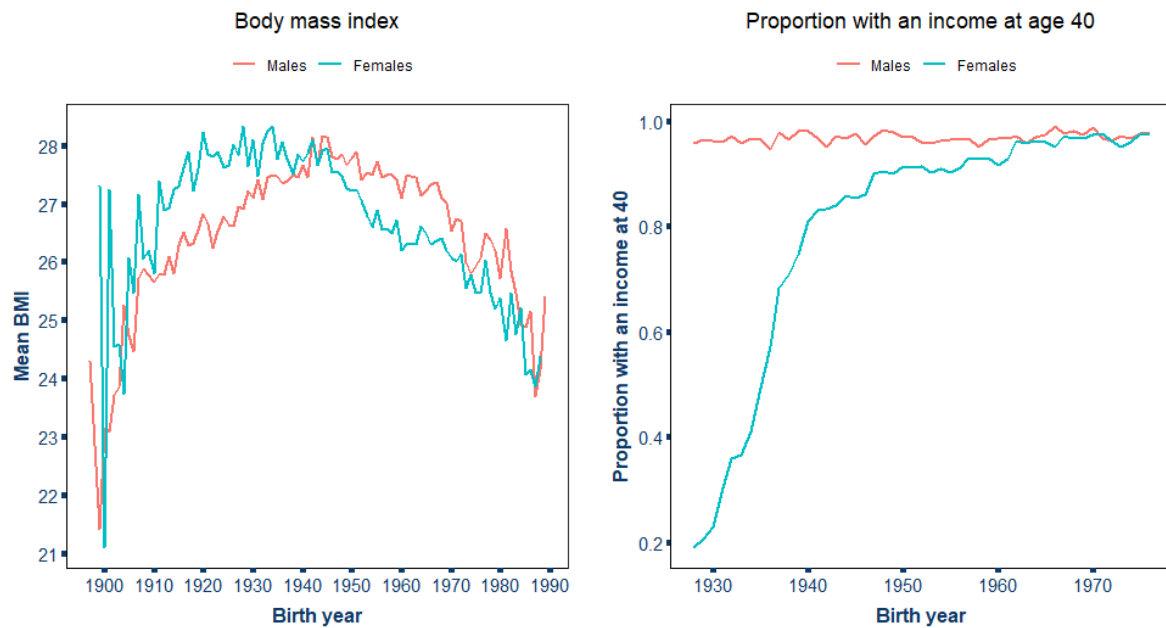


Figure S2: Body mass index (left), and Proportion with an income at age 40 (right), among males (red), and females (blue) in our sample.

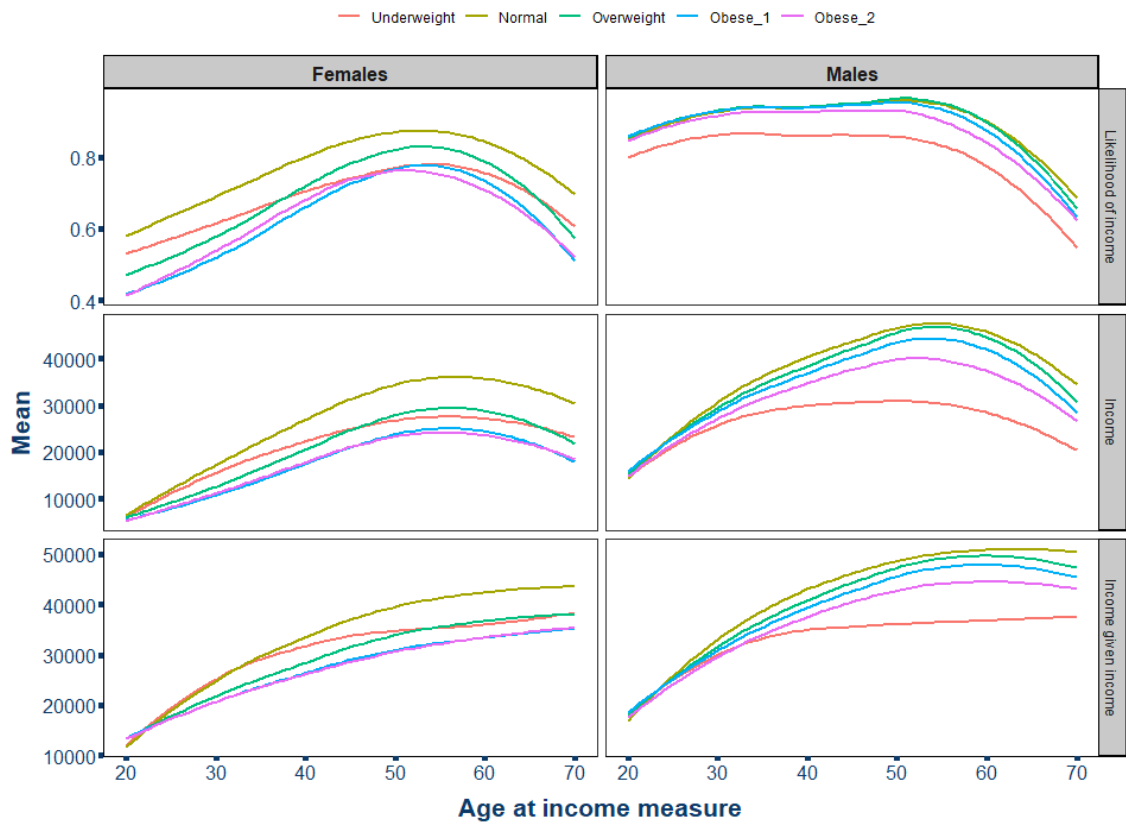


Figure S3: Crude likelihood of having an income (top panel), mean income (middle panel), and mean income given income (bottom panel), for males (right panel), and females (left panel) with underweight, normal weight, overweight, category 1 obesity, and category 2 obesity.

Table S1: Age-specific effect (coefficient (coef.), standard deviation (SD), and 95% confidence intervals (CI)) of BMI on probability of earning an income for males, estimated using multivariable adjusted analysis and instrumental variable analysis. Asterisks next to the coefficients indicate p-value: *** p<0.01, ** p<0.05, * p<0.1.

	Multivariable adjusted analysis		Instrumental variable analysis	
Age	Coef. (SD)	95% CI	Coef. (SD)	95% CI
20	0.00192*** (0.00049)	0.00096; 0.00287	0.00446 (0.00300)	-0.00141; 0.01034
21	0.00081** (0.00041)	0.00001; 0.00162	0.00201 (0.00254)	-0.00296; 0.00698
22	0.00090** (0.00035)	0.00021; 0.00159	-0.00218 (0.00221)	-0.00651; 0.00215
23	0.00083** (0.00033)	0.00019; 0.00147	-0.00064 (0.00205)	-0.00465; 0.00338
24	0.00026 (0.00031)	-0.00034; 0.00087	0.00317 (0.00193)	-0.00061; 0.00695
25	0.00043 (0.00029)	-0.00013; 0.00100	-0.00143 (0.00181)	-0.00497; 0.00211
26	-0.00009 (0.00027)	-0.00063; 0.00045	-0.00183 (0.00171)	-0.00519; 0.00152
27	-0.00051* (0.00026)	-0.00101; 0.00000	-0.00308* (0.00162)	-0.00625; 0.00009
28	-0.00038 (0.00025)	-0.00087; 0.00011	-0.00155 (0.00157)	-0.00463; 0.00154
29	-0.00036 (0.00024)	-0.00083; 0.00012	-0.00025 (0.00151)	-0.00321; 0.00271
30	-0.00029 (0.00023)	-0.00075; 0.00016	-0.00074 (0.00147)	-0.00362; 0.00214
31	-0.00055** (0.00024)	-0.00102; -0.00008	-0.00225 (0.00152)	-0.00522; 0.00073
32	-0.00030 (0.00024)	-0.00077; 0.00017	-0.00101 (0.00152)	-0.00399; 0.00197
33	-0.00035 (0.00024)	-0.00082; 0.00011	-0.00073 (0.00150)	-0.00368; 0.00222
34	-0.00045* (0.00024)	-0.00092; 0.00003	-0.00101 (0.00153)	-0.00401; 0.00200
35	-0.00044* (0.00024)	-0.00092; 0.00004	0.00118 (0.00156)	-0.00188; 0.00424
36	-0.00030 (0.00025)	-0.00078; 0.00019	-0.00081 (0.00158)	-0.00391; 0.00229
37	-0.00065*** (0.00025)	-0.00114; -0.00016	-0.00011 (0.00160)	-0.00324; 0.00303
38	-0.00050** (0.00025)	-0.00100; -0.00000	-0.00152 (0.00163)	-0.00471; 0.00167
39	-0.00044* (0.00025)	-0.00093; 0.00006	-0.00101 (0.00162)	-0.00419; 0.00217
40	-0.00030 (0.00025)	-0.00080; 0.00019	0.00058 (0.00163)	-0.00262; 0.00378
41	-0.00032 (0.00026)	-0.00083; 0.00018	0.00143 (0.00168)	-0.00185; 0.00472
42	-0.00036 (0.00027)	-0.00089; 0.00016	0.00134 (0.00173)	-0.00205; 0.00473
43	-0.00040 (0.00027)	-0.00094; 0.00014	0.00037 (0.00179)	-0.00313; 0.00387
44	-0.00019 (0.00028)	-0.00073; 0.00035	-0.00158 (0.00181)	-0.00512; 0.00196
45	-0.00038 (0.00029)	-0.00094; 0.00018	-0.00063 (0.00185)	-0.00426; 0.00300
46	-0.00064** (0.00029)	-0.00122; -0.00007	-0.00191 (0.00190)	-0.00564; 0.00182
47	-0.00057* (0.00031)	-0.00117; 0.00004	-0.00017 (0.00202)	-0.00414; 0.00380
48	-0.00037 (0.00032)	-0.00099; 0.00025	-0.00042 (0.00208)	-0.00449; 0.00365
49	-0.00062* (0.00033)	-0.00127; 0.00004	-0.00062 (0.00220)	-0.00493; 0.00369
50	-0.00019 (0.00034)	-0.00087; 0.00048	-0.00069 (0.00230)	-0.00519; 0.00381
51	-0.00100*** (0.00036)	-0.00171; -0.00029	-0.00331 (0.00241)	-0.00804; 0.00142
52	-0.00071* (0.00038)	-0.00147; 0.00004	-0.00172 (0.00257)	-0.00677; 0.00332
53	-0.00079* (0.00041)	-0.00159; 0.00001	-0.00027 (0.00275)	-0.00566; 0.00512
54	-0.00064 (0.00043)	-0.00150; 0.00021	-0.00492* (0.00299)	-0.01077; 0.00093
55	-0.00137*** (0.00046)	-0.00227; -0.00046	-0.00594* (0.00321)	-0.01223; 0.00035
56	-0.00168*** (0.00050)	-0.00265; -0.00071	-0.00662* (0.00349)	-0.01347; 0.00022
57	-0.00263*** (0.00053)	-0.00366; -0.00160	-0.00957** (0.00374)	-0.01690; -0.00223
58	-0.00210*** (0.00057)	-0.00322; -0.00099	-0.00874** (0.00400)	-0.01657; -0.00090
59	-0.00228*** (0.00061)	-0.00347; -0.00109	-0.00706* (0.00422)	-0.01533; 0.00122
60	-0.00252*** (0.00066)	-0.00381; -0.00123	-0.00998** (0.00459)	-0.01898; -0.00098
61	-0.00371*** (0.00072)	-0.00511; -0.00230	-0.01374*** (0.00507)	-0.02368; -0.00381
62	-0.00470*** (0.00077)	-0.00621; -0.00319	-0.01533*** (0.00550)	-0.02611; -0.00456
63	-0.00491*** (0.00087)	-0.00662; -0.00321	-0.01138* (0.00617)	-0.02347; 0.00071
64	-0.00523*** (0.00096)	-0.00712; -0.00335	-0.01435** (0.00699)	-0.02804; -0.00065
65	-0.00410*** (0.00102)	-0.00610; -0.00210	-0.00983 (0.00730)	-0.02413; 0.00447
66	-0.00320*** (0.00108)	-0.00532; -0.00108	0.00056 (0.00764)	-0.01441; 0.01553
67	-0.00164 (0.00112)	-0.00384; 0.00055	-0.00611 (0.00789)	-0.02157; 0.00936
68	-0.00051 (0.00113)	-0.00273; 0.00171	-0.01353* (0.00820)	-0.02961; 0.00254
69	0.00022 (0.00110)	-0.00194; 0.00238	-0.01152 (0.00803)	-0.02726; 0.00422
70	0.00021 (0.00107)	-0.00188; 0.00230	0.00270 (0.00768)	-0.01236; 0.01775

Table S2: Age-specific effect (coefficient (coef.), standard deviation (SD), and 95% confidence intervals (CI)) of BMI on income for males, estimated using multivariable adjusted analysis and instrumental variable analysis. Asterisks next to the coefficients indicate p-value: *** p<0.01, ** p<0.05, * p<0.1.

