

Supplementary Table S1. General characteristics of the study population by sex

| Variables | | Total | | Boy (n = 32,064) | | Girl (n = 30,104) | | P |
|---------------------|-------------------|--------|---------------------|------------------|---------------------|-------------------|---------------------|---------|
| | | N | $\bar{x} \pm s$ (%) | n | $\bar{x} \pm s$ (%) | n | $\bar{x} \pm s$ (%) | |
| Height | | 62,168 | 145.86 ± 17.08 | 32,064 | 146.93 ± 18.44 | 30,104 | 144.72 ± 15.43 | < 0.001 |
| Weight | | 62,168 | 40.97 ± 15.53 | 32,064 | 42.35 ± 16.88 | 30,104 | 39.50 ± 13.79 | < 0.001 |
| SBP (mmHg) | | 62,168 | 104.33 ± 12.17 | 32,064 | 105.72 ± 12.5 | 30,104 | 102.85 ± 11.62 | < 0.001 |
| DBP (mmHg) | | 62,168 | 66.27 ± 8.84 | 32,064 | 66.8 ± 8.98 | 30,104 | 65.71 ± 8.64 | < 0.001 |
| TG (mmol/L) | | 15,995 | 1.14 ± 0.81 | 8,147 | 1.09 ± 0.80 | 7,848 | 1.19 ± 0.83 | < 0.001 |
| HDL (mmol/L) | | 15,998 | 1.89 ± 1.35 | 8,149 | 1.90 ± 1.38 | 7,849 | 1.88 ± 1.31 | 0.476 |
| LDL (mmol/L) | | 15,998 | 1.97 ± 0.71 | 8,149 | 1.94 ± 0.70 | 7,849 | 1.99 ± 0.72 | < 0.001 |
| TC (mmol/L) | | 15,998 | 3.86 ± 0.90 | 8,149 | 3.81 ± 0.90 | 7,849 | 3.92 ± 0.90 | < 0.001 |
| FPG (mmol/L) | | 15,990 | 4.14 ± 1.28 | 8,143 | 4.19 ± 1.31 | 7,847 | 4.09 ± 1.25 | < 0.001 |
| Area | rural | 19,753 | 37.3 | 10,158 | 37.5 | 9,595 | 37.1 | 0.359 |
| | urban | 33,221 | 62.7 | 16,947 | 62.5 | 16,274 | 62.9 | |
| Family income (CNY) | < 5,000 | 16,646 | 63.6 | 8,234 | 63.0 | 8,412 | 64.2 | 0.042 |
| | ≥ 5,000 | 9,529 | 36.4 | 4,838 | 37.0 | 4,691 | 35.8 | |
| BP (mmHg) | < P ₉₀ | 42,292 | 74.3 | 20,716 | 70.6 | 21,576 | 78.2 | < 0.001 |
| | ≥ P ₉₀ | 14,642 | 25.7 | 8,611 | 29.4 | 6,031 | 21.8 | |
| FPG (mmol/L) | < 6.1 | 15,945 | 99.7 | 8,111 | 99.6 | 7,834 | 99.8 | 0.007 |
| | ≥ 6.1 | 45 | 0.3 | 32 | 0.4 | 13 | 0.2 | |
| HDL (mmol/L) | ≥ 1.03 | 13,987 | 87.4 | 7,035 | 86.3 | 6,952 | 88.6 | < 0.001 |
| | < 1.03 | 2,011 | 12.6 | 1,114 | 13.7 | 897 | 11.4 | |
| LDL (mmol/L) | < 3.37 | 15,520 | 97.0 | 7,928 | 97.3 | 7,592 | 96.7 | 0.037 |
| | ≥ 3.37 | 478 | 3.0 | 221 | 2.7 | 257 | 3.3 | |
| TG (mmol/L) | < 1.24 | 11,702 | 73.2 | 6,149 | 75.5 | 5,553 | 70.8 | < 0.001 |
| | ≥ 1.24 | 4,293 | 26.8 | 1,998 | 24.5 | 2,295 | 29.2 | |
| TC (mmol/L) | < 5.17 | 15,128 | 94.6 | 7,745 | 95.0 | 7,383 | 94.1 | < 0.001 |
| | ≥ 5.17 | 870 | 5.4 | 404 | 5.0 | 466 | 5.9 | |

Note. BMI, body mass index; WC, waist circumference; SBP, systolic blood pressure; DBP, diastolic blood pressure; BP, blood pressure; FPG, fasting plasma glucose; HDL, high-density lipoprotein; LDL, low-density lipoprotein; TG, triglyceride; TC, total cholesterol; HW, hypertriglyceridemic waist; HWHtR, hypertriglyceridemic waist-to-height ratio; WHR, waist-to-hip ratio; CHRF clustering, cardiometabolic health risk factors clustering.

