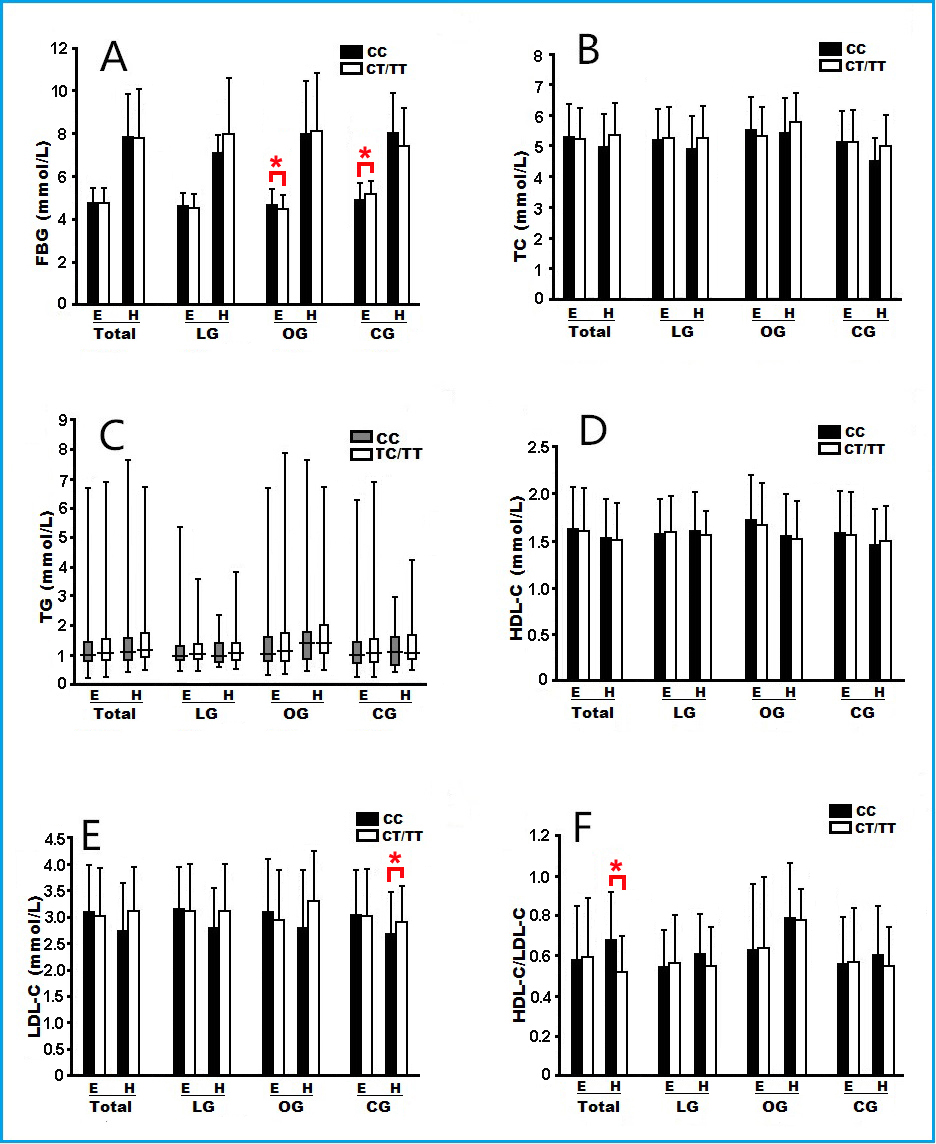
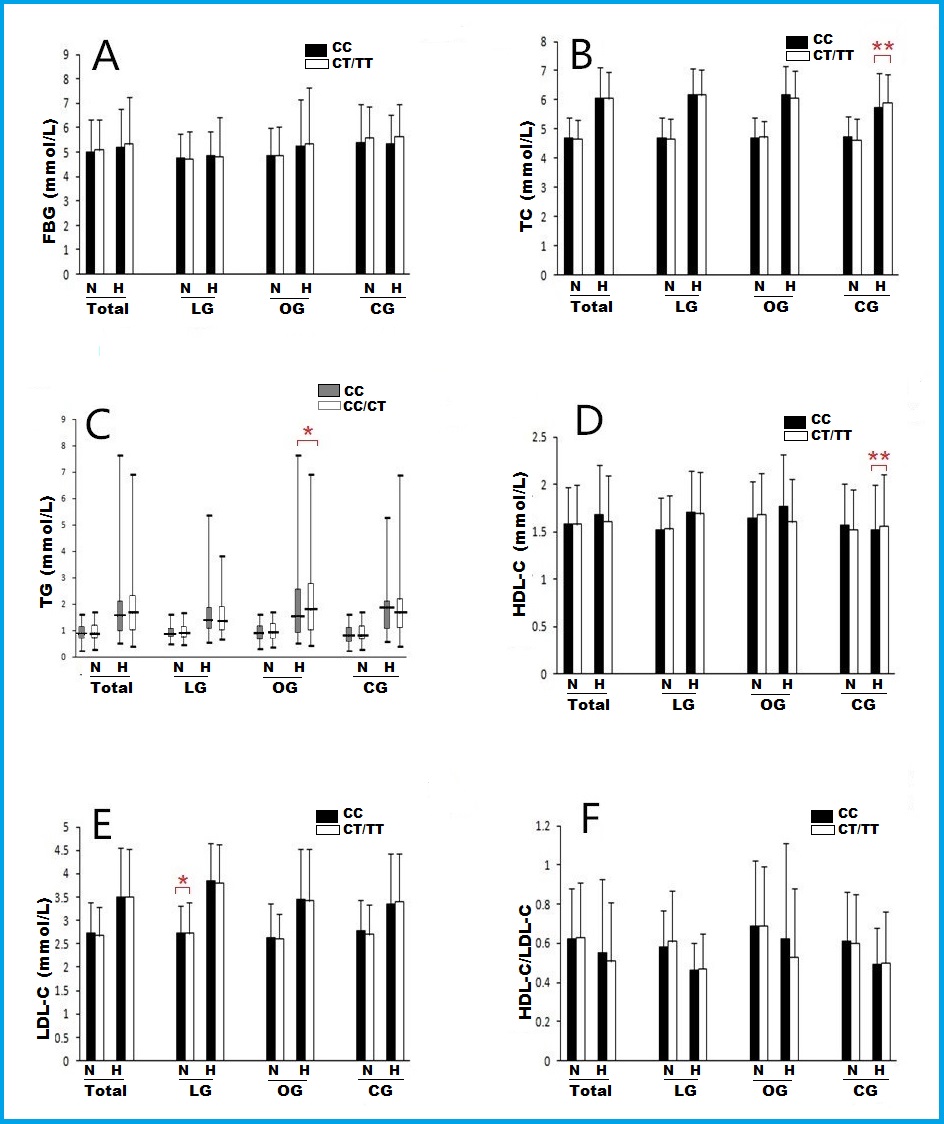


**Figure S1** **Association between GHSRrs572169 genotypes and metabolic risks after stratification by BMI status.** N, normal; OW, overweight; \* and \*\* indicate *P* < 0.05, *P* < 0.01, respectively. Other notes and abbreviations see legends of Figure 2.



**Figure S2** **Association between GHSRrs572169 genotypes and metabolic risks after stratification by FBG status.** E, euglycaemia; H, hyperglyceamia. \* and \*\* indicate *P* < 0.05, *P* < 0.01, respectively. Other notes and abbreviations see legends of Figure 2.