	Multivariable adjusted analysis		Instrumental variable analysis	
Age	Coef. (SD)	95% CI	Coef. (SD)	95% CI
20	66.74146*** (11.53009)	44.14200; 89.34091	92.01743 (71.75748)	-48.62465; 232.65952
21	73.47829*** (13.27518)	47.45839; 99.49819	146.45474* (83.34043)	-16.88950; 309.79899
22	86.48340*** (14.66777)	57.73397; 115.23283	102.01817 (94.69903)	-83.58851; 287.62486
23	99.79020*** (15.56064)	69.29071; 130.28969	142.50299 (101.93404)	-57.28406; 342.29005
24	114.76242*** (16.34946)	82.71681; 146.80803	232.88144** (106.90542)	23.35067; 442.41221
25	90.33536*** (17.21322)	56.59674; 124.07398	56.36347 (110.51947)	-160.25071; 272.97765
26	46.88627** (18.37060)	10.87914; 82.89339	-63.63045 (115.73516)	-290.46719; 163.20630
27	9.58795 (18.96725)	-27.58863; 46.76453	-59.66519 (118.04244)	-291.02412; 171.69375
28	4.24793 (19.88381)	-34.72515; 43.22102	-174.39833 (124.18240)	-417.79137; 68.99471
29	-19.08731 (20.38423)	-59.04124; 20.86662	-189.14900 (127.98759)	-440.00008; 61.70207
30	-19.41450 (20.85009)	-60.28154; 21.45253	-82.92717 (131.76584)	-341.18347; 175.32913
31	-26.06376 (21.88266)	-68.95468; 16.82715	77.95598 (140.04099)	-196.51931; 352.43127
32	-37.78795* (22.76254)	-82.40348; 6.82757	38.45938 (145.94225)	-247.58216; 324.50093
33	0.57648 (23.55888)	-45.59991; 46.75288	42.28947 (152.21407)	-256.04461; 340.62356
34	-25.92702 (27.57557)	-79.97633; 28.12228	-118.12523 (176.74008)	-464.52942; 228.27897
35	-26.72240 (26.01775)	-77.71832; 24.27351	-86.04256 (169.65105)	-418.55251; 246.46738
36	-27.79833 (26.09661)	-78.94882; 23.35217	-177.46936 (171.39931)	-513.40583; 158.46711
37	-29.33425 (27.39263)	-83.02502; 24.35651	-166.83694 (180.74405)	-521.08877; 187.41488
38	-35.97807 (31.09941)	-96.93429; 24.97815	21.86145 (204.01747)	-378.00545; 421.72834
39	-37.72160 (30.01607)	-96.55444; 21.11124	-3.06021 (200.66676)	-396.35984; 390.23942
40	-25.05648 (31.17996)	-86.17061; 36.05766	30.61525 (208.85503)	-378.73308; 439.96358
41	-39.96613 (31.20761)	-101.13447; 21.20222	112.40154 (211.53937)	-302.20800; 527.01108
42	-45.37203 (32.52643)	-109.12537; 18.38130	17.64141 (219.76231)	-413.08481; 448.36763
43	15.69250 (33.01123)	-49.01110; 80.39610	134.92805 (225.09467)	-306.24938; 576.10549
44	11.51012 (33.74105)	-54.62401; 77.64425	83.46258 (230.87955)	-369.05302; 535.97817
45	22.41121 (34.44316)	-45.09914; 89.92157	19.41310 (233.37061)	-437.98488; 476.81108
46	11.49716 (35.29636)	-57.68557; 80.67989	-50.30785 (240.76889)	-522.20621; 421.59050
47	16.74304 (36.11141)	-54.03728; 87.52335	-98.13661 (248.93195)	-586.03426; 389.76104
48	-10.68628 (35.98971)	-81.22813; 59.85557	9.71578 (249.53989)	-479.37341; 498.80497
49	1.25996 (36.91414)	-71.09390; 73.61382	-106.09127 (258.45496)	-612.65368; 400.47114
50	-22.73804 (38.95660)	-99.09531; 53.61924	-24.77428 (273.78732)	-561.38757; 511.83902
51	-18.07060 (39.76963)	-96.02155; 59.88035	-231.50255 (280.76437)	-781.79061; 318.78551
52	-14.25984 (41.26743)	-95.14666; 66.62698	-349.27997 (292.40515)	-922.38353; 223.82360
53	-13.59159 (42.28497)	-96.47298; 69.28979	-369.62280 (301.61578)	-960.77888; 221.53327
54	-34.79672 (48.93739)	-130.71742; 61.12398	-441.19687 (350.02612)	-1127.23546; 244.84173
55	3.02384 (51.01385)	-96.96700; 103.01468	-636.05383* (368.51053)	-1358.32120; 86.21353
56	-90.68629* (53.74482)	-196.03020; 14.65761	-995.48395** (394.81091)	-1769.29912; -221.66878
57	-96.72152** (46.50032)	-187.86580; -5.57724	-708.39392** (352.86395)	-1399.99456; -16.79328
58	-126.59694*** (48.12356)	-220.92305; -32.27083	-616.04340* (359.33835)	-1320.33362; 88.24683
59	-190.38063*** (51.68604)	-291.68966; -89.07160	-721.91974* (380.93298)	-1468.53467; 24.69519
60	-223.73418*** (51.30070)	-324.28810; -123.18025	-842.02173** (381.15533)	-1589.07246; -94.97100
61	-252.13475*** (51.82370)	-353.71403; -150.55547	-996.70148** (390.96802)	-1762.98471; -230.41824
62	-288.97998*** (53.00661)	-392.87811; -185.08185	-1227.58179*** (403.92343)	-2019.25717; -435.90641
63	-300.96442*** (55.52354)	-409.79625; -192.13259	-1295.89624*** (417.27725)	-2113.74463; -478.04785
64	-212.15344*** (54.84125)	-319.64819; -104.65869	-748.31146* (420.13232)	-1571.75569; 75.13276
65	-195.08089*** (54.67820)	-302.25636; -87.90541	93.54720 (407.19943)	-704.54903; 891.64342
66	-135.38438*** (51.27251)	-235.88466; -34.88411	3.06117 (373.02130)	-728.04714; 734.16949
67	-60.28580 (44.47552)	-147.46346; 26.89186	-284.05475 (320.84607)	-912.90149; 344.79199
68	-13.28239 (35.73321)	-83.32430; 56.75952	-508.36813* (264.00040)	-1025.79940; 9.06314
69	-13.18513 (37.83263)	-87.34254; 60.97227	-414.08411 (275.84988)	-954.73994; 126.57173
70	19.29461 (27.54533)	-34.69847; 73.28769	-305.09378 (200.92964)	-698.90864; 88.72108

Table S3: Age-specific effect (coefficient (coef.), standard deviation (SD), and 95% confidence intervals (CI)) of BMI on log(income) for males, estimated using multivariable adjusted analysis and instrumental variable analysis. Asterisks next to the coefficients indicate p-value: *** p<0.01, ** p<0.05, * p<0.1.

	Multivariable adjusted analysis		Instrumental variable analysis	
Age	Coef. (SD)	95% CI	Coef. (SD)	95% CI
20	0.00634*** (0.00176)	0.00290; 0.00979	0.00448 (0.00973)	-0.01460; 0.02355
21	0.00560*** (0.00156)	0.00254; 0.00867	0.00900 (0.00879)	-0.00824; 0.02623
22	0.00613*** (0.00137)	0.00346; 0.00881	0.01131 (0.00825)	-0.00487; 0.02748
23	0.00742*** (0.00128)	0.00492; 0.00992	0.00983 (0.00786)	-0.00557; 0.02523
24	0.00819*** (0.00120)	0.00583; 0.01055	0.00872 (0.00731)	-0.00561; 0.02304
25	0.00532*** (0.00116)	0.00305; 0.00759	0.00701 (0.00686)	-0.00644; 0.02047
26	0.00247** (0.00109)	0.00034; 0.00459	-0.00100 (0.00635)	-0.01344; 0.01144
27	0.00211** (0.00103)	0.00008; 0.00413	0.00228 (0.00586)	-0.00920; 0.01377
28	0.00143 (0.00097)	-0.00047; 0.00333	-0.00398 (0.00556)	-0.01487; 0.00691
29	-0.00056 (0.00092)	-0.00237; 0.00125	-0.00457 (0.00539)	-0.01513; 0.00600
30	-0.00079 (0.00091)	-0.00258; 0.00100	0.00044 (0.00540)	-0.01015; 0.01103
31	-0.00116 (0.00089)	-0.00289; 0.00058	0.00845 (0.00535)	-0.00203; 0.01893
32	-0.00137 (0.00087)	-0.00308; 0.00034	0.00649 (0.00525)	-0.00380; 0.01678
33	0.00008 (0.00086)	-0.00161; 0.00178	0.00078 (0.00527)	-0.00955; 0.01110
34	-0.00060 (0.00085)	-0.00227; 0.00106	-0.00161 (0.00525)	-0.01189; 0.00867
35	-0.00028 (0.00086)	-0.00197; 0.00140	-0.00460 (0.00530)	-0.01498; 0.00578
36	-0.00079 (0.00084)	-0.00244; 0.00087	-0.00390 (0.00530)	-0.01427; 0.00648
37	0.00005 (0.00085)	-0.00161; 0.00171	0.00009 (0.00538)	-0.01046; 0.01064
38	0.00022 (0.00085)	-0.00144; 0.00188	0.00243 (0.00549)	-0.00832; 0.01318
39	-0.00076 (0.00087)	-0.00247; 0.00095	0.00028 (0.00568)	-0.01085; 0.01141
40	-0.00004 (0.00086)	-0.00172; 0.00164	0.00075 (0.00559)	-0.01021; 0.01170
41	-0.00052 (0.00084)	-0.00218; 0.00113	-0.00236 (0.00555)	-0.01324; 0.00852
42	-0.00072 (0.00084)	-0.00237; 0.00092	-0.00432 (0.00555)	-0.01518; 0.00655
43	0.00024 (0.00084)	-0.00141; 0.00190	-0.00617 (0.00563)	-0.01720; 0.00486
44	-0.00043 (0.00086)	-0.00211; 0.00126	-0.00293 (0.00577)	-0.01424; 0.00837
45	0.00019 (0.00086)	-0.00150; 0.00188	-0.00375 (0.00580)	-0.01512; 0.00762
46	0.00016 (0.00087)	-0.00155; 0.00187	-0.00317 (0.00588)	-0.01469; 0.00835
47	0.00054 (0.00088)	-0.00118; 0.00226	-0.00633 (0.00594)	-0.01798; 0.00531
48	-0.00106 (0.00091)	-0.00285; 0.00073	-0.00588 (0.00618)	-0.01799; 0.00623
49	-0.00100 (0.00093)	-0.00283; 0.00083	-0.00911 (0.00644)	-0.02173; 0.00351
50	-0.00183* (0.00094)	-0.00367; 0.00000	-0.00556 (0.00649)	-0.01827; 0.00716
51	-0.00121 (0.00098)	-0.00314; 0.00071	-0.00762 (0.00687)	-0.02109; 0.00586
52	-0.00206** (0.00101)	-0.00404; -0.00008	-0.00978 (0.00708)	-0.02366; 0.00410
53	-0.00212** (0.00104)	-0.00417; -0.00008	-0.01534** (0.00736)	-0.02977; -0.00091
54	-0.00340*** (0.00109)	-0.00553; -0.00127	-0.00614 (0.00795)	-0.02173; 0.00944
55	-0.00165 (0.00113)	-0.00388; 0.00057	-0.01277 (0.00834)	-0.02912; 0.00357
56	-0.00300** (0.00118)	-0.00532; -0.00068	-0.02362*** (0.00894)	-0.04114; -0.00609
57	-0.00101 (0.00125)	-0.00347; 0.00144	-0.01314 (0.00941)	-0.03158; 0.00531
58	-0.00260* (0.00134)	-0.00523; 0.00002	-0.01194 (0.01013)	-0.03178; 0.00791
59	-0.00555*** (0.00145)	-0.00839; -0.00270	-0.01817* (0.01095)	-0.03964; 0.00330
60	-0.00580*** (0.00156)	-0.00885; -0.00275	-0.02024* (0.01145)	-0.04268; 0.00220
61	-0.00641*** (0.00173)	-0.00979; -0.00302	-0.01564 (0.01332)	-0.04174; 0.01047
62	-0.00672*** (0.00190)	-0.01044; -0.00299	-0.01437 (0.01506)	-0.04388; 0.01514
63	-0.00655*** (0.00250)	-0.01144; -0.00165	-0.04718** (0.01878)	-0.08399; -0.01037
64	-0.00523* (0.00281)	-0.01074; 0.00027	-0.03504 (0.02234)	-0.07881; 0.00874
65	-0.00929*** (0.00315)	-0.01547; -0.00312	-0.00156 (0.02581)	-0.05215; 0.04902
66	-0.00708** (0.00361)	-0.01415; -0.00001	-0.00435 (0.02748)	-0.05821; 0.04952
67	-0.00670* (0.00384)	-0.01423; 0.00083	-0.02497 (0.02807)	-0.07998; 0.03005
68	0.00036 (0.00460)	-0.00865; 0.00938	-0.02676 (0.03618)	-0.09766; 0.04415
69	-0.00024 (0.00515)	-0.01034; 0.00986	-0.05678 (0.03868)	-0.13259; 0.01902
70	0.01155** (0.00571)	0.00035; 0.02275	-0.09744** (0.04896)	-0.19339; -0.00149

Table S4: Age-specific effect (coefficient (coef.), standard deviation (SD), and 95% confidence intervals (CI)) of BMI on income z-score for males, estimated using multivariable adjusted analysis and instrumental variable analysis. Asterisks next to the coefficients indicate p-value: *** p<0.01, ** p<0.05, * p<0.1.