Supplementary Table S2. Comparisons of cardiometabolic health risk factors between subjects with and without HW phenotype

| Variables | Category | non-HW | | HW | | P |
|---------------------|-------------------|--------|-----------|-------|-----------|---------|
| | | N | Freq. (%) | N | Freq. (%) | |
| Sex | boy | 7,050 | 51.3 | 628 | 50.3 | 0.479 |
| | girl | 6,686 | 48.7 | 621 | 49.7 | |
| Area | rural | 4,946 | 41.7 | 385 | 36.4 | < 0.001 |
| | urban | 6,905 | 58.3 | 672 | 63.6 | |
| Family income (CNY) | < 5,000 | 3,756 | 64.3 | 357 | 62.9 | 0.494 |
| | ≥ 5,000 | 2,086 | 35.7 | 211 | 37.1 | |
| BP (mmHg) | < P ₉₀ | 10,632 | 77.4 | 669 | 53.6 | < 0.001 |
| | ≥ P ₉₀ | 3,104 | 22.6 | 580 | 46.4 | |
| FPG (mmol/L) | < 6.1 | 13,696 | 99.7 | 1,242 | 99.7 | 0.739 |
| | ≥ 6.1 | 37 | 0.3 | 4 | 0.3 | |
| HDL (mmol/L) | ≥ 1.03 | 12,235 | 89.1 | 839 | 67.2 | < 0.001 |
| | < 1.03 | 1,501 | 10.9 | 410 | 32.8 | |
| LDL (mmol/L) | < 3.37 | 13,384 | 97.4 | 1,159 | 92.8 | < 0.001 |
| | ≥ 3.37 | 352 | 2.6 | 90 | 7.2 | |
| TG (mmol/L) | < 1.24 | 10,845 | 79.0 | 0 | 0.0 | < 0.001 |
| | ≥ 1.24 | 2,891 | 21.0 | 1,249 | 100.0 | |
| TC (mmol/L) | < 5.17 | 13,075 | 95.2 | 1,098 | 87.9 | < 0.001 |
| | ≥ 5.17 | 661 | 4.8 | 151 | 12.1 | |
| CHRF clustering | < 2 | 11,851 | 86.3 | 395 | 31.6 | < 0.001 |
| | ≥ 2 | 1,885 | 13.7 | 854 | 68.4 | |

Note. BP, blood pressure; FPG, fasting plasma glucose; HDL, high-density lipoprotein; LDL, low-density lipoprotein; TG, triglyceride; TC, total cholesterol; CHRF clustering, cardiometabolic health risk factors clustering; HW, hypertriglyceridemic waist.

Supplementary Table S3. Comparisons of cardiometabolic health risk factors between subjects with and without HWHtR phenotype

