Adult LDL-C model (N=2100)	AIC/BIC	β (se)*, p-val
Model 1 : Adult.LDL~ sex+ adult.age+ wGRS-LDL+Δ BMI + wGRS-LDL*Δ BMI	3686/3716	$\beta_{\text{wGRS-LDL}}$: 0.029 (0.02),p<2×10^{-16} * $\beta_{\Delta BMI}$: 0.09 (0.01), p=1.3×10^{-6} * $\beta_{\text{wGRS-LDL}*\Delta BMI}$:-0.02(0.01), p=0.15
Model 2: Adult.LDL~ sex+ adult.age+wGRS-LDL+Δ BMI	3685/3723	$\beta_{\text{wGRS-LDL}}$: 0.20 (0.02), p<1×10^{-16} * $\beta_{\Delta BMI}$: 0.09(0.02), p<1.0×10^{-7}*

Likelihood Ratio Test : Model 1 vs model 2

$\chi2(df=1)=2.04$ p=0.15

Adult HDL-C model (N=2034)	AIC/BIC	β (se)*, p-val
Model 3 : Adult.HDL ~ sex+adult.age+wGRS-HDL+Δ BMI + wGRS-HDL*Δ BMI	486/418	$\beta_{\text{wGRS-HDL}}$: 0.06(0.007), p <2×10^{-16} * $\beta_{\Delta BMI}$: -0.09 (0.007), p= 0.046 * $\beta_{\text{wGRS-HDL}*\Delta BMI}$:0.003 (0.006),p=0.62
Model 4: Adult.HDL ~sex+adult.age +wGRS-HDL+Δ BMI	488/525	$\beta_{\text{wGRS-HDL}}$: 0.06 (0.007), p<1×10^{-16} $\beta_{\Delta BMI}$: - 0.09 (0.07), p<2×10^{-16}

Likelihood Ratio Test: Model 3 vs model 4

$\chi2(df=1)=0.24$ p=0.62

Adult triglycerides model (N=2062)	AIC/BIC	β (se)*, p-val
Model 5 : Log(Adult.TG)~sex+adult.age+wGRS-TG+ΔBMI wGRS- TG*Δ BMI	2645/2876	$\beta_{\text{wGRS-TG}}$: 1.029 (0.02),p<2×10^{-8} * $\beta_{\Delta BMI}$: 1.09 (0.01), p=2.1×10^{-5} * $\beta_{\text{wGRS-TG}*\Delta BMI}$:1.002(0.01), p=0.3
Model 6: Log(Adult.TG)~sex+adult.age+wGRS-TG+Δ BMI	3685/3723	$\beta_{\text{wGRS-TG}}$: 1.029 (0.02), p<1×10^{-8} * $\beta_{\Delta BMI}$: 1.08 (0.01), p<1.0×10^{-9}*

Likelihood Ratio Test : Model 5 vs model 6

$\chi2(df=1)=1.17$ p=0.11