Age	Multivariable adjusted analysis		Instrumental variable analysis	
	Coef. (SD)	95% CI	Coef. (SD)	95% CI
20	0.00728*** (0.00126)	0.00481; 0.00974	0.01003 (0.00782)	-0.00530; 0.02537
21	0.00639*** (0.00115)	0.00413; 0.00866	0.01274* (0.00725)	-0.00147; 0.02695
22	0.00622*** (0.00105)	0.00415; 0.00829	0.00734 (0.00681)	-0.00601; 0.02068
23	0.00651*** (0.00101)	0.00452; 0.00850	0.00929 (0.00665)	-0.00374; 0.02232
24	0.00696*** (0.00099)	0.00501; 0.00890	0.01411** (0.00648)	0.00142; 0.02681
25	0.00513*** (0.00098)	0.00322; 0.00705	0.00320 (0.00628)	-0.00910; 0.01551
26	0.00249** (0.00098)	0.00058; 0.00441	-0.00339 (0.00616)	-0.01545; 0.00868
27	0.00049 (0.00096)	-0.00140; 0.00237	-0.00302 (0.00598)	-0.01475; 0.00870
28	0.00020 (0.00096)	-0.00167; 0.00208	-0.00841 (0.00599)	-0.02014; 0.00333
29	-0.00089 (0.00095)	-0.00276; 0.00098	-0.00884 (0.00598)	-0.02057; 0.00288
30	-0.00089 (0.00095)	-0.00275; 0.00098	-0.00378 (0.00601)	-0.01556; 0.00800
31	-0.00115 (0.00097)	-0.00305; 0.00075	0.00345 (0.00620)	-0.00871; 0.01561
32	-0.00164* (0.00099)	-0.00357; 0.00030	0.00166 (0.00632)	-0.01071; 0.01404
33	0.00002 (0.00100)	-0.00193; 0.00198	0.00179 (0.00644)	-0.01083; 0.01440
34	-0.00102 (0.00108)	-0.00314; 0.00110	-0.00464 (0.00694)	-0.01824; 0.00896
35	-0.00107 (0.00104)	-0.00312; 0.00097	-0.00345 (0.00681)	-0.01680; 0.00990
36	-0.00111 (0.00104)	-0.00315; 0.00093	-0.00709 (0.00684)	-0.02050; 0.00633
37	-0.00114 (0.00106)	-0.00323; 0.00095	-0.00648 (0.00702)	-0.02025; 0.00728
38	-0.00131 (0.00113)	-0.00353; 0.00091	0.00080 (0.00743)	-0.01377; 0.01537
39	-0.00139 (0.00111)	-0.00356; 0.00078	-0.00011 (0.00740)	-0.01462; 0.01440
40	-0.00091 (0.00113)	-0.00312; 0.00131	0.00111 (0.00757)	-0.01373; 0.01595
41	-0.00145 (0.00113)	-0.00368; 0.00077	0.00409 (0.00769)	-0.01099; 0.01917
42	-0.00162 (0.00116)	-0.00391; 0.00066	0.00063 (0.00787)	-0.01479; 0.01606
43	0.00056 (0.00118)	-0.00176; 0.00288	0.00484 (0.00807)	-0.01098; 0.02066
44	0.00041 (0.00121)	-0.00196; 0.00278	0.00299 (0.00828)	-0.01323; 0.01922
45	0.00080 (0.00124)	-0.00162; 0.00323	0.00070 (0.00838)	-0.01572; 0.01711
46	0.00041 (0.00126)	-0.00207; 0.00289	-0.00180 (0.00862)	-0.01871; 0.01510
47	0.00060 (0.00129)	-0.00192; 0.00312	-0.00350 (0.00887)	-0.02088; 0.01388
48	-0.00039 (0.00131)	-0.00295; 0.00217	0.00035 (0.00906)	-0.01741; 0.01812
49	0.00005 (0.00134)	-0.00258; 0.00267	-0.00385 (0.00937)	-0.02221; 0.01452
50	-0.00081 (0.00139)	-0.00354; 0.00191	-0.00088 (0.00977)	-0.02003; 0.01827
51	-0.00065 (0.00142)	-0.00343; 0.00214	-0.00827 (0.01003)	-0.02793; 0.01139
52	-0.00050 (0.00145)	-0.00335; 0.00235	-0.01231 (0.01030)	-0.03250; 0.00789
53	-0.00048 (0.00149)	-0.00339; 0.00244	-0.01300 (0.01061)	-0.03379; 0.00779
54	-0.00112 (0.00158)	-0.00422; 0.00197	-0.01425 (0.01130)	-0.03641; 0.00791
55	0.00010 (0.00162)	-0.00308; 0.00327	-0.02020* (0.01170)	-0.04313; 0.00274
56	-0.00280* (0.00166)	-0.00606; 0.00045	-0.03076** (0.01220)	-0.05467; -0.00685
57	-0.00335** (0.00161)	-0.00650; -0.00019	-0.02451** (0.01221)	-0.04845; -0.00058
58	-0.00435*** (0.00165)	-0.00758; -0.00111	-0.02115* (0.01233)	-0.04532; 0.00303
59	-0.00628*** (0.00170)	-0.00962; -0.00294	-0.02381* (0.01256)	-0.04843; 0.00081
60	-0.00747*** (0.00171)	-0.01083; -0.00411	-0.02813** (0.01273)	-0.05308; -0.00317
61	-0.00847*** (0.00174)	-0.01188; -0.00506	-0.03347** (0.01313)	-0.05920; -0.00774
62	-0.00975*** (0.00179)	-0.01325; -0.00624	-0.04141*** (0.01363)	-0.06812; -0.01470
63	-0.01023*** (0.00189)	-0.01392; -0.00653	-0.04403*** (0.01418)	-0.07182; -0.01624
64	-0.00752*** (0.00194)	-0.01133; -0.00371	-0.02653* (0.01489)	-0.05572; 0.00266
65	-0.00721*** (0.00202)	-0.01118; -0.00325	0.00346 (0.01506)	-0.02606; 0.03297
66	-0.00555*** (0.00210)	-0.00966; -0.00143	0.00013 (0.01528)	-0.02982; 0.03008
67	-0.00296 (0.00218)	-0.00724; 0.00132	-0.01394 (0.01574)	-0.04480; 0.01692
68	-0.00085 (0.00228)	-0.00531; 0.00362	-0.03240* (0.01683)	-0.06538; 0.00058
69	-0.00084 (0.00240)	-0.00553; 0.00386	-0.02622 (0.01747)	-0.06046; 0.00802
70	0.00171 (0.00244)	-0.00308; 0.00650	-0.02706 (0.01782)	-0.06200; 0.00787

Table S5: Age-specific effect (coefficient (coef.), standard deviation (SD), and 95% confidence intervals (CI)) of BMI on income given income for males, estimated using multivariable adjusted analysis and instrumental variable analysis. Asterisks next to the coefficients indicate p-value: *** p<0.01, ** p<0.05, * p<0.1.

Age	Multivariable adjusted analysis		Instrumental variable analysis	
	Coef. (SD)	95% CI	Coef. (SD)	95% CI
20	84.99041*** (21.79330)	42.27238; 127.70844	70.19612 (120.17252)	-165.33768; 305.72992
21	107.77278*** (22.53691)	63.59779; 151.94777	199.60678 (125.86680)	-47.08761; 446.30117
22	106.99458*** (22.76424)	62.37434; 151.61482	233.49167* (135.65660)	-32.39038; 499.37372
23	125.64448*** (22.98782)	80.58615; 170.70280	238.38725* (138.80258)	-33.66081; 510.43531
24	169.17281*** (23.24244)	123.61555; 214.73006	231.17639* (138.86208)	-40.98828; 503.34106
25	118.94553*** (23.89276)	72.11371; 165.77736	135.24254 (140.14461)	-139.43584; 409.92092
26	70.86655*** (24.93026)	22.00124; 119.73186	-19.63094 (144.04341)	-301.95083; 262.68896
27	34.56572 (25.07716)	-14.58745; 83.71889	48.67333 (142.54506)	-230.70985; 328.05651
28	25.24897 (25.61957)	-24.96730; 75.46524	-175.19963 (147.74652)	-464.77749; 114.37823
29	-10.30849 (25.67104)	-60.62558; 40.00859	-239.77650 (151.55681)	-536.82239; 57.26938
30	-9.21954 (25.89135)	-59.96841; 41.52934	-66.13800 (155.17897)	-370.28319; 238.00719
31	-3.19719 (26.76803)	-55.66439; 49.27002	227.63721 (164.22963)	-94.24695; 549.52137
32	-30.94979 (27.50295)	-84.85745; 22.95788	96.11870 (167.65471)	-232.47849; 424.71589
33	25.11774 (28.22397)	-30.20314; 80.43861	77.18701 (174.99677)	-265.80035; 420.17437
34	-4.53387 (33.22993)	-69.66674; 60.59899	-103.62335 (204.41823)	-504.27572; 297.02901
35	-7.58071 (30.40227)	-67.17114; 52.00972	-175.25487 (190.19304)	-548.02637; 197.51664
36	-10.24839 (29.94039)	-68.93348; 48.43671	-179.96158 (190.90280)	-554.12419; 194.20104
37	2.50102 (31.24498)	-58.74114; 63.74317	-198.00565 (201.48402)	-592.90708; 196.89578
38	-7.77384 (35.51384)	-77.38319; 61.83551	79.36158 (229.99683)	-371.42392; 530.14708
39	-16.54157 (33.59077)	-82.38154; 49.29841	40.75729 (221.10228)	-392.59522; 474.10979
40	-8.16228 (34.51930)	-75.82220; 59.49764	-8.02584 (226.89449)	-452.73086; 436.67918
41	-22.45316 (33.98006)	-89.05614; 44.14983	54.20422 (226.58995)	-389.90393; 498.31236
42	-28.10272 (35.08688)	-96.87513; 40.66970	-46.01312 (234.69728)	-506.01134; 413.98510
43	41.85044 (35.15181)	-27.04925; 110.75013	137.88371 (236.98283)	-326.59411; 602.36153
44	26.68391 (35.55938)	-43.01465; 96.38247	142.46825 (242.05984)	-331.96033; 616.89682
45	47.19347 (35.86619)	-23.10648; 117.49343	32.97258 (244.17416)	-445.59999; 511.54515
46	50.03204 (36.46398)	-21.43965; 121.50374	34.27055 (248.27390)	-452.33734; 520.87845
47	56.16432 (36.96035)	-16.28034; 128.60898	-96.39381 (253.16911)	-592.59615; 399.80854
48	8.65191 (36.40004)	-62.69454; 79.99836	28.23300 (251.16299)	-464.03743; 520.50342
49	37.46610 (37.06962)	-35.19283; 110.12503	-95.50558 (260.43536)	-605.94952; 414.93835
50	-5.06045 (38.95428)	-81.41349; 71.29259	8.58083 (273.55136)	-527.56998; 544.73165
51	36.13457 (39.51589)	-41.31935; 113.58849	-88.72302 (281.01196)	-639.49635; 462.05030
52	22.02306 (40.86348)	-58.07234; 102.11846	-306.82083 (291.50867)	-878.16732; 264.52566
53	21.15255 (41.71100)	-60.60418; 102.90928	-376.72290 (299.46835)	-963.67009; 210.22429
54	-3.23136 (49.32473)	-99.91172; 93.44901	-234.57205 (359.16571)	-938.52391; 469.37980
55	80.42640 (51.55186)	-20.61948; 181.47228	-361.94553 (377.23361)	-1101.30982; 377.41877
56	-13.97193 (54.47993)	-120.75729; 92.81343	-730.53156* (407.91632)	-1530.03285; 68.96974
57	38.75616 (45.12912)	-49.70098; 127.21331	-247.48885 (347.94199)	-929.44261; 434.46492
58	-13.25158 (46.66906)	-104.72738; 78.22423	-211.13892 (362.36441)	-921.36011; 499.08228
59	-81.63697 (51.19889)	-181.99195; 18.71801	-419.55917 (393.51428)	-1190.83299; 351.71465
60	-124.96091** (50.38110)	-223.71331; -26.20852	-527.08569 (382.64316)	-1277.05250; 222.88112
61	-99.54543* (51.06771)	-199.64409; 0.55324	-561.29755 (411.01166)	-1366.86559; 244.27050
62	-123.41199** (54.77499)	-230.77790; -16.04609	-807.17615* (451.49869)	-1692.09731; 77.74502
63	-176.26642*** (62.50991)	-298.79489; -53.73795	-1283.96545*** (489.62885)	-2243.62036; -324.31055
64	-62.75157 (65.53511)	-191.21149; 65.70835	-474.50418 (543.81793)	-1540.36774; 591.35938
65	-117.88775 (72.09708)	-259.21217; 23.43667	484.76868 (616.91608)	-724.36461; 1693.90197
66	-82.35159 (75.10365)	-229.57234; 64.86917	-193.79776 (592.83618)	-1355.73532; 968.13980
67	-25.75433 (75.61113)	-173.97348; 122.46483	-326.95490 (569.71643)	-1443.57858; 789.66879
68	49.61574 (84.79004)	-116.60810; 215.83958	-994.51239 (688.85925)	-2344.65172; 355.62694
69	10.70005 (116.29662)	-217.30547; 238.70557	-854.58539 (871.08978)	-2561.88999; 852.71921
70	101.82986 (97.48216)	-89.30481; 292.96452	-1441.16687* (834.04156)	-3075.85830; 193.52456

Table S6: Age-specific effect (coefficient (coef.), standard deviation (SD), and 95% confidence intervals (CI)) of BMI on income z-score given income for males, estimated using multivariable adjusted analysis and instrumental variable analysis. Asterisks next to the coefficients indicate p-value: *** p<0.01, ** p<0.05, * p<0.1.