| Variables | Category | non-HWHtR | | HWHtR | | P |
|---------------------|------------|-----------|-----------|-------|-----------|---------|
| | | N | Freq. (%) | N | Freq. (%) | |
| Sex | boy | 4,587 | 50.5 | 397 | 61.6 | < 0.001 |
| | girl | 4,492 | 49.5 | 247 | 38.4 | |
| Area | rural | 3,232 | 41.0 | 214 | 36.7 | 0.041 |
| | urban | 4,646 | 59.0 | 369 | 63.3 | |
| Family income (CNY) | < 5,000 | 2,534 | 65.4 | 182 | 64.3 | < 0.001 |
| | ≥ 5,000 | 1,338 | 34.6 | 101 | 35.7 | |
| BP (mmHg) | < P_{90} | 6,654 | 73.3 | 289 | 44.9 | < 0.004 |
| | ≥ P_{90} | 2,425 | 26.7 | 355 | 55.1 | |
| FPG (mmol/L) | < 6.1 | 9,051 | 99.7 | 639 | 99.7 | 0.907 |
| | ≥ 6.1 | 26 | 0.3 | 2 | 0.3 | |
| HDL (mmol/L) | ≥ 1.03 | 7,857 | 86.5 | 398 | 61.8 | < 0.001 |
| | < 1.03 | 1,222 | 13.5 | 246 | 38.2 | |
| LDL (mmol/L) | < 3.37 | 8,883 | 97.8 | 586 | 91.0 | < 0.001 |
| | ≥ 3.37 | 196 | 2.2 | 58 | 9.0 | |
| TG (mmol/L) | < 1.24 | 6,617 | 72.9 | 0 | 0.0 | < 0.001 |
| | ≥ 1.24 | 2,462 | 27.1 | 644 | 100.0 | |
| TC (mmol/L) | < 5.17 | 8,700 | 95.8 | 567 | 88.0 | < 0.001 |
| | ≥ 5.17 | 379 | 4.2 | 77 | 12.0 | |
| CHRF clustering | < 2 | 7,481 | 82.4 | 165 | 25.6 | < 0.001 |
| | ≥ 2 | 1,598 | 17.6 | 479 | 74.4 | |

Note. BP, blood pressure; FPG, fasting plasma glucose; HDL, high-density lipoprotein; LDL, low-density lipoprotein; TG, triglyceride; TC, total cholesterol; CHRF clustering, cardiometabolic health risk factors clustering; HWHtR, hypertriglyceridemic waist-to-height ratio.

Supplementary Table S4. Comparisons of cardiometabolic health risk factors between subjects with and without WHR phenotype

| Variables | Category | non-WHR | | WHR | | P |
|---------------------|-------------------|---------|-----------|--------|-----------|---------|
| | | N | Freq. (%) | N | Freq. (%) | |
| Sex | boy | 21,373 | 52.8 | 10,410 | 49.2 | < 0.001 |
| | girl | 19,107 | 47.2 | 10,743 | 50.8 | |
| Area | rural | 12,756 | 37.7 | 6,877 | 36.9 | 0.081 |
| | urban | 21,124 | 62.3 | 11,770 | 63.1 | |
| Family income (CNY) | < 5,000 | 10,914 | 63.5 | 5,612 | 63.9 | 0.494 |
| | ≥ 5,000 | 6,285 | 36.5 | 3,172 | 36.1 | |
| BP (mmHg) | < P ₉₀ | 27,950 | 77.1 | 13,999 | 69.3 | < 0.001 |
| | ≥ P ₉₀ | 8,316 | 22.9 | 6,206 | 30.7 | |
| FPG (mmol/L) | < 6.1 | 10,166 | 99.7 | 5,641 | 99.7 | 0.683 |
| | ≥ 6.1 | 27 | 0.3 | 17 | 0.3 | |
| HDL (mmol/L) | ≥ 1.03 | 9,131 | 89.6 | 4,744 | 83.8 | < 0.001 |
| | < 1.03 | 1,064 | 10.4 | 920 | 16.2 | |
| LDL (mmol/L) | < 3.37 | 9,979 | 97.9 | 5,408 | 95.5 | < 0.001 |
| | ≥ 3.37 | 216 | 2.1 | 256 | 4.5 | |
| TG (mmol/L) | < 1.24 | 7,592 | 74.5 | 4,013 | 70.9 | < 0.001 |
| | ≥ 1.24 | 2,602 | 25.5 | 1,649 | 29.1 | |
| TC (mmol/L) | < 5.17 | 9,745 | 95.6 | 5,254 | 92.8 | < 0.001 |
| | ≥ 5.17 | 450 | 4.4 | 410 | 7.2 | |
| CHRF clustering | < 2 | 8,715 | 85.5 | 4,372 | 77.2 | < 0.001 |
| | ≥ 2 | 1,479 | 14.5 | 1,290 | 22.8 | |

Note. BP, blood pressure; FPG, fasting plasma glucose; HDL, high-density lipoprotein; LDL, low-density lipoprotein; TG, triglyceride; TC, total cholesterol; CHRF clustering, cardiometabolic health risk factors clustering; WHR, waist-to-hip ratio.