**Figure S3** **Association between GHSRrs572169 genotypes and metabolic risks after stratification by lipid status.** H, hyperlipidemia; N, normolipidemia. \* and \*\* indicate *P* < 0.05, *P* < 0.01, respectively. Other notes and abbreviations see legends of Figure 2.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table S1** Correlation analyses between metabolic parameters and GHSRrs572169 genotypes | | | | | | | | | | | | | | | | | | | |
| Parameter | | Relative factor | Unstandardized Coefficients | | | | Standardized Coefficients | | | | t | | | *P* | | 95% Confidence interval for B | | | | | | | |
|
| B | | | Std. Error | Beta | | |  | | |  | | Lower Bound | | | Upper Bound | | | | | | |
| **LG** | |  |  |  | | |  | | | |  | | |  | |  | | |  | | |
| FBG | | TG | 0.272 | | 0.103 | | | 0.117 | 2.624 | | | 0.009 | | | | | 0.068 | | | 0.475 | | |
| TC | | LDL | 0.942 | | 0.015 | | | 0.789 | 63.881 | | | 0.000 | | | | | 0.913 | | | 0.971 | | |
|  | | HDL | 0.935 | | 0.032 | | | 0.350 | 28.807 | | | 0.000 | | | | | 0.871 | | | 0.999 | | |
|  | | TG | 0.442 | | 0.026 | | | 0.219 | 17.308 | | | 0.000 | | | | | 0.392 | | | 0.492 | | |
|  | | WC | 0.003 | | 0.001 | | | 0.026 | 2.205 | | | 0.028 | | | | | 0.000 | | | 0.005 | | |
| TG | | TC | 0.832 | | 0.049 | | | 1.683 | 17.158 | | | 0.000 | | | | | 0.737 | | | 0.927 | | |
|  | | HDL | -1.138 | | 0.086 | | | -0.863 | -13.177 | | | 0.000 | | | | | -1.308 | | | -0.968 | | |
|  | | LDL | -0.600 | | 0.062 | | | -1.016 | -9.731 | | | 0.000 | | | | | -0.721 | | | -0.479 | | |
|  | | FBG | 0.031 | | 0.014 | | | 0.071 | 2.195 | | | 0.029 | | | | | 0.003 | | | 0.058 | | |
|  | | HDL/LDL | 0.407 | | 0.172 | | | 0.177 | 2.371 | | | 0.018 | | | | | 0.070 | | | 0.745 | | |
|  | | Weight | 0.007 | | 0.002 | | | 0.108 | 3.046 | | | 0.002 | | | | | 0.003 | | | 0.012 | | |
|  | | Sex | 0.125 | | 0.043 | | | 0.101 | 2.868 | | | 0.004 | | | | | 0.039 | | | 0.210 | | |
| HDL | | HDL/LDL | 1.186 | | 0.056 | | | 0.682 | 21.133 | | | 0.000 | | | | | 1.076 | | | 1.297 | | |
|  | | TC | 0.382 | | 0.022 | | | 1.020 | 17.692 | | | 0.000 | | | | | 0.340 | | | 0.425 | | |
|  | | TG | -0.226 | | 0.017 | | | -0.299 | -13.098 | | | 0.000 | | | | | -0.260 | | | -0.192 | | |
|  | | LDL | -0.111 | | 0.030 | | | -0.248 | -3.717 | | | 0.000 | | | | | -0.170 | | | -0.052 | | |
|  | | Weight | -0.002 | | 0.001 | | | -0.043 | -2.204 | | | 0.028 | | | | | -0.004 | | | 0.000 | | |
| LDL | | TC | 0.671 | | 0.012 | | | 0.801 | 55.293 | | | 0.000 | | | | | 0.647 | | | 0.695 | | |
|  | | HDL/LDL | -1.424 | | 0.055 | | | -0.366 | -25.705 | | | 0.000 | | | | | -1.533 | | | -1.315 | | |
|  | | TG | -0.219 | | 0.024 | | | -0.130 | -9.243 | | | 0.000 | | | | | -0.266 | | | -0.173 | | |
| HDL/LDL | | LDL | -0.401 | | 0.016 | | | -1.562 | -25.708 | | | 0.000 | | | | | -0.432 | | | -0.371 | | |
|  | | TC | 0.239 | | 0.014 | | | 1.108 | 17.675 | | | 0.000 | | | | | 0.212 | | | 0.265 | | |
|  | | TG | -0.125 | | 0.012 | | | -0.286 | -10.026 | | | 0.000 | | | | | -0.149 | | | -0.100 | | |
| **OG** | |  |  | |  | | |  |  | | |  | | | | |  | | |  | | |