	Multivariable adjusted analysis		Instrumental variable analysis	
Age	Coef. (SD)	95% CI	Coef. (SD)	95% CI
20	0.00883*** (0.00227)	0.00439; 0.01327	0.00730 (0.01249)	-0.01719; 0.03178
21	0.01003*** (0.00210)	0.00592; 0.01415	0.01859 (0.01172)	-0.00438; 0.04155
22	0.00904*** (0.00192)	0.00527; 0.01281	0.01973* (0.01146)	-0.00274; 0.04220
23	0.01001*** (0.00183)	0.00642; 0.01360	0.01899* (0.01106)	-0.00268; 0.04066
24	0.01302*** (0.00179)	0.00951; 0.01653	0.01779* (0.01069)	-0.00315; 0.03874
25	0.00891*** (0.00179)	0.00540; 0.01242	0.01013 (0.01050)	-0.01045; 0.03072
26	0.00506*** (0.00178)	0.00157; 0.00855	-0.00140 (0.01028)	-0.02156; 0.01875
27	0.00239 (0.00174)	-0.00101; 0.00580	0.00337 (0.00987)	-0.01597; 0.02271
28	0.00165 (0.00168)	-0.00163; 0.00494	-0.01146 (0.00967)	-0.03041; 0.00748
29	-0.00065 (0.00163)	-0.00384; 0.00254	-0.01520 (0.00961)	-0.03403; 0.00363
30	-0.00057 (0.00160)	-0.00370; 0.00256	-0.00408 (0.00958)	-0.02286; 0.01469
31	-0.00019 (0.00158)	-0.00329; 0.00291	0.01345 (0.00970)	-0.00557; 0.03246
32	-0.00177 (0.00157)	-0.00485; 0.00131	0.00549 (0.00957)	-0.01328; 0.02425
33	0.00138 (0.00155)	-0.00166; 0.00442	0.00425 (0.00963)	-0.01462; 0.02311
34	-0.00022 (0.00159)	-0.00333; 0.00290	-0.00496 (0.00977)	-0.02411; 0.01420
35	-0.00038 (0.00153)	-0.00339; 0.00262	-0.00883 (0.00959)	-0.02762; 0.00996
36	-0.00051 (0.00150)	-0.00346; 0.00243	-0.00903 (0.00958)	-0.02781; 0.00975
37	0.00012 (0.00150)	-0.00281; 0.00305	-0.00949 (0.00965)	-0.02840; 0.00943
38	-0.00033 (0.00152)	-0.00332; 0.00265	0.00340 (0.00986)	-0.01592; 0.02273
39	-0.00072 (0.00147)	-0.00360; 0.00216	0.00178 (0.00967)	-0.01716; 0.02073
40	-0.00035 (0.00146)	-0.00321; 0.00252	-0.00034 (0.00961)	-0.01918; 0.01850
41	-0.00095 (0.00144)	-0.00378; 0.00188	0.00230 (0.00963)	-0.01656; 0.02117
42	-0.00116 (0.00145)	-0.00400; 0.00168	-0.00190 (0.00969)	-0.02090; 0.01710
43	0.00172 (0.00144)	-0.00111; 0.00455	0.00567 (0.00974)	-0.01342; 0.02476
44	0.00109 (0.00145)	-0.00175; 0.00392	0.00580 (0.00985)	-0.01351; 0.02510
45	0.00191 (0.00145)	-0.00094; 0.00476	0.00134 (0.00989)	-0.01805; 0.02072
46	0.00200 (0.00146)	-0.00086; 0.00487	0.00137 (0.00994)	-0.01812; 0.02086
47	0.00222 (0.00146)	-0.00064; 0.00509	-0.00381 (0.01002)	-0.02345; 0.01582
48	0.00035 (0.00146)	-0.00252; 0.00322	0.00113 (0.01009)	-0.01865; 0.02092
49	0.00149 (0.00148)	-0.00140; 0.00439	-0.00381 (0.01039)	-0.02417; 0.01655
50	-0.00020 (0.00151)	-0.00316; 0.00277	0.00033 (0.01063)	-0.02050; 0.02116
51	0.00140 (0.00153)	-0.00160; 0.00440	-0.00344 (0.01089)	-0.02478; 0.01790
52	0.00084 (0.00156)	-0.00221; 0.00389	-0.01170 (0.01112)	-0.03348; 0.01009
53	-0.00455** (0.00183)	-0.00814; -0.00095	-0.01433 (0.01139)	-0.03666; 0.00800
54	0.00080 (0.00159)	-0.00231; 0.00391	-0.00802 (0.01228)	-0.03210; 0.01605
55	-0.00011 (0.00169)	-0.00342; 0.00320	-0.01214 (0.01266)	-0.03695; 0.01266
56	0.00270 (0.00173)	-0.00069; 0.00609	-0.02376* (0.01327)	-0.04977; 0.00224
57	-0.00045 (0.00177)	-0.00393; 0.00302	-0.00929 (0.01307)	-0.03490; 0.01631
58	0.00146 (0.00169)	-0.00187; 0.00478	-0.00789 (0.01353)	-0.03441; 0.01864
59	-0.00049 (0.00174)	-0.00391; 0.00292	-0.01493 (0.01400)	-0.04236; 0.01251
60	-0.00290 (0.00182)	-0.00647; 0.00067	-0.01918 (0.01393)	-0.04648; 0.00811
61	-0.00366* (0.00188)	-0.00734; 0.00002	-0.02064 (0.01511)	-0.05026; 0.00898
62	-0.00449** (0.00199)	-0.00840; -0.00058	-0.02939* (0.01644)	-0.06161; 0.00283
63	-0.00624*** (0.00221)	-0.01058; -0.00190	-0.04545*** (0.01733)	-0.07942; -0.01148
64	-0.00228 (0.00238)	-0.00695; 0.00239	-0.01726 (0.01978)	-0.05602; 0.02151
65	-0.00426 (0.00261)	-0.00938; 0.00085	0.01753 (0.02231)	-0.02620; 0.06127
66	-0.00315 (0.00287)	-0.00879; 0.00248	-0.00742 (0.02269)	-0.05189; 0.03705
67	-0.00108 (0.00316)	-0.00727; 0.00512	-0.01366 (0.02381)	-0.06032; 0.03300
68	0.00221 (0.00378)	-0.00519; 0.00962	-0.04430 (0.03069)	-0.10445; 0.01584
69	0.00041 (0.00446)	-0.00834; 0.00916	-0.03280 (0.03344)	-0.09834; 0.03273
70	0.00517 (0.00495)	-0.00454; 0.01489	-0.07323* (0.04238)	-0.15630; 0.00983

Table S7: Partial R-squared and F-statistics for each of the age-specific instrumental variable analyses for males.

Age	Income		Income given income	
	Partial R-squared	F-stat.	Partial R-squared	F-stat.
20	0.0253	820.085	0.0330	457.8600
21	0.0253	820.085	0.0326	532.2780
22	0.0253	820.085	0.0308	553.5710
23	0.0253	820.085	0.0310	590.1050
24	0.0253	820.085	0.0314	624.1940
25	0.0253	820.085	0.0309	637.4880
26	0.0253	820.085	0.0303	647.1840
27	0.0253	820.085	0.0306	672.5060
28	0.0253	820.085	0.0301	679.2180
29	0.0253	817.069	0.0293	674.0980
30	0.0253	813.759	0.0289	673.5340
31	0.0250	798.095	0.0280	659.2890
32	0.0250	796.045	0.0285	676.7040
33	0.0249	787.962	0.0278	667.4200
34	0.0250	784.989	0.0277	669.9930
35	0.0248	775.463	0.0277	676.9290
36	0.0247	769.318	0.0270	664.8400
37	0.0245	759.555	0.0263	652.6980
38	0.0245	754.302	0.0256	641.2960
39	0.0242	742.082	0.0256	645.2930
40	0.0242	735.882	0.0253	651.1700
41	0.0240	723.554	0.0253	645.1740
42	0.0241	717.287	0.0250	636.9160
43	0.0239	700.301	0.0248	629.6670
44	0.0238	686.359	0.0244	616.8890
45	0.0492	689.189	0.0243	611.2170
46	0.0240	669.636	0.0243	605.0270
47	0.0236	646.942	0.0240	592.1060
48	0.0236	632.505	0.0239	582.6640
49	0.0233	611.389	0.0233	558.1040
50	0.0228	584.662	0.0228	538.6660
51	0.0226	567.138	0.0222	514.3810
52	0.0225	550.329	0.0221	497.9280
53	0.0222	530.713	0.0219	480.6640
54	0.0213	495.654	0.0203	434.6790
55	0.0209	473.929	0.0201	417.7530
56	0.0202	446.506	0.0192	386.4370
57	0.0198	426.853	0.0192	373.7480
58	0.0202	422.779	0.0188	350.1350
59	0.0204	414.416	0.0187	335.3380
60	0.0203	401.016	0.0195	332.7550
61	0.0199	378.975	0.0176	283.0870
62	0.0194	358.224	0.0167	252.3370
63	0.0195	345.567	0.0181	245.3550
64	0.0184	314.661	0.0160	190.6620
65	0.0189	311.753	0.0408	154.9760
66	0.0192	303.840	0.0167	151.4910
67	0.0192	290.667	0.0181	140.0150
68	0.0183	264.455	0.0157	85.0974
69	0.0180	246.261	0.0175	72.7147
70	0.0182	236.555	0.0145	47.1248

Table S8: Age-specific effect (coefficient (coef.), standard deviation (SD), and 95% confidence intervals (CI)) of BMI on probability of earning an income for females, estimated using multivariable adjusted analysis and instrumental variable analysis. Asterisks next to the coefficients indicate p-value: *** p<0.01, ** p<0.05, * p<0.1.

	Multivariable adjusted analysis		Instrumental variable analysis	
Age	Coef. (SD)	95% CI	Coef. (SD)	95% CI
20	-0.00222*** (0.00037)	-0.00294; -0.00150	-0.00283 (0.00238)	-0.00749; 0.00183
21	-0.00216*** (0.00036)	-0.00287; -0.00144	-0.00440* (0.00237)	-0.00905; 0.00025
22	-0.00229*** (0.00037)	-0.00301; -0.00157	-0.00045 (0.00240)	-0.00515; 0.00426
23	-0.00209*** (0.00037)	-0.00281; -0.00136	-0.00123 (0.00242)	-0.00598; 0.00352
24	-0.00210*** (0.00037)	-0.00283; -0.00138	-0.00458* (0.00243)	-0.00934; 0.00018
25	-0.00208*** (0.00037)	-0.00281; -0.00135	-0.00554** (0.00245)	-0.01034; -0.00073
26	-0.00222*** (0.00037)	-0.00294; -0.00149	-0.00714*** (0.00244)	-0.01192; -0.00236
27	-0.00197*** (0.00037)	-0.00269; -0.00124	-0.00418* (0.00244)	-0.00896; 0.00059
28	-0.00124*** (0.00037)	-0.00196; -0.00051	-0.00388 (0.00242)	-0.00862; 0.00086
29	-0.00141*** (0.00036)	-0.00213; -0.00070	-0.00321 (0.00239)	-0.00790; 0.00148
30	-0.00154*** (0.00036)	-0.00225; -0.00083	-0.00139 (0.00237)	-0.00604; 0.00327
31	-0.00112*** (0.00036)	-0.00182; -0.00041	-0.00200 (0.00237)	-0.00664; 0.00263
32	-0.00111*** (0.00036)	-0.00181; -0.00041	0.00165 (0.00235)	-0.00295; 0.00625
33	-0.00103*** (0.00036)	-0.00172; -0.00033	0.00353 (0.00235)	-0.00108; 0.00814
34	-0.00110*** (0.00035)	-0.00179; -0.00041	-0.00011 (0.00232)	-0.00466; 0.00443
35	-0.00124*** (0.00035)	-0.00192; -0.00056	0.00122 (0.00230)	-0.00330; 0.00573
36	-0.00140*** (0.00035)	-0.00208; -0.00072	-0.00408* (0.00230)	-0.00859; 0.00042
37	-0.00170*** (0.00034)	-0.00237; -0.00104	-0.00154 (0.00226)	-0.00597; 0.00289
38	-0.00190*** (0.00034)	-0.00256; -0.00124	-0.00005 (0.00223)	-0.00441; 0.00432
39	-0.00191*** (0.00033)	-0.00256; -0.00126	0.00146 (0.00222)	-0.00290; 0.00582
40	-0.00221*** (0.00033)	-0.00286; -0.00156	0.00116 (0.00224)	-0.00322; 0.00554
41	-0.00247*** (0.00034)	-0.00313; -0.00181	0.00160 (0.00226)	-0.00283; 0.00603
42	-0.00246*** (0.00034)	-0.00313; -0.00180	0.00253 (0.00228)	-0.00194; 0.00700
43	-0.00228*** (0.00034)	-0.00295; -0.00160	-0.00105 (0.00230)	-0.00557; 0.00346
44	-0.00264*** (0.00035)	-0.00332; -0.00195	-0.00106 (0.00235)	-0.00567; 0.00354
45	-0.00254*** (0.00036)	-0.00324; -0.00183	-0.00080 (0.00243)	-0.00556; 0.00395
46	-0.00260*** (0.00037)	-0.00332; -0.00188	-0.00234 (0.00252)	-0.00727; 0.00259
47	-0.00317*** (0.00038)	-0.00391; -0.00243	-0.00552** (0.00257)	-0.01057; -0.00048
48	-0.00336*** (0.00039)	-0.00412; -0.00259	-0.00607** (0.00269)	-0.01133; -0.00080
49	-0.00348*** (0.00040)	-0.00427; -0.00269	-0.00470* (0.00281)	-0.01021; 0.00081
50	-0.00343*** (0.00042)	-0.00425; -0.00262	-0.00612** (0.00289)	-0.01178; -0.00046
51	-0.00387*** (0.00043)	-0.00472; -0.00302	-0.00396 (0.00304)	-0.00992; 0.00200
52	-0.00382*** (0.00045)	-0.00470; -0.00293	-0.00731** (0.00317)	-0.01352; -0.00111
53	-0.00467*** (0.00047)	-0.00560; -0.00374	-0.00749** (0.00331)	-0.01397; -0.00101
54	-0.00463*** (0.00049)	-0.00559; -0.00366	-0.00421 (0.00344)	-0.01095; 0.00252
55	-0.00508*** (0.00051)	-0.00608; -0.00407	-0.00472 (0.00359)	-0.01175; 0.00232
56	-0.00543*** (0.00053)	-0.00648; -0.00439	-0.00345 (0.00379)	-0.01088; 0.00397
57	-0.00545*** (0.00056)	-0.00654; -0.00436	-0.00709* (0.00397)	-0.01487; 0.00069
58	-0.00512*** (0.00058)	-0.00626; -0.00398	-0.00569 (0.00421)	-0.01394; 0.00255
59	-0.00546*** (0.00060)	-0.00665; -0.00428	-0.00472 (0.00439)	-0.01333; 0.00390
60	-0.00543*** (0.00063)	-0.00667; -0.00420	-0.00321 (0.00463)	-0.01229; 0.00587
61	-0.00557*** (0.00065)	-0.00685; -0.00429	-0.00428 (0.00483)	-0.01375; 0.00520
62	-0.00590*** (0.00068)	-0.00723; -0.00456	-0.00790 (0.00508)	-0.01786; 0.00205
63	-0.00675*** (0.00072)	-0.00817; -0.00534	-0.00528 (0.00541)	-0.01589; 0.00533
64	-0.00674*** (0.00075)	-0.00821; -0.00526	-0.00535 (0.00567)	-0.01646; 0.00577
65	-0.00630*** (0.00077)	-0.00781; -0.00479	-0.00512 (0.00579)	-0.01647; 0.00624
66	-0.00450*** (0.00078)	-0.00603; -0.00297	-0.00394 (0.00587)	-0.01544; 0.00757
67	-0.00341*** (0.00077)	-0.00493; -0.00190	0.00426 (0.00588)	-0.00727; 0.01579
68	-0.00265*** (0.00072)	-0.00405; -0.00124	0.00305 (0.00560)	-0.00794; 0.01403
69	-0.00227*** (0.00067)	-0.00358; -0.00096	-0.00208 (0.00517)	-0.01222; 0.00805
70	-0.00210*** (0.00063)	-0.00333; -0.00087	-0.00354 (0.00491)	-0.01317; 0.00608

Table S9: Age-specific effect (coefficient (coef.), standard deviation (SD), and 95% confidence intervals (CI)) of BMI on income for females, estimated using multivariable adjusted analysis and instrumental variable analysis. Asterisks next to the coefficients indicate p-value: *** p<0.01, ** p<0.05, * p<0.1.