Supplementary Table S5. OR (95% CI) of cardiometabolic health risk factors for HW, HWHtR and WHR phenotype stratified by sex

| Models | HW | | | HWHtR | | | WHR | | |
|-----------------|-------|-------------|---------|-------|-------------|---------|------|------------|---------|
| | OR | 95% CI | P | OR | 95% CI | P | OR | 95% CI | P |
| Boys Model 1 | | | | | | | | | |
| Elevated TG | NA | NA | NA | NA | NA | NA | 0.94 | 0.83–1.07 | 0.330 |
| Low HDL | 2.93 | 2.35–3.67 | < 0.001 | 3.05 | 2.32–4.01 | < 0.001 | 1.39 | 1.19–1.62 | < 0.001 |
| Elevated LDL | 2.22 | 1.47–3.35 | < 0.001 | 3.02 | 1.77–5.15 | < 0.001 | 2.01 | 1.46–2.75 | < 0.001 |
| Elevated TC | 2.48 | 1.78–3.46 | < 0.001 | 2.59 | 1.67–4.02 | < 0.001 | 1.54 | 1.22–1.96 | < 0.001 |
| Elevated BP | 1.46 | 1.19–1.78 | 0.007 | 1.48 | 1.14–1.91 | 0.003 | 0.86 | 0.81–0.92 | < 0.001 |
| FPG | NA | NA | NA | NA | NA | NA | 1.15 | 0.49–2.69 | 0.752 |
| CHRF clustering | 14.11 | 11.23–17.72 | < 0.001 | 15.19 | 11.23–20.55 | < 0.001 | 1.15 | 1.00–1.33 | 0.053 |
| Model 2 | | | | | | | | | |
| Elevated TG | NA | NA | NA | NA | NA | NA | 1.12 | 0.90–1.41 | 0.304 |
| Low HDL | 2.83 | 1.94–4.15 | < 0.001 | 3.49 | 2.22–5.48 | < 0.001 | 1.62 | 1.24–2.11 | < 0.001 |
| Elevated LDL | 4.58 | 2.14–9.80 | < 0.001 | 7.47 | 2.67–20.91 | < 0.001 | 1.78 | 0.98–3.26 | 0.060 |
| Elevated TC | 3.38 | 1.88–6.07 | < 0.001 | 3.97 | 1.85–8.52 | < 0.001 | 1.33 | 0.86–2.05 | 0.197 |
| Elevated BP | 1.13 | 0.81–1.58 | 0.476 | 1.20 | 0.78–1.83 | 0.407 | 0.93 | 0.83–1.03 | 0.152 |
| FPG | NA | NA | NA | NA | NA | NA | 3.06 | 0.89–10.06 | 0.077 |
| CHRF clustering | 15.28 | 10.44–22.36 | < 0.001 | 16.18 | 9.91–26.42 | < 0.001 | 1.31 | 1.02–1.67 | 0.034 |
| Girls Model 1 | | | | | | | | | |
| Elevated TG | NA | NA | NA | NA | NA | NA | 0.73 | 0.65–0.82 | < 0.001 |
| Low HDL | 2.68 | 2.14–3.36 | < 0.001 | 2.16 | 1.54–3.02 | < 0.001 | 1.04 | 0.89–1.21 | 0.646 |
| Elevated LDL | 2.00 | 1.32–3.04 | 0.001 | 3.37 | 1.86–6.14 | < 0.001 | 1.84 | 1.41–2.41 | < 0.001 |
| Elevated TC | 2.82 | 2.05–3.89 | < 0.001 | 3.11 | 1.87–5.19 | < 0.001 | 1.66 | 1.36–2.03 | < 0.001 |
| Elevated BP | 1.34 | 1.10–1.64 | 0.004 | 1.10 | 0.81–1.49 | 0.531 | 0.96 | 0.90–1.023 | 0.205 |
| FPG | 2.95 | 0.70–12.47 | 0.140 | 2.18 | 0.29–16.15 | 0.447 | 1.43 | 0.46–4.47 | 0.542 |
| CHRF clustering | 8.84 | 7.20–10.85 | < 0.001 | 5.33 | 3.91–7.26 | < 0.001 | 0.96 | 0.84–1.09 | 0.498 |
| Model 2 | | | | | | | | | |
| Elevated TG | NA | NA | NA | NA | NA | NA | 1.05 | 0.88–1.26 | 0.568 |
| Low HDL | 2.10 | 1.45–3.03 | < 0.001 | 2.07 | 1.22–3.49 | 0.007 | 1.11 | 0.87–1.42 | 0.413 |
| Elevated LDL | 2.26 | 1.21–4.22 | 0.010 | 6.44 | 2.74–15.15 | < 0.001 | 1.56 | 1.01–2.42 | 0.045 |
| Elevated TC | 4.55 | 2.74–7.57 | < 0.001 | 6.25 | 2.95–13.25 | < 0.001 | 1.64 | 1.16–2.31 | 0.005 |
| Elevated BP | 1.46 | 1.07–1.98 | 0.017 | 0.98 | 0.78–1.23 | 0.858 | 1.03 | 0.94–1.14 | 0.506 |
| FPG | 1.43 | 0.11–19.29 | 0.786 | 1.63 | 0.22–11.96 | 0.631 | 0.78 | 0.12–5.28 | 0.799 |
| CHRF clustering | 10.26 | 7.38–14.27 | < 0.001 | 5.76 | 3.57–9.29 | < 0.001 | 1.02 | 0.83–1.27 | 0.825 |

