

Supplementary Table 12. Incremental value of polygenic risk score in predicting abnormal glucose tolerance at 7-year postpartum, over the clinical risk factors, in the HAPO-HK Study

Variable	Number		ROC curve analysis								Continuous NRI (95% CI)	P_{NRI}
			Model 1: PRS only		Model 2 (base model): PCs and clinical risk factors		Model 3: PRS, PCs, and clinical risk factors		Comparison of AUC Model 3 vs. Model 2			
	GDM case	Non-GDM control	AUC (95% CI)	P value	AUC (95% CI)	P value	AUC (95% CI)	P value	Increased AUC	P value		
PCs, age, and BMI	129	829	0.595 (0.544–0.645)	2.6×10^{-4}	0.750 (0.701–0.798)	3.5×10^{-20}	0.767 (0.721–0.813)	8.9×10^{-23}	0.0171	0.0187	31.7 (12.6–49.6)	<0.05
PCs, age, BMI, and GDM status	129	828	0.595 (0.544–0.645)	2.6×10^{-4}	0.783 (0.738–0.828)	2.3×10^{-25}	0.787 (0.743–0.831)	4.1×10^{-26}	0.0045	0.1623	25.5 (1.50–42.8)	<0.05
PCs, age, BMI, and T2DM-related PRS	129	828	0.595 (0.544–0.645)	2.6×10^{-4}	0.781 (0.736–0.827)	3.8×10^{-25}	0.788 (0.744–0.833)	2.7×10^{-26}	0.0069	0.0822	25.6 (2.10–42.1)	<0.05

The T2DM-related PRS was derived based on 286 T2DM-related variants reported by Diabetes Meta-Analysis of Trans-Ethnic association studies (DIAMANTE) consortium [2]. ROC curve analysis: Model 1 includes the PRS only; Model 2 (base model) includes the principal components and the clinical risk factors; Model 3 includes both models 1 and 2. AUC (95% CI) and related changes were estimated based on the risk prediction models (i.e., models 1–3) computed by logistic regression. P tests the null hypothesis that “AUC is equal to zero.” $P_{increase}$ tests the null hypothesis that “difference in AUC between models 2 and 3 is equal to zero.”

Reclassification analysis: Old model includes the principal components and the clinical risk factors. New model includes old model and PRS. P_{NRI} tests the null hypothesis that “continuous NRI is equal to zero.”

HAPO-HK, Hyperglycemia and Adverse Pregnancy Outcome-Hong Kong; GDM, gestational diabetes mellitus; ROC, receiver operating characteristic; PRS, polygenic risk score; PC, principal component; AUC, area under the curve; CI, confidence interval; NRI, net reclassification improvement; BMI, body mass index.