	Multivariable adjusted analysis		Instrumental variable analysis	
Age	Coef. (SD)	95% CI	Coef. (SD)	95% CI
20	-20.95714*** (7.05334)	-34.78193; -7.13235	-73.06929 (45.98330)	-163.19491; 17.05633
21	-16.61479** (8.10428)	-32.49946; -0.73013	-29.74466 (53.11450)	-133.84716; 74.35785
22	-32.28125*** (9.01035)	-49.94184; -14.62066	-34.54551 (59.10884)	-150.39671; 81.30569
23	-42.01767*** (10.03981)	-61.69603; -22.33931	-53.57217 (65.72621)	-182.39318; 75.24884
24	-48.31258*** (10.95826)	-69.79113; -26.83402	-160.64532** (72.02676)	-301.81517; -19.47548
25	-67.21130*** (11.58110)	-89.91063; -44.51197	-171.92677** (76.79302)	-322.43833; -21.41522
26	-79.96162*** (11.95631)	-103.39638; -56.52687	-258.99432*** (80.48167)	-416.73551; -101.25314
27	-84.87686*** (12.21655)	-108.82170; -60.93202	-225.82629*** (82.98158)	-388.46719; -63.18540
28	-87.30391*** (12.58231)	-111.96565; -62.64217	-147.19368* (86.07835)	-315.90414; 21.51678
29	-82.30830*** (12.68892)	-107.17899; -57.43760	-126.44037 (87.26117)	-297.46912; 44.58838
30	-71.64823*** (12.75238)	-96.64332; -46.65314	-89.58633 (87.97446)	-262.01310; 82.84043
31	-67.07338*** (12.92624)	-92.40926; -41.73750	-171.05641* (89.53188)	-346.53568; 4.42285
32	-72.73189*** (13.15470)	-98.51554; -46.94823	-145.31171 (91.43010)	-324.51141; 33.88800
33	-67.44553*** (13.42432)	-93.75767; -41.13340	-113.40426 (94.11680)	-297.86979; 71.06128
34	-60.05927*** (13.69127)	-86.89465; -33.22389	-160.52589* (96.12860)	-348.93449; 27.88270
35	-61.68709*** (13.96886)	-89.06657; -34.30762	-118.48636 (98.88541)	-312.29819; 75.32548
36	-71.01401*** (14.30493)	-99.05220; -42.97582	-175.71979* (101.61636)	-374.88420; 23.44463
37	-86.81888*** (14.61273)	-115.46036; -58.17740	-174.36850* (103.87954)	-377.96866; 29.23166
38	-106.66674*** (15.00921)	-136.08534; -77.24814	-250.35698** (106.40777)	-458.91237; -41.80159
39	-126.89137*** (15.32605)	-156.93100; -96.85175	-198.38704* (109.47013)	-412.94455; 16.17047
40	-132.61095*** (15.72729)	-163.43704; -101.78485	-146.43559 (112.73506)	-367.39225; 74.52107
41	-143.23285*** (15.86418)	-174.32726; -112.13844	-105.07761 (114.14148)	-328.79080; 118.63558
42	-161.35056*** (16.18855)	-193.08076; -129.62035	-81.57725 (116.52528)	-309.96261; 146.80811
43	-167.76219*** (16.59349)	-200.28612; -135.23826	-183.61696 (119.55608)	-417.94256; 50.70864
44	-165.38991*** (17.02300)	-198.75572; -132.02410	-253.76303** (123.32888)	-495.48319; -12.04287
45	-167.97411*** (17.26665)	-201.81750; -134.13071	-303.18405** (126.40911)	-550.94136; -55.42675
46	-176.87860*** (17.71379)	-211.59843; -142.15877	-331.73550** (131.12065)	-588.72726; -74.74375
47	-193.38635*** (18.05237)	-228.76985; -158.00285	-384.22879*** (134.34624)	-647.54258; -120.91500
48	-212.40524*** (18.55106)	-248.76623; -176.04425	-350.09970** (139.40097)	-623.32058; -76.87882
49	-201.01550*** (19.45330)	-239.14497; -162.88603	-387.44016*** (147.24010)	-676.02544; -98.85487
50	-197.66393*** (20.21027)	-237.27712; -158.05073	-465.21863*** (151.74547)	-762.63428; -167.80298
51	-206.72813*** (20.02252)	-245.97339; -167.48288	-390.98816** (153.03252)	-690.92638; -91.04994
52	-204.61926*** (20.68274)	-245.15862; -164.07991	-487.66663*** (157.96146)	-797.26539; -178.06786
53	-215.20905*** (21.18145)	-256.72596; -173.69213	-606.17780*** (162.32115)	-924.32141; -288.03418
54	-247.75566*** (21.70379)	-290.29644; -205.21488	-477.71735*** (165.83408)	-802.74616; -152.68853
55	-254.20821*** (22.09484)	-297.51553; -210.90089	-540.58228*** (170.07173)	-873.91674; -207.24781
56	-265.87210*** (22.66847)	-310.30385; -221.44035	-487.78705*** (175.50822)	-831.77685; -143.79725
57	-260.39557*** (23.47378)	-306.40584; -214.38530	-523.33057*** (182.29027)	-880.61293; -166.04821
58	-272.55710*** (24.08593)	-319.76732; -225.34688	-565.24390*** (188.93666)	-935.55295; -194.93485
59	-270.53992*** (24.55925)	-318.67794; -222.40189	-405.99042** (192.93565)	-784.13735; -27.84348
60	-286.28909*** (24.94635)	-335.18595; -237.39223	-386.72052* (198.17001)	-775.12661; 1.68557
61	-290.74731*** (25.38629)	-340.50660; -240.98803	-403.08792** (201.71164)	-798.43547; -7.74037
62	-281.20636*** (25.52221)	-331.23217; -231.18055	-409.96631** (202.79268)	-807.43266; -12.49996
63	-250.75220*** (26.29173)	-302.28646; -199.21793	-191.19856 (205.66742)	-594.29930; 211.90217
64	-226.81308*** (25.91051)	-277.60025; -176.02590	-253.40103 (200.67734)	-646.72139; 139.91932
65	-192.04695*** (24.74664)	-240.55295; -143.54095	-25.57112 (189.83627)	-397.64337; 346.50114
66	-142.10635*** (23.07754)	-187.34088; -96.87183	-59.35790 (175.08043)	-402.50924; 283.79343
67	-96.26794*** (19.14420)	-133.79281; -58.74308	-58.71753 (146.13287)	-345.13269; 227.69764
68	-57.27771*** (13.71726)	-84.16524; -30.39019	20.33985 (108.60298)	-192.51808; 233.19778
69	-34.05942*** (11.70132)	-56.99553; -11.12331	45.65613 (91.09138)	-132.87969; 224.19195
70	-21.05127** (9.20085)	-39.08622; -3.01632	29.63355 (72.83693)	-113.12420; 172.39131

Table S10: Age-specific effect (coefficient (coef.), standard deviation (SD), and 95% confidence intervals (CI)) of BMI on log of income for females, estimated using multivariable adjusted analysis and instrumental variable analysis. Asterisks next to the coefficients indicate p-value: *** p<0.01, ** p<0.05, * p<0.1.

	Multivariable adjusted analysis		Instrumental variable analysis	
Age	Coef. (SD)	95% CI	Coef. (SD)	95% CI
20	0.00055 (0.00120)	-0.00181; 0.00291	-0.00845 (0.00688)	-0.02194; 0.00505
21	0.00219* (0.00120)	-0.00016; 0.00455	0.00248 (0.00701)	-0.01127; 0.01623
22	0.00084 (0.00122)	-0.00156; 0.00323	-0.00300 (0.00746)	-0.01763; 0.01162
23	-0.00247** (0.00124)	-0.00490; -0.00004	-0.00305 (0.00746)	-0.01768; 0.01157
24	-0.00133 (0.00123)	-0.00375; 0.00108	-0.00982 (0.00732)	-0.02418; 0.00453
25	-0.00322*** (0.00120)	-0.00557; -0.00087	-0.00708 (0.00695)	-0.02071; 0.00654
26	-0.00347*** (0.00116)	-0.00574; -0.00121	-0.01093 (0.00691)	-0.02448; 0.00262
27	-0.00383*** (0.00110)	-0.00597; -0.00168	-0.01154* (0.00647)	-0.02423; 0.00114
28	-0.00575*** (0.00107)	-0.00783; -0.00366	-0.00690 (0.00640)	-0.01943; 0.00564
29	-0.00417*** (0.00103)	-0.00618; -0.00216	-0.00164 (0.00623)	-0.01385; 0.01058
30	-0.00354*** (0.00100)	-0.00549; -0.00158	-0.00445 (0.00597)	-0.01616; 0.00726
31	-0.00414*** (0.00097)	-0.00605; -0.00224	-0.00483 (0.00584)	-0.01628; 0.00663
32	-0.00365*** (0.00094)	-0.00549; -0.00181	-0.01395** (0.00562)	-0.02496; -0.00294
33	-0.00308*** (0.00091)	-0.00487; -0.00129	-0.01454** (0.00569)	-0.02570; -0.00338
34	-0.00192** (0.00092)	-0.00372; -0.00013	-0.00254 (0.00567)	-0.01364; 0.00857
35	-0.00232*** (0.00089)	-0.00405; -0.00058	-0.00318 (0.00549)	-0.01395; 0.00758
36	-0.00278*** (0.00086)	-0.00447; -0.00108	-0.00116 (0.00549)	-0.01191; 0.00959
37	-0.00272*** (0.00085)	-0.00439; -0.00105	-0.00370 (0.00530)	-0.01408; 0.00667
38	-0.00379*** (0.00084)	-0.00544; -0.00214	-0.00759 (0.00532)	-0.01802; 0.00284
39	-0.00467*** (0.00082)	-0.00627; -0.00306	-0.00852 (0.00525)	-0.01881; 0.00178
40	-0.00463*** (0.00080)	-0.00620; -0.00305	-0.00185 (0.00517)	-0.01199; 0.00830
41	-0.00424*** (0.00078)	-0.00578; -0.00271	-0.00018 (0.00505)	-0.01007; 0.00971
42	-0.00509*** (0.00078)	-0.00662; -0.00356	-0.00206 (0.00504)	-0.01194; 0.00782
43	-0.00570*** (0.00078)	-0.00724; -0.00416	-0.00151 (0.00510)	-0.01150; 0.00848
44	-0.00547*** (0.00078)	-0.00700; -0.00393	-0.00644 (0.00506)	-0.01636; 0.00348
45	-0.00569*** (0.00079)	-0.00724; -0.00413	-0.00874* (0.00516)	-0.01885; 0.00137
46	-0.00679*** (0.00080)	-0.00835; -0.00522	-0.00860 (0.00533)	-0.01905; 0.00184
47	-0.00617*** (0.00080)	-0.00774; -0.00459	-0.00719 (0.00546)	-0.01790; 0.00352
48	-0.00719*** (0.00083)	-0.00881; -0.00556	-0.00629 (0.00567)	-0.01739; 0.00482
49	-0.00646*** (0.00085)	-0.00813; -0.00479	-0.01083* (0.00602)	-0.02264; 0.00098
50	-0.00653*** (0.00088)	-0.00825; -0.00480	-0.00865 (0.00606)	-0.02053; 0.00323
51	-0.00695*** (0.00090)	-0.00871; -0.00519	-0.00947 (0.00623)	-0.02168; 0.00274
52	-0.00729*** (0.00093)	-0.00911; -0.00548	-0.01236* (0.00645)	-0.02499; 0.00028
53	-0.00651*** (0.00097)	-0.00842; -0.00461	-0.01285* (0.00675)	-0.02608; 0.00038
54	-0.00861*** (0.00099)	-0.01056; -0.00667	-0.01658** (0.00688)	-0.03007; -0.00310
55	-0.00847*** (0.00104)	-0.01051; -0.00643	-0.02239*** (0.00712)	-0.03634; -0.00844
56	-0.00793*** (0.00110)	-0.01008; -0.00578	-0.02156*** (0.00768)	-0.03661; -0.00650
57	-0.00831*** (0.00117)	-0.01061; -0.00602	-0.01455* (0.00834)	-0.03089; 0.00179
58	-0.00963*** (0.00123)	-0.01205; -0.00721	-0.02823*** (0.00877)	-0.04542; -0.01104
59	-0.00919*** (0.00131)	-0.01174; -0.00663	-0.01502* (0.00886)	-0.03238; 0.00235
60	-0.01021*** (0.00140)	-0.01296; -0.00746	-0.01577* (0.00950)	-0.03440; 0.00286
61	-0.01093*** (0.00152)	-0.01390; -0.00795	-0.01752* (0.01057)	-0.03823; 0.00318
62	-0.01137*** (0.00163)	-0.01456; -0.00818	-0.01739 (0.01122)	-0.03938; 0.00461
63	-0.00933*** (0.00207)	-0.01340; -0.00526	-0.00475 (0.01422)	-0.03262; 0.02311
64	-0.00895*** (0.00231)	-0.01348; -0.00441	-0.01861 (0.01543)	-0.04885; 0.01162
65	-0.00393 (0.00259)	-0.00900; 0.00114	-0.00615 (0.01665)	-0.03878; 0.02649
66	-0.00871*** (0.00301)	-0.01462; -0.00281	0.00276 (0.01902)	-0.03452; 0.04005
67	-0.00895*** (0.00317)	-0.01516; -0.00274	-0.00346 (0.02062)	-0.04388; 0.03695
68	-0.01517*** (0.00405)	-0.02312; -0.00722	-0.01727 (0.03055)	-0.07715; 0.04262
69	-0.00905** (0.00455)	-0.01798; -0.00012	0.00879 (0.03722)	-0.06415; 0.08174
70	-0.00204 (0.00528)	-0.01240; 0.00831	0.02648 (0.03984)	-0.05160; 0.10457

Table S11: Age-specific effect (coefficient (coef.), standard deviation (SD), and 95% confidence intervals (CI)) of BMI on income z-score for females, estimated using multivariable adjusted analysis and instrumental variable analysis. Asterisks next to the coefficients indicate p-value: *** p<0.01, ** p<0.05, * p<0.1.