Note. BP, blood pressure; FPG, fasting plasma glucose; HDL, high-density lipoprotein; LDL, low-density lipoprotein; TG, triglyceride; TC, total cholesterol. CHRF clustering, cardiometabolic health risk factors clustering; HW, hypertriglyceridemic waist; HWHtR, hypertriglyceridemic waist-to-height ratio; WHR, waist-to-hip ratio; NA, data not available. Model 1: adjusted for age (years) and BMI. Model 2: adjusted for variables from model 1, and additionally adjusted by area and family income.

Supplementary Table S6. OR (95% CI) of cardiometabolic health risk factors for HW, HWHtR and WHR phenotype stratified by age

| Models | HW | | | HWHtR | | | WHR | | |
|---------------------|-------|-------------|---------|-------|------------|---------|------|------------|---------|
| | OR | 95% CI | P | OR | 95% CI | P | OR | 95% CI | P |
| 6–9 years Model 1 | | | | | | | | | |
| Elevated TG | NA | NA | NA | NA | NA | NA | 0.70 | 0.59–0.82 | < 0.001 |
| Low HDL | 2.97 | 2.14–4.14 | < 0.001 | NA | NA | NA | 1.45 | 1.18–1.78 | < 0.001 |
| Elevated LDL | 1.38 | 0.81–2.34 | 0.233 | NA | NA | NA | 1.94 | 1.44–2.62 | < 0.001 |
| Elevated TC | 2.08 | 1.40–3.07 | < 0.001 | NA | NA | NA | 1.48 | 1.17–1.86 | 0.001 |
| Elevated BP | 1.54 | 1.16–2.04 | 0.003 | NA | NA | NA | 0.97 | 0.89–1.05 | 0.428 |
| FPG | 3.11 | 0.28–34.78 | 0.356 | NA | NA | NA | 1.81 | 0.58–5.65 | 0.310 |
| CHRF clustering | 10.04 | 7.53–13.38 | < 0.001 | NA | NA | NA | 1.38 | 1.15–1.66 | 0.001 |
| Model 2 | | | | | | | | | |
| Elevated TG | NA | NA | NA | NA | NA | NA | 1.10 | 0.83–1.47 | 0.508 |
| Low HDL | 3.23 | 1.79–5.85 | < 0.001 | NA | NA | NA | 1.43 | 1.00–2.04 | 0.052 |
| Elevated LDL | 1.73 | 0.70–4.28 | 0.236 | NA | NA | NA | 1.49 | 0.86–2.57 | 0.155 |
| Elevated TC | 2.88 | 1.42–5.82 | 0.003 | NA | NA | NA | 1.31 | 0.87–1.98 | 0.192 |
| Elevated BP | 1.40 | 0.86–2.28 | 0.172 | NA | NA | NA | 1.17 | 1.03–1.34 | 0.017 |
