

**Figure S1** Prognostic factor selection using LASSO regression model. The LASSO coefficient profiles of the 14 prognostic factors for OS (A) and CSS (C). The coefficient profile plots were produced against the log lambda. Numbers represent prognostic factors, i.e., (I) sex; (II) surgery; (III) removal of lymph nodes; (IV) marital status; (V) M stage; (VI) race; (VII) age; (VIII) site; (IX) differentiation grade; (X) histological type; (XI) tumor size; (XII) AJCC stage; (XIII) N stage; (XIV) T stage. Tuning parameter (Lambda) selection in the LASSO model used tenfold cross-validation for OS (B) and CSS (D). The partial likelihood deviance curve was plotted versus log lambda. The two vertical dashed lines represent the minimum value and one standard deviation from the minimum value. The minimum value of lambda, 0.00136 and 0.00080, was chosen for OS and CSS, respectively. LASSO, least absolute shrinkage, and selection operator; OS, overall survival; CSS, cancer-specific survival; AJCC, American Joint Committee on Cancer.

**Table S1** Coefficients of each predictor returned by Cox regression

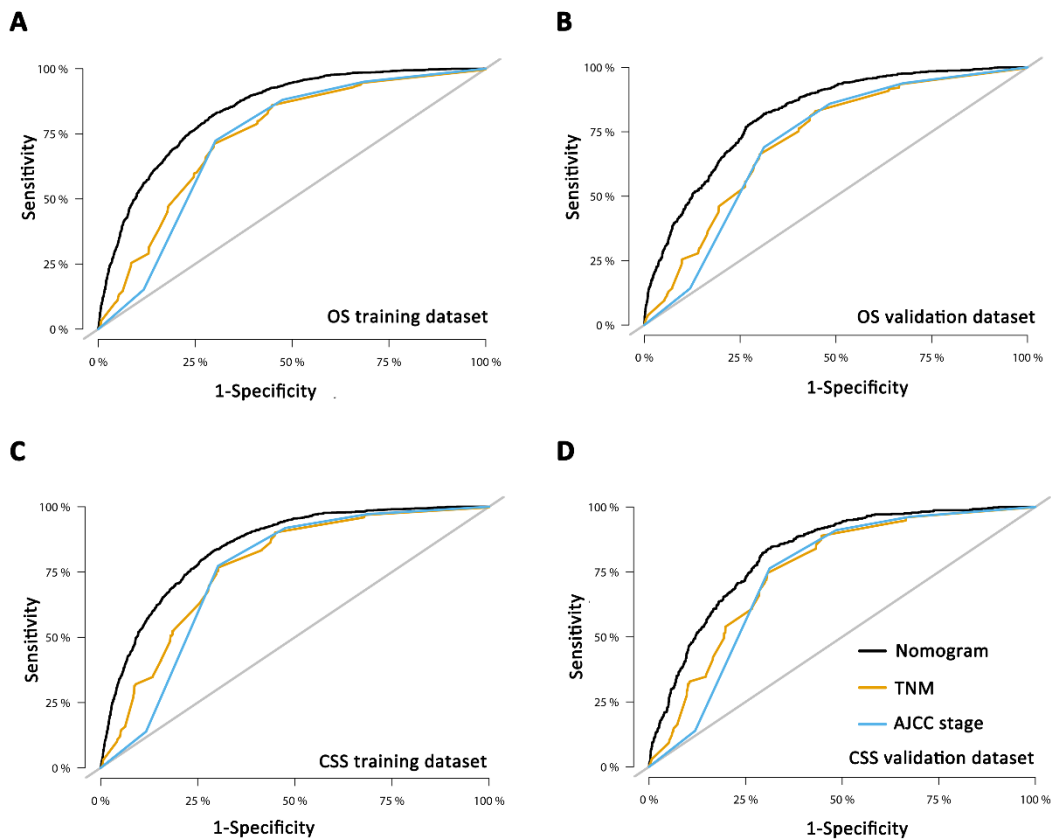
Variables	Exp(coef)	Exp(-coef)	Lower 95	Upper 95
OS				
Sex	1.4745	0.6782	1.3525	1.6074
Age	2.0265	0.4935	1.9218	2.1369
Race	0.8267	1.2097	0.7691	0.8886
Marital status	1.0254	0.9752	0.9988	1.0528
Site	1.0664	0.9377	1.0257	1.1088
Grade	1.0821	0.9241	1.0498	1.1154
AJCC stage	1.3433	0.7444	1.2639	1.4278
T stage	1.1565	0.8646	1.0976	1.2186
N stage	1.0956	0.9127	1.0512	1.1418
M stage	0.8740	1.1442	0.8060	0.9477
Tumor size	0.8704	1.1489	0.8517	0.8895
Surgery	1.8844	0.5307	1.7169	2.0682
Histological type	0.9813	1.0190	0.9735	0.9893
CSS				
Sex	1.3085	0.7642	1.1787	1.4526
Age	1.5929	0.6278	1.4960	1.6960
Race	0.8397	1.1909	0.7710	0.9146
Grade	1.1009	0.9084	1.0596	1.1438
AJCC stage	1.4514	0.6890	1.3453	1.5658
T stage	1.1952	0.8367	1.1233	1.2717
N stage	1.1260	0.8881	1.0721	1.1826
M stage	0.9311	1.0740	0.8467	1.0239
Tumor size	0.8445	1.1841	0.8228	0.8668
Surgery	2.1491	0.4653	1.8977	2.4337
Removal of lymph nodes	0.9329	1.0719	0.8784	0.9908
Histological type	0.9793	1.0211	0.9697	0.9891