Age	Multivariable adjusted analysis		Instrumental variable analysis	
	Coef. (SD)	95% CI	Coef. (SD)	95% CI
20	-0.00272*** (0.00092)	-0.00452; -0.00093	-0.00950 (0.00598)	-0.02121; 0.00222
21	-0.00187** (0.00091)	-0.00366; -0.00008	-0.00335 (0.00598)	-0.01508; 0.00838
22	-0.00328*** (0.00092)	-0.00508; -0.00149	-0.00351 (0.00601)	-0.01530; 0.00827
23	-0.00382*** (0.00091)	-0.00560; -0.00203	-0.00487 (0.00597)	-0.01657; 0.00683
24	-0.00393*** (0.00089)	-0.00567; -0.00218	-0.01306** (0.00585)	-0.02453; -0.00158
25	-0.00498*** (0.00086)	-0.00666; -0.00330	-0.01273** (0.00569)	-0.02387; -0.00159
26	-0.00548*** (0.00082)	-0.00709; -0.00388	-0.01776*** (0.00552)	-0.02858; -0.00694
27	-0.00547*** (0.00079)	-0.00702; -0.00393	-0.01456*** (0.00535)	-0.02505; -0.00408
28	-0.00533*** (0.00077)	-0.00684; -0.00383	-0.00899* (0.00526)	-0.01929; 0.00131
29	-0.00489*** (0.00075)	-0.00636; -0.00341	-0.00750 (0.00518)	-0.01765; 0.00265
30	-0.00419*** (0.00075)	-0.00565; -0.00273	-0.00524 (0.00514)	-0.01531; 0.00484
31	-0.00385*** (0.00074)	-0.00531; -0.00240	-0.00982* (0.00514)	-0.01990; 0.00025
32	-0.00409*** (0.00074)	-0.00555; -0.00264	-0.00818 (0.00515)	-0.01827; 0.00191
33	-0.00373*** (0.00074)	-0.00518; -0.00227	-0.00626 (0.00520)	-0.01646; 0.00393
34	-0.00326*** (0.00074)	-0.00472; -0.00180	-0.00871* (0.00522)	-0.01894; 0.00151
35	-0.00327*** (0.00074)	-0.00472; -0.00182	-0.00629 (0.00525)	-0.01657; 0.00400
36	-0.00369*** (0.00074)	-0.00515; -0.00223	-0.00913* (0.00528)	-0.01947; 0.00122
37	-0.00439*** (0.00074)	-0.00584; -0.00294	-0.00881* (0.00525)	-0.01911; 0.00148
38	-0.00526*** (0.00074)	-0.00671; -0.00381	-0.01235** (0.00525)	-0.02264; -0.00206
39	-0.00614*** (0.00074)	-0.00759; -0.00468	-0.00960* (0.00529)	-0.01997; 0.00078
40	-0.00631*** (0.00075)	-0.00778; -0.00485	-0.00697 (0.00537)	-0.01749; 0.00355
41	-0.00673*** (0.00075)	-0.00820; -0.00527	-0.00494 (0.00537)	-0.01546; 0.00558
42	-0.00749*** (0.00075)	-0.00896; -0.00601	-0.00379 (0.00541)	-0.01438; 0.00681
43	-0.00771*** (0.00076)	-0.00921; -0.00622	-0.00844 (0.00550)	-0.01921; 0.00233
44	-0.00756*** (0.00078)	-0.00908; -0.00603	-0.01159** (0.00563)	-0.02264; -0.00055
45	-0.00767*** (0.00079)	-0.00921; -0.00612	-0.01384** (0.00577)	-0.02515; -0.00253
46	-0.00802*** (0.00080)	-0.00960; -0.00645	-0.01505** (0.00595)	-0.02671; -0.00339
47	-0.00876*** (0.00082)	-0.01036; -0.00715	-0.01740*** (0.00608)	-0.02932; -0.00548
48	-0.00958*** (0.00084)	-0.01122; -0.00794	-0.01579** (0.00629)	-0.02811; -0.00347
49	-0.00899*** (0.00087)	-0.01070; -0.00728	-0.01733*** (0.00659)	-0.03023; -0.00442
50	-0.00879*** (0.00090)	-0.01055; -0.00703	-0.02068*** (0.00675)	-0.03390; -0.00746
51	-0.00931*** (0.00090)	-0.01108; -0.00755	-0.01762** (0.00689)	-0.03113; -0.00410
52	-0.00918*** (0.00093)	-0.01100; -0.00736	-0.02187*** (0.00709)	-0.03576; -0.00799
53	-0.00968*** (0.00095)	-0.01155; -0.00781	-0.02726*** (0.00730)	-0.04157; -0.01295
54	-0.01114*** (0.00098)	-0.01306; -0.00923	-0.02149*** (0.00746)	-0.03611; -0.00687
55	-0.01149*** (0.00100)	-0.01344; -0.00953	-0.02443*** (0.00769)	-0.03949; -0.00937
56	-0.01205*** (0.00103)	-0.01406; -0.01003	-0.02210*** (0.00795)	-0.03768; -0.00651
57	-0.01172*** (0.00106)	-0.01379; -0.00965	-0.02356*** (0.00821)	-0.03964; -0.00748
58	-0.01232*** (0.00109)	-0.01445; -0.01018	-0.02554*** (0.00854)	-0.04228; -0.00881
59	-0.01225*** (0.00111)	-0.01443; -0.01007	-0.01838** (0.00874)	-0.03551; -0.00126
60	-0.01308*** (0.00114)	-0.01531; -0.01085	-0.01767* (0.00905)	-0.03541; 0.00008
61	-0.01342*** (0.00117)	-0.01571; -0.01112	-0.01860** (0.00931)	-0.03685; -0.00036
62	-0.01343*** (0.00122)	-0.01581; -0.01104	-0.01957** (0.00968)	-0.03855; -0.00060
63	-0.01261*** (0.00132)	-0.01521; -0.01002	-0.00962 (0.01035)	-0.02990; 0.01066
64	-0.01210*** (0.00138)	-0.01481; -0.00939	-0.01352 (0.01071)	-0.03450; 0.00746
65	-0.01117*** (0.00144)	-0.01399; -0.00835	-0.00149 (0.01104)	-0.02312; 0.02015
66	-0.00927*** (0.00151)	-0.01223; -0.00632	-0.00387 (0.01143)	-0.02627; 0.01852
67	-0.00799*** (0.00159)	-0.01110; -0.00487	-0.00487 (0.01213)	-0.02864; 0.01889
68	-0.00700*** (0.00168)	-0.01028; -0.00371	0.00249 (0.01327)	-0.02352; 0.02850
69	-0.00506*** (0.00174)	-0.00846; -0.00165	0.00678 (0.01352)	-0.01972; 0.03328
70	-0.00407** (0.00178)	-0.00756; -0.00058	0.00573 (0.01409)	-0.02189; 0.03336

Table S12: Age-specific effect (coefficient (coef.), standard deviation (SD), and 95% confidence intervals (CI)) of BMI on income given income for females, estimated using multivariable adjusted analysis and instrumental variable analysis. Asterisks next to the coefficients indicate p-value: *** p<0.01, ** p<0.05, * p<0.1.

	Multivariable adjusted analysis		Instrumental variable analysis	
Age	Coef. (SD)	95% CI	Coef. (SD)	95% CI
20	9.69771 (12.80933)	-15.41019; 34.80560	-98.07520 (73.30492)	-241.75020; 45.59979
21	24.65341* (14.12590)	-3.03502; 52.34184	63.31612 (82.37340)	-98.13277; 224.76501
22	2.79826 (15.21335)	-27.02163; 32.61816	-59.38863 (92.91240)	-241.49359; 122.71632
23	-15.87191 (16.79811)	-48.79805; 17.05423	-59.57397 (100.87244)	-257.28032; 138.13237
24	-16.19915 (18.03802)	-51.55560; 19.15730	-140.71230 (107.09299)	-350.61071; 69.18612
25	-46.13418** (18.76925)	-82.92386; -9.34450	-111.62128 (109.33911)	-325.92200; 102.67944
26	-59.30371*** (18.91020)	-96.36959; -22.23783	-210.71233* (114.47037)	-435.07012; 13.64547
27	-74.86599*** (18.77227)	-111.66145; -38.07053	-237.22462** (112.90591)	-458.51614; -15.93311
28	-108.32610*** (19.06008)	-145.68563; -70.96657	-116.94650 (117.02192)	-346.30525; 112.41224
29	-88.31841*** (18.79229)	-125.15297; -51.48384	-109.82715 (116.70406)	-338.56291; 118.90861
30	-60.10346*** (18.47968)	-96.32525; -23.88167	-102.22559 (113.98601)	-325.63406; 121.18288
31	-62.84018*** (18.26182)	-98.63489; -27.04546	-190.39496* (113.43327)	-412.72009; 31.93017
32	-69.54664*** (18.15464)	-105.13122; -33.96206	-272.48651** (112.41865)	-492.82301; -52.15001
33	-62.99755*** (18.08840)	-98.45225; -27.54285	-266.04895** (116.64369)	-494.66639; -37.43151
34	-47.62838*** (18.25500)	-83.40960; -11.84716	-219.13914* (117.28053)	-449.00475; 10.72646
35	-45.51465** (18.23073)	-81.24826; -9.78105	-187.79018 (117.54185)	-418.16798; 42.58763
36	-48.08046*** (18.35781)	-84.06310; -12.09781	-77.90961 (120.96278)	-314.99229; 159.17308
37	-60.43682*** (18.50513)	-96.70820; -24.16544	-155.66338 (119.92931)	-390.72051; 79.39376
38	-81.69220*** (18.72859)	-118.40154; -44.98286	-305.64856** (123.83492)	-548.36055; -62.93657
39	-105.15536*** (18.73832)	-141.88375; -68.42698	-287.37082** (125.37003)	-533.09157; -41.65007
40	-103.96706*** (18.94198)	-141.09462; -66.83951	-216.67258* (126.80583)	-465.20744; 31.86229
41	-106.83169*** (18.77743)	-143.63671; -70.02667	-168.70428 (125.96408)	-415.58935; 78.18078
42	-129.01997*** (18.87835)	-166.02280; -92.01715	-195.77782 (127.31801)	-445.31653; 53.76089
43	-137.46754*** (19.17073)	-175.04347; -99.89162	-196.91466 (129.87793)	-451.47072; 57.64141
44	-123.78532*** (19.45998)	-161.92819; -85.64244	-292.22037** (131.55273)	-550.05899; -34.38175
45	-129.15787*** (19.41302)	-167.20872; -91.10702	-340.83347** (132.52292)	-600.57361; -81.09332
46	-141.53548*** (19.64733)	-180.04561; -103.02534	-363.86838*** (137.80739)	-633.96590; -93.77086
47	-138.72743*** (19.81509)	-177.56642; -99.88845	-298.83536** (141.69333)	-576.54918; -21.12154
48	-156.28610*** (20.18817)	-195.85639; -116.71581	-229.98064 (145.48503)	-515.12606; 55.16478
49	-136.21661*** (21.17722)	-177.72556; -94.70767	-304.44086* (156.99759)	-612.15048; 3.26876
50	-142.30058*** (22.08172)	-185.58246; -99.01870	-311.87207** (158.78949)	-623.09375; -0.65039
51	-136.80656*** (21.33422)	-178.62335; -94.98978	-278.33286* (156.53871)	-585.14309; 28.47738
52	-135.74855*** (21.99150)	-178.85372; -92.64338	-320.16721** (161.41049)	-636.52596; -3.80845
53	-119.46651*** (22.52769)	-163.62274; -75.31027	-408.78760** (165.12691)	-732.43039; -85.14481
54	-159.67192*** (23.01196)	-204.77745; -114.56639	-379.19794** (168.55893)	-709.56737; -48.82851
55	-157.78421*** (23.28855)	-203.43200; -112.13642	-454.18814*** (168.99684)	-785.41586; -122.96042
56	-156.12735*** (24.02495)	-203.21868; -109.03602	-457.95392** (178.31561)	-807.44610; -108.46174
57	-154.00163*** (25.24795)	-203.49032; -104.51295	-375.23849** (190.53232)	-748.67498; -1.80201
58	-190.14055*** (25.99710)	-241.09784; -139.18326	-532.51965*** (195.18765)	-915.08042; -149.95888
59	-179.19441*** (26.90007)	-231.92184; -126.46698	-314.41708 (193.70177)	-694.06557; 65.23140
60	-204.35860*** (27.68773)	-258.63021; -150.08699	-399.18555** (200.22792)	-791.62506; -6.74603
61	-212.14885*** (29.13398)	-269.25567; -155.04203	-447.35269** (215.92311)	-870.55421; -24.15117
62	-221.20377*** (30.88017)	-281.73382; -160.67371	-418.08939* (225.07126)	-859.22095; 23.04217
63	-177.19267*** (35.70418)	-247.17950; -107.20585	-185.23665 (254.67627)	-684.39296; 313.91967
64	-150.58186*** (37.87304)	-224.82127; -76.34246	-322.26331 (261.69400)	-835.17412; 190.64751
65	-119.76495*** (40.57022)	-199.29306; -40.23683	76.27310 (269.88614)	-452.69401; 605.24021
66	-156.64223*** (44.18185)	-243.25261; -70.03185	-101.94682 (283.95959)	-658.49740; 454.60376
67	-143.50218*** (44.35920)	-230.46359; -56.54077	-413.40900 (293.73059)	-989.11038; 162.29238
68	-131.83804** (51.29421)	-232.40822; -31.26787	-178.39014 (396.50018)	-955.51622; 598.73594
69	-89.01347 (55.67154)	-198.17981; 20.15286	272.07907 (465.09305)	-639.48655; 1183.64469
70	-21.10149 (54.93466)	-128.83898; 86.63600	467.86819 (429.30151)	-373.54731; 1309.28370

Table S13: Age-specific effect (coefficient (coef.), standard deviation (SD), and 95% confidence intervals (CI)) of BMI on income z-score given income for females, estimated using multivariable adjusted analysis and instrumental variable analysis. Asterisks next to the coefficients indicate p-value: *** p<0.01, ** p<0.05, * p<0.1.