| FBG | | WC | 0.043 | | 0.007 | | | 0.242 | 6.375 | | | 0.000 | | | | | 0.030 | | | 0.056 | | |
|  | | HDL | -0.311 | | 0.144 | | | -0.083 | -2.158 | | | 0.031 | | | | | -0.593 | | | -0.028 | | |
|  | | Age | 0.034 | | 0.008 | | | 0.152 | 3.988 | | | 0.000 | | | | | 0.017 | | | 0.050 | | |
|  | | Sex | 0.357 | | 0.135 | | | 0.095 | 2.653 | | | 0.008 | | | | | 0.093 | | | 0.621 | | |
|  | | SBP | -0.007 | | 0.003 | | | -0.096 | -2.414 | | | 0.016 | | | | | -0.013 | | | -0.001 | | |
|  | | TG | 0.105 | | 0.037 | | | 0.111 | 2.856 | | | 0.004 | | | | | 0.033 | | | 0.178 | | |
| TC | | LDL | 1.161 | | 0.023 | | | 1.072 | 50.589 | | | 0.000 | | | | | 1.116 | | | 1.206 | | |
|  | | TG | 0.251 | | 0.010 | | | 0.434 | 26.164 | | | 0.000 | | | | | 0.232 | | | 0.270 | | |
|  | | HDL/LDL | 0.893 | | 0.059 | | | 0.315 | 15.078 | | | 0.000 | | | | | 0.777 | | | 1.009 | | |
|  | | Height | -0.007 | | 0.002 | | | -0.049 | -3.053 | | | 0.002 | | | | | -0.011 | | | -0.002 | | |
|  | | DBP | 0.004 | | 0.002 | | | 0.038 | 2.396 | | | 0.017 | | | | | 0.001 | | | 0.007 | | |
| TG | | LDL | -2.415 | | 0.099 | | | -1.290 | -24.294 | | | 0.000 | | | | | -2.610 | | | -2.219 | | |
|  | | TC | 1.862 | | 0.074 | | | 1.077 | 25.176 | | | 0.000 | | | | | 1.717 | | | 2.007 | | |
|  | | HDL/LDL | -1.491 | | 0.177 | | | -0.305 | -8.405 | | | 0.000 | | | | | -1.839 | | | -1.142 | | |
|  | | CC | 0.026 | | 0.008 | | | 0.097 | 3.285 | | | 0.001 | | | | | 0.011 | | | 0.042 | | |
|  | | FBG | 0.096 | | 0.027 | | | 0.091 | 3.551 | | | 0.000 | | | | | 0.043 | | | 0.150 | | |
|  | | Height | 0.016 | | 0.007 | | | 0.067 | 2.349 | | | 0.019 | | | | | 0.003 | | | 0.029 | | |
| HDL | | TG | -0.214 | | 0.008 | | | -0.842 | -25.295 | | | 0.000 | | | | | -0.231 | | | -0.198 | | |
|  | | HDL/LDL | 0.429 | | 0.043 | | | 0.345 | 10.039 | | | 0.000 | | | | | 0.345 | | | 0.513 | | |
|  | | TC | 0.457 | | 0.023 | | | 1.038 | 19.615 | | | 0.000 | | | | | 0.411 | | | 0.502 | | |
|  | | LDL | -0.321 | | 0.031 | | | -0.673 | -10.417 | | | 0.000 | | | | | -0.381 | | | -0.260 | | |
|  | | BMI | -0.017 | | 0.003 | | | -0.119 | -5.009 | | | 0.000 | | | | | -0.024 | | | -0.011 | | |
|  | | FBG | -0.013 | | 0.006 | | | -0.048 | -2.038 | | | 0.042 | | | | | -0.025 | | | 0.000 | | |
| LDL | | TC | 0.764 | | 0.015 | | | 0.827 | 50.344 | | | 0.000 | | | | | 0.734 | | | 0.793 | | |
|  | | HDL/LDL | -0.645 | | 0.045 | | | -0.247 | -14.230 | | | 0.000 | | | | | -0.734 | | | -0.556 | | |
|  | | TG | -0.250 | | 0.009 | | | -0.467 | -26.748 | | | 0.000 | | | | | -0.268 | | | -0.231 | | |
|  | | HDL | -0.414 | | 0.038 | | | -0.198 | -10.819 | | | 0.000 | | | | | -0.490 | | | -0.339 | | |
| HDL/LDL | | LDL | -0.361 | | 0.014 | | | -0.943 | -26.465 | | | 0.000 | | | | | -0.388 | | | -0.334 | | |
|  | | HDL | 0.272 | | 0.020 | | | 0.339 | 13.822 | | | 0.000 | | | | | 0.233 | | | 0.310 | | |
|  | | TC | 0.119 | | 0.013 | | | 0.338 | 9.105 | | | 0.000 | | | | | 0.094 | | | 0.145 | | |
|  | | CC | 0.003 | | 0.001 | | | 0.054 | 2.218 | | | 0.027 | | | | | 0.000 | | | 0.006 | | |