| FPG | NA | NA | NA | NA | NA | NA | 0.94 | 0.10–8.86 | 0.955 |
| CHRF clustering | 11.77 | 7.13–19.44 | < 0.001 | NA | NA | NA | 1.33 | 0.96–1.85 | 0.091 |
| 10–12 years Model 1 | | | | | | | | | |
| Elevated TG | NA | NA | NA | NA | NA | NA | 0.63 | 0.54–0.73 | < 0.001 |
| Low HDL | 3.11 | 2.32–4.16 | < 0.001 | 3.28 | 2.37–4.55 | < 0.001 | 1.17 | 0.93–1.46 | 0.174 |
| Elevated LDL | 2.83 | 1.73–4.62 | < 0.001 | 3.82 | 2.25–6.50 | < 0.001 | 2.07 | 1.42–3.02 | < 0.001 |
| Elevated TC | 2.91 | 1.94–4.38 | < 0.001 | 3.56 | 2.28–5.56 | < 0.001 | 1.83 | 1.37–2.44 | < 0.001 |
| Elevated BP | 1.54 | 1.20–1.98 | 0.001 | 1.51 | 1.14–2.01 | 0.004 | 0.87 | 0.79–0.94 | 0.001 |
| FPG | 1.10 | 0.11–11.32 | 0.937 | NA | NA | NA | 1.59 | 0.51–4.96 | 0.428 |
| CHRF clustering | 13.00 | 9.81–17.22 | < 0.001 | 12.36 | 8.98–17.03 | < 0.001 | 0.01 | 0.68–0.97 | 0.022 |
| Model 2 | | | | | | | | | |
| Elevated TG | NA | NA | NA | NA | NA | NA | 0.81 | 0.64–1.04 | 0.104 |
| Low HDL | 2.85 | 1.78–4.57 | < 0.001 | 3.50 | 2.08–5.88 | < 0.001 | 1.57 | 1.09–2.26 | 0.016 |
| Elevated LDL | 3.71 | 1.69–8.18 | 0.001 | 5.87 | 2.45–14.02 | < 0.001 | 1.70 | 0.89–3.25 | 0.110 |
| Elevated TC | 3.37 | 1.74–6.52 | < 0.001 | 4.84 | 2.34–10.01 | < 0.001 | 1.87 | 1.10–3.18 | 0.021 |
| Elevated BP | 1.59 | 1.07–2.36 | 0.022 | 1.12 | 0.71–1.76 | 0.634 | 0.86 | 0.75–0.99 | 0.037 |
| FPG | NA | NA | NA | NA | NA | NA | 9.05 | 0.95–85.90 | 0.055 |
| CHRF clustering | 16.73 | 10.54–26.55 | < 0.001 | 12.69 | 7.61–21.16 | < 0.001 | 0.96 | 0.71–1.29 | 0.776 |
| 13–15 years | | | | | | | | | |
| Model 1 | | | | | | | | | |
| Elevated TG | NA | NA | NA | NA | NA | NA | 0.88 | 0.75–1.03 | 0.109 |
| Low HDL | 2.55 | 1.92–3.38 | < 0.001 | 2.19 | 1.55–3.10 | < 0.001 | 1.03 | 0.85–1.25 | 0.746 |
| Elevated LDL | 1.48 | 0.73–3.01 | 0.275 | 1.95 | 0.86–4.40 | 0.109 | 1.28 | 0.75–2.18 | 0.361 |
| Elevated TC | 2.64 | 1.58–4.41 | < 0.001 | 1.57 | 0.80–3.09 | 0.195 | 1.57 | 1.09–2.26 | 0.016 |