Age	Multivariable adjusted analysis		Instrumental variable analysis	
	Coef. (SD)	95% CI	Coef. (SD)	95% CI
20	0.00129 (0.00170)	-0.00204; 0.00461	-0.01300 (0.00971)	-0.03204; 0.00604
21	0.00291* (0.00167)	-0.00036; 0.00617	0.00747 (0.00971)	-0.01157; 0.02650
22	0.00030 (0.00164)	-0.00292; 0.00352	-0.00641 (0.01003)	-0.02608; 0.01325
23	-0.00155 (0.00164)	-0.00477; 0.00167	-0.00582 (0.00985)	-0.02513; 0.01349
24	-0.00145 (0.00161)	-0.00461; 0.00171	-0.01259 (0.00958)	-0.03137; 0.00619
25	-0.00384** (0.00156)	-0.00690; -0.00078	-0.00929 (0.00910)	-0.02714; 0.00855
26	-0.00462*** (0.00147)	-0.00751; -0.00173	-0.01641* (0.00891)	-0.03388; 0.00106
27	-0.00548*** (0.00137)	-0.00817; -0.00279	-0.01737** (0.00827)	-0.03357; -0.00117
28	-0.00742*** (0.00131)	-0.00998; -0.00486	-0.00801 (0.00802)	-0.02373; 0.00770
29	-0.00591*** (0.00126)	-0.00837; -0.00344	-0.00734 (0.00780)	-0.02264; 0.00795
30	-0.00398*** (0.00123)	-0.00639; -0.00158	-0.00678 (0.00756)	-0.02159; 0.00803
31	-0.00411*** (0.00119)	-0.00645; -0.00177	-0.01245* (0.00742)	-0.02698; 0.00209
32	-0.00447*** (0.00117)	-0.00675; -0.00218	-0.01750** (0.00722)	-0.03165; -0.00335
33	-0.00399*** (0.00115)	-0.00623; -0.00174	-0.01684** (0.00738)	-0.03132; -0.00237
34	-0.00297*** (0.00114)	-0.00521; -0.00074	-0.01368* (0.00732)	-0.02803; 0.00067
35	-0.00278** (0.00111)	-0.00497; -0.00060	-0.01148 (0.00719)	-0.02557; 0.00260
36	-0.00289*** (0.00110)	-0.00505; -0.00073	-0.00468 (0.00727)	-0.01892; 0.00956
37	-0.00353*** (0.00108)	-0.00566; -0.00141	-0.00910 (0.00701)	-0.02285; 0.00464
38	-0.00466*** (0.00107)	-0.00675; -0.00256	-0.01743** (0.00706)	-0.03126; -0.00359
39	-0.00589*** (0.00105)	-0.00794; -0.00383	-0.01609** (0.00702)	-0.02984; -0.00233
40	-0.00574*** (0.00105)	-0.00779; -0.00369	-0.01197* (0.00700)	-0.02570; 0.00176
41	-0.00586*** (0.00103)	-0.00787; -0.00384	-0.00925 (0.00691)	-0.02278; 0.00429
42	-0.00698*** (0.00102)	-0.00898; -0.00498	-0.01059 (0.00688)	-0.02408; 0.00291
43	-0.00734*** (0.00102)	-0.00934; -0.00533	-0.01051 (0.00693)	-0.02409; 0.00308
44	-0.00656*** (0.00103)	-0.00858; -0.00454	-0.01548** (0.00697)	-0.02915; -0.00182
45	-0.00686*** (0.00103)	-0.00888; -0.00484	-0.01809** (0.00704)	-0.03188; -0.00430
46	-0.00744*** (0.00103)	-0.00946; -0.00542	-0.01913*** (0.00724)	-0.03333; -0.00493
47	-0.00727*** (0.00104)	-0.00930; -0.00523	-0.01565** (0.00742)	-0.03019; -0.00111
48	-0.00812*** (0.00105)	-0.01017; -0.00606	-0.01195 (0.00756)	-0.02676; 0.00287
49	-0.00696*** (0.00108)	-0.00908; -0.00484	-0.01556* (0.00802)	-0.03128; 0.00017
50	-0.00717*** (0.00111)	-0.00935; -0.00499	-0.01572** (0.00800)	-0.03140; -0.00003
51	-0.00704*** (0.00110)	-0.00919; -0.00489	-0.01432* (0.00805)	-0.03011; 0.00147
52	-0.00692*** (0.00112)	-0.00912; -0.00472	-0.01632** (0.00823)	-0.03244; -0.00019
53	-0.00611*** (0.00115)	-0.00836; -0.00385	-0.02089** (0.00844)	-0.03743; -0.00435
54	-0.00813*** (0.00117)	-0.01043; -0.00584	-0.01931** (0.00859)	-0.03614; -0.00249
55	-0.00807*** (0.00119)	-0.01041; -0.00574	-0.02324*** (0.00865)	-0.04018; -0.00629
56	-0.00801*** (0.00123)	-0.01042; -0.00559	-0.02348** (0.00914)	-0.04140; -0.00556
57	-0.00778*** (0.00128)	-0.01028; -0.00528	-0.01896** (0.00963)	-0.03782; -0.00009
58	-0.00961*** (0.00131)	-0.01219; -0.00704	-0.02692*** (0.00987)	-0.04626; -0.00758
59	-0.00902*** (0.00135)	-0.01168; -0.00637	-0.01583 (0.00975)	-0.03494; 0.00328
60	-0.01033*** (0.00140)	-0.01307; -0.00759	-0.02018** (0.01012)	-0.04001; -0.00034
61	-0.01075*** (0.00148)	-0.01364; -0.00785	-0.02266** (0.01094)	-0.04410; -0.00122
62	-0.01136*** (0.00159)	-0.01446; -0.00825	-0.02146* (0.01155)	-0.04411; 0.00118
63	-0.00906*** (0.00183)	-0.01264; -0.00548	-0.00948 (0.01303)	-0.03501; 0.01606
64	-0.00787*** (0.00198)	-0.01174; -0.00399	-0.01683 (0.01367)	-0.04363; 0.00996
65	-0.00646*** (0.00219)	-0.01075; -0.00217	0.00412 (0.01456)	-0.02442; 0.03266
66	-0.00883*** (0.00249)	-0.01371; -0.00395	-0.00575 (0.01601)	-0.03712; 0.02563
67	-0.00911*** (0.00282)	-0.01463; -0.00359	-0.02624 (0.01864)	-0.06278; 0.01030
68	-0.00924** (0.00359)	-0.01629; -0.00219	-0.01250 (0.02779)	-0.06696; 0.04196
69	-0.00671 (0.00420)	-0.01495; 0.00152	0.02052 (0.03507)	-0.04822; 0.08926
70	-0.00190 (0.00494)	-0.01159; 0.00779	0.04208 (0.03861)	-0.03360; 0.11776

Table S14: Partial R-squared and F-statistics for each of the age-specific instrumental variable analyses for females.

Age	Income		Income given income	
	Partial R-squared	F-stat.	Partial R-squared	F-stat.
20	0.0225	812.278	0.0309	477.1720
21	0.0225	812.278	0.0303	490.3820
22	0.0225	812.278	0.0278	462.2930
23	0.0225	812.278	0.0279	474.7940
24	0.0225	812.278	0.0281	490.6200
25	0.0225	812.278	0.0294	524.5150
26	0.0225	812.278	0.0281	513.5730
27	0.0225	812.278	0.0292	548.2820
28	0.0225	812.278	0.0286	552.2070
29	0.0225	811.825	0.0285	563.5840
30	0.0226	810.275	0.0292	589.7490
31	0.0225	800.681	0.0291	601.4310
32	0.0224	792.530	0.0295	621.0600
33	0.0222	777.343	0.0274	589.1300
34	0.0221	770.144	0.0276	603.6220
35	0.0219	756.560	0.0275	612.7680
36	0.0217	746.025	0.0264	596.3260
37	0.0218	746.222	0.0275	632.9750
38	0.0219	745.033	0.0263	615.1170
39	0.0217	733.933	0.0259	614.4650
40	0.0216	722.743	0.0258	616.6000
41	0.0217	718.332	0.0260	623.8390
42	0.0218	711.072	0.0258	620.9180
43	0.0218	698.883	0.0256	613.2170
44	0.0216	679.76	0.0258	612.0990
45	0.0213	659.156	0.0254	598.8700
46	0.0210	636.837	0.0243	565.9820
47	0.0209	622.266	0.0236	543.3230
48	0.0206	599.440	0.0233	527.5490
49	0.0202	573.666	0.0218	482.6220
50	0.0204	567.511	0.0228	495.8220
51	0.0201	545.367	0.0225	479.0730
52	0.0201	531.640	0.0225	463.8550
53	0.0200	515.544	0.0224	449.3530
54	0.0200	504.896	0.0225	438.6650
55	0.0198	485.706	0.0232	436.1100
56	0.0194	462.440	0.0219	395.3440
57	0.0192	445.589	0.0211	363.8850
58	0.0186	420.147	0.0211	346.9030
59	0.0185	404.979	0.0229	357.6020
60	0.0181	383.339	0.0228	336.1680
61	0.0179	367.147	0.0215	294.4990
62	0.0176	349.016	0.0216	274.4310
63	0.0172	327.897	0.0211	236.1970
64	0.0169	310.178	0.0218	213.3780
65	0.0168	296.879	0.0229	194.4800
66	0.0165	280.874	0.0234	166.7620
67	0.0195	264.454	0.0221	128.8150
68	0.0151	237.507	0.0165	59.1925
69	0.0153	229.436	0.0068	36.9878
70	0.0149	211.871	0.0166	33.4009

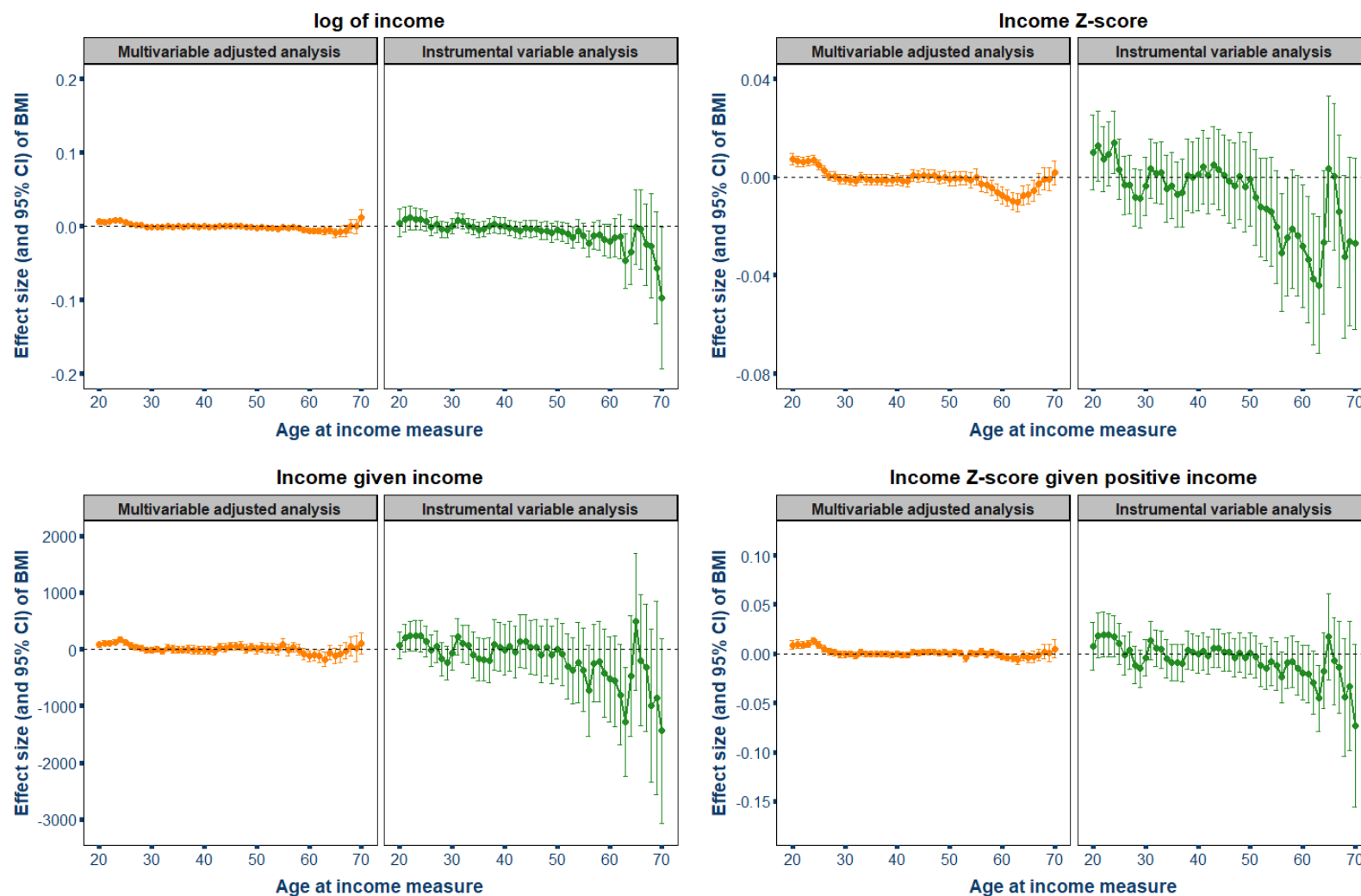


Figure S4: Effect (and 95 % CI) of BMI on log of income (top left panel) income given income (bottom left panel), income Z-score (top right panel) and income Z-score given income (bottom right panel) for males at ages 20 to 70 with estimated using multivariable adjusted analyses (orange), instrumental variable analysis with weighted GRS (green).