| **CG** | |  |  | |  | | |  |  | | |  | | | | |  | | |  | | |
| FBG | | PP | 0.020 | | 0.003 | | | 0.251 | 6.482 | | | 0.000 | | | | | 0.014 | | | 0.026 | | |
|  | | BMI | 0.105 | | 0.024 | | | 0.221 | 4.451 | | | 0.000 | | | | | 0.059 | | | 0.152 | | |
|  | | DBP | -0.014 | | 0.004 | | | -0.133 | -3.448 | | | 0.001 | | | | | -0.022 | | | -0.006 | | |
|  | | TC | -0.164 | | 0.050 | | | -0.123 | -3.268 | | | 0.001 | | | | | -0.263 | | | -0.066 | | |
|  | | CC | -0.020 | | 0.010 | | | -0.100 | -2.021 | | | 0.044 | | | | | -0.039 | | | -0.001 | | |
| TC | | LDL | 0.937 | | 0.014 | | | 0.798 | 66.524 | | | 0.000 | | | | | 0.910 | | | 0.965 | | |
|  | | TG | 0.440 | | 0.011 | | | 0.495 | 40.636 | | | 0.000 | | | | | 0.419 | | | 0.462 | | |
|  | | HDL | 0.951 | | 0.027 | | | 0.429 | 34.873 | | | 0.000 | | | | | 0.897 | | | 1.004 | | |
|  | | FBG | -0.029 | | 0.009 | | | -0.039 | -3.337 | | | 0.001 | | | | | -0.046 | | | -0.012 | | |
|  | | Sex | 0.072 | | 0.025 | | | 0.034 | 2.854 | | | 0.004 | | | | | 0.022 | | | 0.121 | | |
| TG | | HDL | -1.769 | | 0.057 | | | -0.710 | -30.923 | | | 0.000 | | | | | -1.881 | | | -1.656 | | |
|  | | TC | 1.662 | | 0.041 | | | 1.480 | 40.636 | | | 0.000 | | | | | 1.582 | | | 1.742 | | |
|  | | LDL | -1.591 | | 0.045 | | | -1.206 | -35.175 | | | 0.000 | | | | | -1.680 | | | -1.502 | | |
|  | | Sex | -0.161 | | 0.049 | | | -0.068 | -3.306 | | | 0.001 | | | | | -0.257 | | | -0.065 | | |
|  | | FBG | 0.045 | | 0.017 | | | 0.054 | 2.649 | | | 0.008 | | | | | 0.012 | | | 0.079 | | |
| HDL | | HDL/LDL | 1.250 | | 0.054 | | | 0.683 | 23.076 | | | 0.000 | | | | | 1.143 | | | 1.356 | | |
|  | | LDL | -0.106 | | 0.029 | | | -0.201 | -3.706 | | | 0.000 | | | | | -0.162 | | | -0.050 | | |
|  | | TC | 0.381 | | 0.020 | | | 0.845 | 19.071 | | | 0.000 | | | | | 0.342 | | | 0.420 | | |
|  | | TG | -0.188 | | 0.011 | | | -0.468 | -17.735 | | | 0.000 | | | | | -0.209 | | | -0.167 | | |
|  | | Sex | -0.033 | | 0.016 | | | -0.035 | -2.070 | | | 0.039 | | | | | -0.064 | | | -0.002 | | |
| LDL | | TC | 0.700 | | 0.021 | | | 0.822 | 33.949 | | | 0.000 | | | | | 0.660 | | | 0.741 | | |
|  | | HDL/LDL | -1.232 | | 0.091 | | | -0.356 | -13.586 | | | 0.000 | | | | | -1.410 | | | -1.054 | | |
|  | | TG | -0.313 | | 0.013 | | | -0.413 | -24.396 | | | 0.000 | | | | | -0.339 | | | -0.288 | | |
|  | | HDL | -0.201 | | 0.056 | | | -0.106 | -3.585 | | | 0.000 | | | | | -0.311 | | | -0.091 | | |
|  | | WC | 0.004 | | 0.001 | | | 0.033 | 2.778 | | | 0.006 | | | | | 0.001 | | | 0.006 | | |
| HDL/LDL | | LDL | -0.198 | | 0.005 | | | -0.683 | -42.153 | | | 0.000 | | | | | -0.207 | | | -0.188 | | |
|  | | HDL | 0.369 | | 0.009 | | | 0.675 | 41.689 | | | 0.000 | | | | | 0.352 | | | 0.386 | | |

Abbreviations: BMI, body mass index; CC, chest circumference; CG, control group; DBP, diastolic blood pressure; FPG fasting plasma glucose; HDL-C, high-density lipoprotein cholesterol; LDL-C, low-density lipoprotein cholesterol; LG, long-lived group; OG, offspring group; PP, pulse pressure; SBP, systolic blood pressure; TC, total cholesterol; TG, triglyceride; WC, waist circumference.