Continued

| Models | HW | | | HWHtR | | | WHR | | |
|-----------------|-------|------------|---------|-------|-------------|---------|------|-----------|-------|
| | OR | 95% CI | P | OR | 95% CI | P | OR | 95% CI | P |
| Elevated BP | 1.30 | 0.99–1.69 | 0.057 | 1.47 | 1.05–2.05 | 0.025 | 0.90 | 0.83–0.98 | 0.019 |
| FPG | NA | NA | NA | NA | NA | NA | 0.31 | 0.05–2.04 | 0.222 |
| CHRF clustering | 10.06 | 7.55–13.39 | < 0.001 | 8.07 | 5.62–11.58 | < 0.001 | 0.86 | 0.72–1.03 | 0.095 |
| Model 2 | | | | | | | | | |
| Elevated TG | NA | NA | NA | NA | NA | NA | 1.22 | 0.94–1.57 | 0.132 |
| Low HDL | 1.72 | 1.08–2.75 | 0.023 | 2.29 | 1.31–4.01 | 0.004 | 1.10 | 0.80–1.51 | 0.550 |
| Elevated LDL | 2.04 | 0.66–6.35 | 0.217 | 4.14 | 1.07–16.08 | 0.040 | 2.46 | 0.99–6.07 | 0.052 |
| Elevated TC | 5.64 | 2.45–12.99 | < 0.001 | 3.01 | 1.02–8.85 | 0.045 | 1.94 | 1.00–3.77 | 0.050 |
| Elevated BP | 1.06 | 0.69–1.62 | 0.789 | 1.03 | 0.61–1.77 | 0.903 | 0.97 | 0.84–1.11 | 0.628 |
| FPG | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| CHRF clustering | 9.79 | 6.21–15.44 | < 0.001 | 8.17 | 4.60–14.53 | < 0.001 | 1.07 | 0.80–1.42 | 0.654 |
| 16–17 years | | | | | | | | | |
| Model 1 | | | | | | | | | |
| Elevated TG | NA | NA | NA | NA | NA | NA | 0.98 | 0.77–1.24 | 0.839 |
| Low HDL | 2.57 | 1.76–3.75 | < 0.001 | 2.52 | 1.61–3.93 | < 0.001 | 1.22 | 0.91–1.63 | 0.184 |
| Elevated LDL | 4.50 | 1.97–10.28 | < 0.001 | 3.83 | 1.48–9.92 | 0.006 | 1.81 | 0.82–3.97 | 0.140 |
| Elevated TC | 4.26 | 2.17–8.38 | < 0.001 | 4.01 | 1.79–9.00 | 0.001 | 1.37 | 0.76–2.44 | 0.295 |
| Elevated BP | 1.20 | 0.84–1.73 | 0.322 | 0.94 | 0.60–1.45 | 0.768 | 0.95 | 0.83–1.08 | 0.428 |
| FPG | 1.39 | 0.16–11.81 | 0.763 | 1.85 | 0.19–18.26 | 0.601 | 0.59 | 0.06–5.64 | 0.644 |
| CHRF clustering | 10.02 | 6.79–14.78 | < 0.001 | 8.77 | 5.45–14.11 | < 0.001 | 1.23 | 0.94–1.61 | 0.124 |
| Model 2 | | | | | | | | | |
| Elevated TG | NA | NA | NA | NA | NA | NA | 0.93 | 0.63–1.38 | 0.712 |
| Low HDL | 2.56 | 1.36–4.81 | 0.004 | 2.48 | 1.19–5.14 | 0.012 | 1.32 | 0.80–2.16 | 0.275 |
| Elevated LDL | 8.62 | 2.17–34.23 | 0.002 | 20.95 | 4.12–106.44 | < 0.001 | 0.70 | 0.19–2.64 | 0.597 |
| Elevated TC | 7.85 | 2.45–25.12 | 0.001 | 12.90 | 3.26–51.15 | < 0.001 | 0.83 | 0.29–2.35 | 0.723 |
| Elevated BP | 1.25 | 0.70–2.23 | 0.453 | 1.34 | 0.67–2.68 | 0.408 | 0.96 | 0.78–1.19 | 0.694 |
| FPG | 2.56 | 0.11–60.52 | 0.561 | 3.24 | 0.11–96.18 | 0.497 | NA | NA | NA |
| CHRF clustering | 12.22 | 6.48–23.04 | < 0.001 | 11.23 | 5.31–23.76 | < 0.001 | 1.15 | 0.74–1.81 | 0.533 |

Note. BP, blood pressure; FPG, fasting plasma glucose; HDL, high-density lipoprotein; LDL, low-density lipoprotein; TG, triglyceride; TC, total cholesterol; CHRF clustering, cardiometabolic health risk factors clustering; HW, hypertriglyceridemic waist; HWHtR, hypertriglyceridemic waist-to-height ratio; WHR, waist-to-hip ratio. Model 1: adjusted for sex (boy or girl) and BMI. Model 2: adjusted for variables from model 1, and additionally adjusted by area and family income.