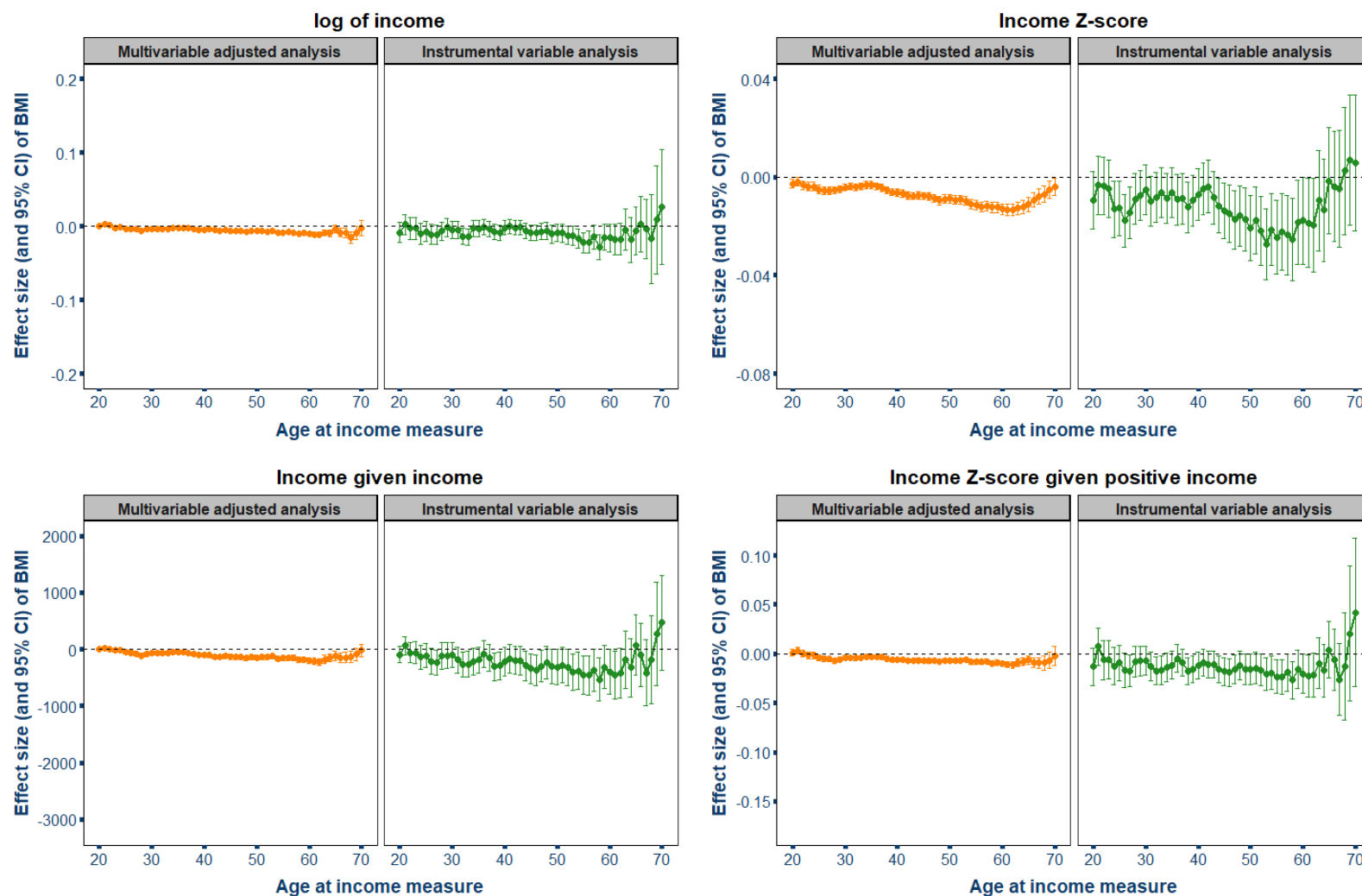


Figure S5: Effect (and 95 % CI) of BMI on log of income (top left panel) income given income (bottom left panel), income Z-score (top right panel) and income Z-score given income (bottom right panel) for females at ages 20 to 70 with estimated using multivariable adjusted analyses (orange), and instrumental variable analysis with weighted GRS (green).

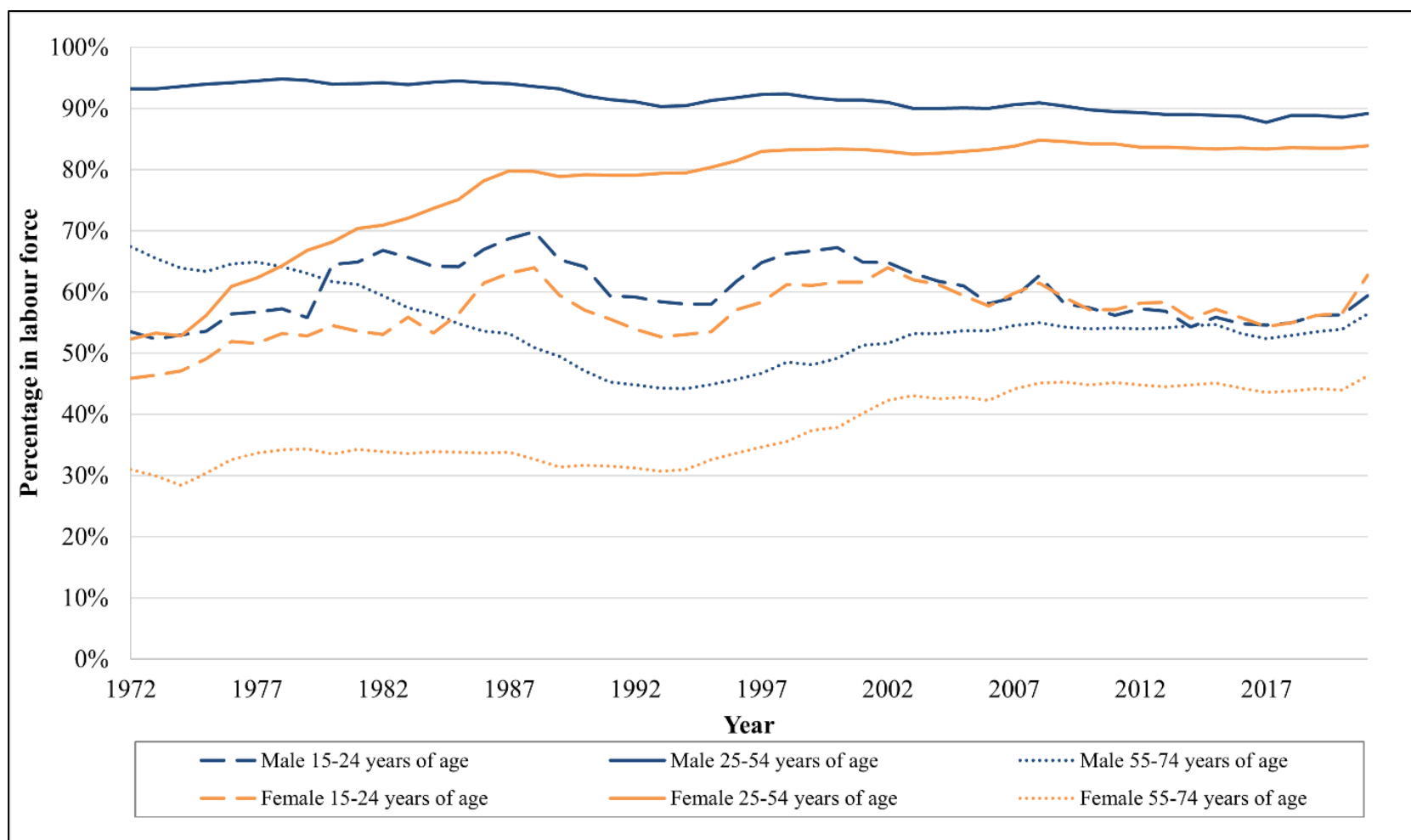


Figure S6: Percentage of males and females in the labor force by age-group (15-24, 25-54, and 55-74 years of age) (1)

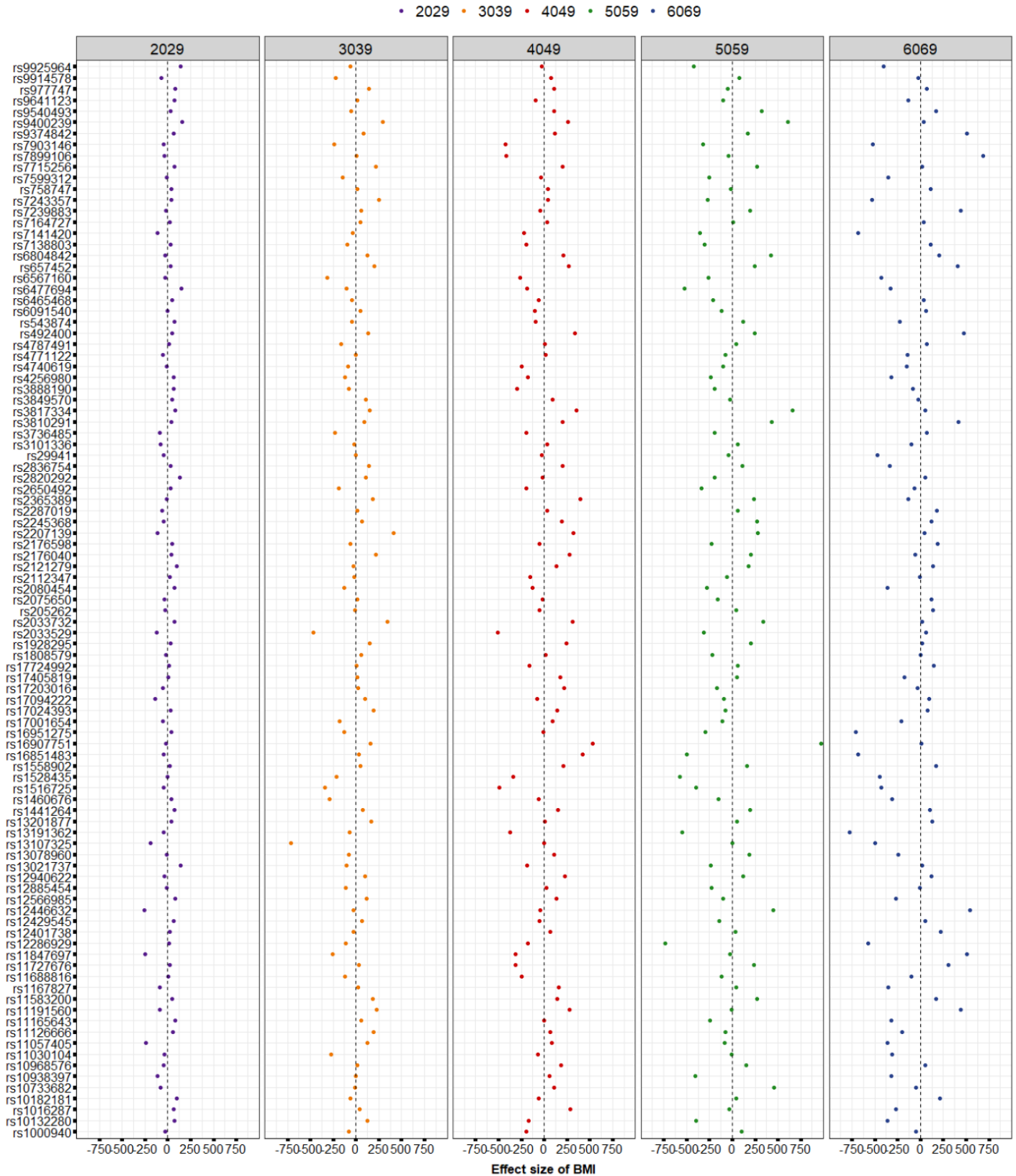


Figure S7: The association between each genetic variant used in the weighted genetic risk score and income at age 20-29, 30-39, 40-49 50-59, and 60-69 for males. The dispersion of the scatter points around zero increases, suggesting that the effect of each BMI-related SNP on income changes with age.

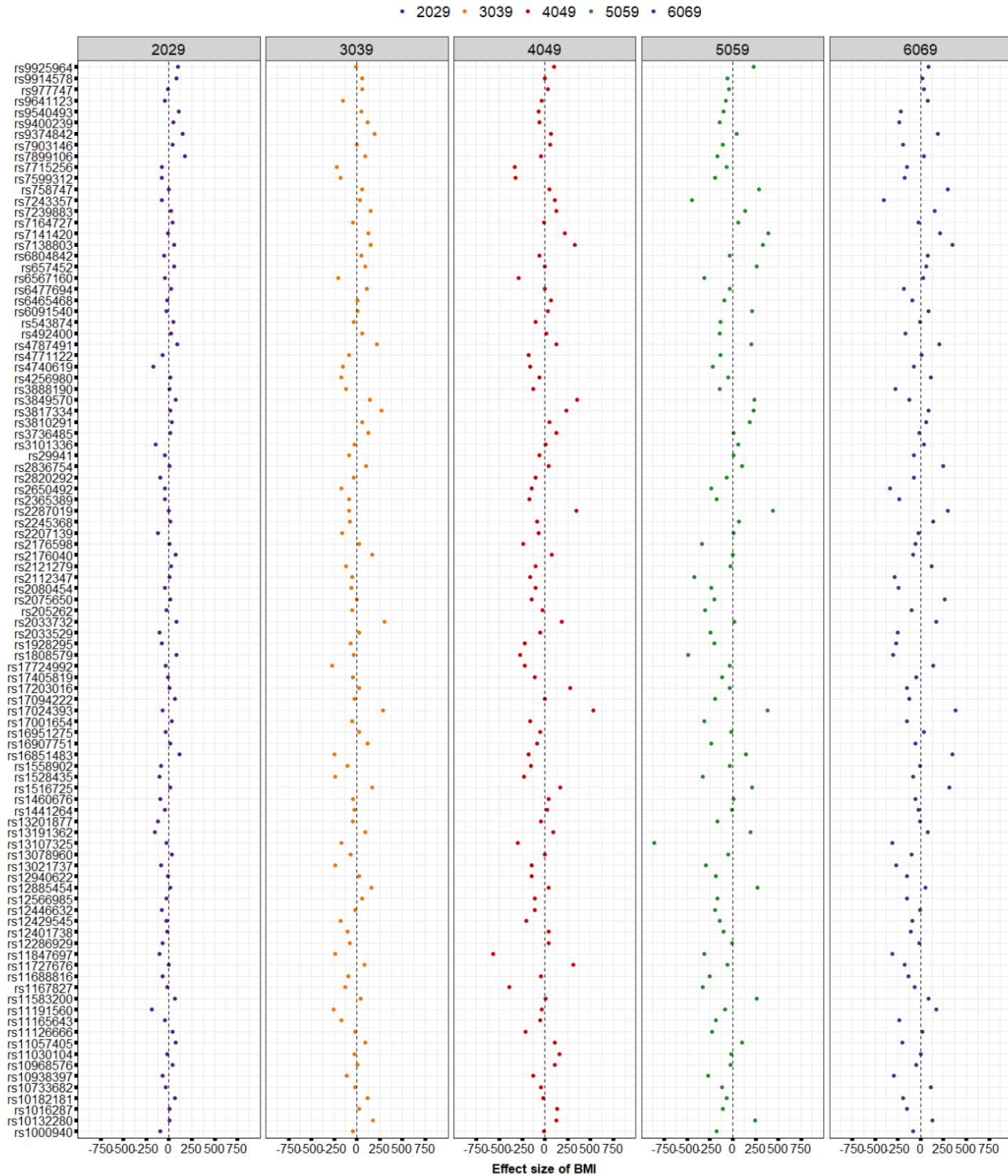


Figure S8: The association between each genetic variant used in the weighted genetic risk score and income at age 20-29, 30-39, 40-49 50-59, and 60-69 for females. The dispersion of the scatter points around zero increases, suggesting that the effect of each BMI-related SNP on income changes with age.

SI References

1. Statistics Norway. 05111: Personer, etter arbeidsstyrkestatus, kjønn og alder 1972 - 2021 [updated 27.01.202220.06.2022]. Available from: <https://www.ssb.no/statbank/table/05111>.