OS, overall survival; CSS, cancer-specific survival; AJCC, American Joint Committee on Cancer.

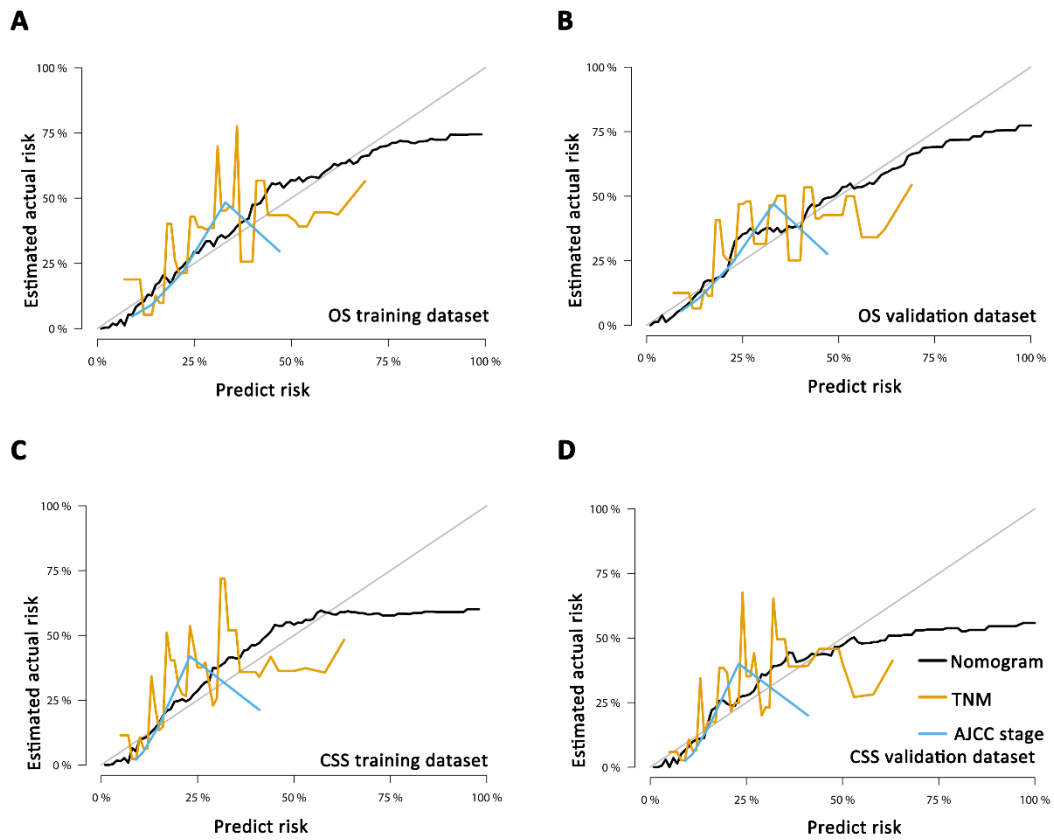
**Table S2** Comparison of AUC, C-index, and Brier score for 3-year prediction between the nomogram, TNM stage, and AJCC stage in MSGC patients

Survival types	Training dataset			Validation dataset		
	AUC	95% CI	Brier score	AUC	95% CI	Brier score
<b>OS</b>						
Nomogram	84.1	83.1–85.1	0.0131	81.8	80.2–83.5	0.0138
TNM stage	74.3	73.0–75.6	0.0161	72.0	70.0–74.0	0.0165
AJCC stage	72.7	71.5–74.0	0.0413	70.8	68.9–72.8	0.0165
<b>CSS</b>						
Nomogram	84.6	83.5–85.7	0.0114	82.3	80.5–84.2	0.0116
TNM stage	77.0	75.7–78.3	0.0133	75.7	73.6–77.8	0.0131
AJCC stage	74.7	73.5–76.0	0.0434	73.7	71.7–75.6	0.0135

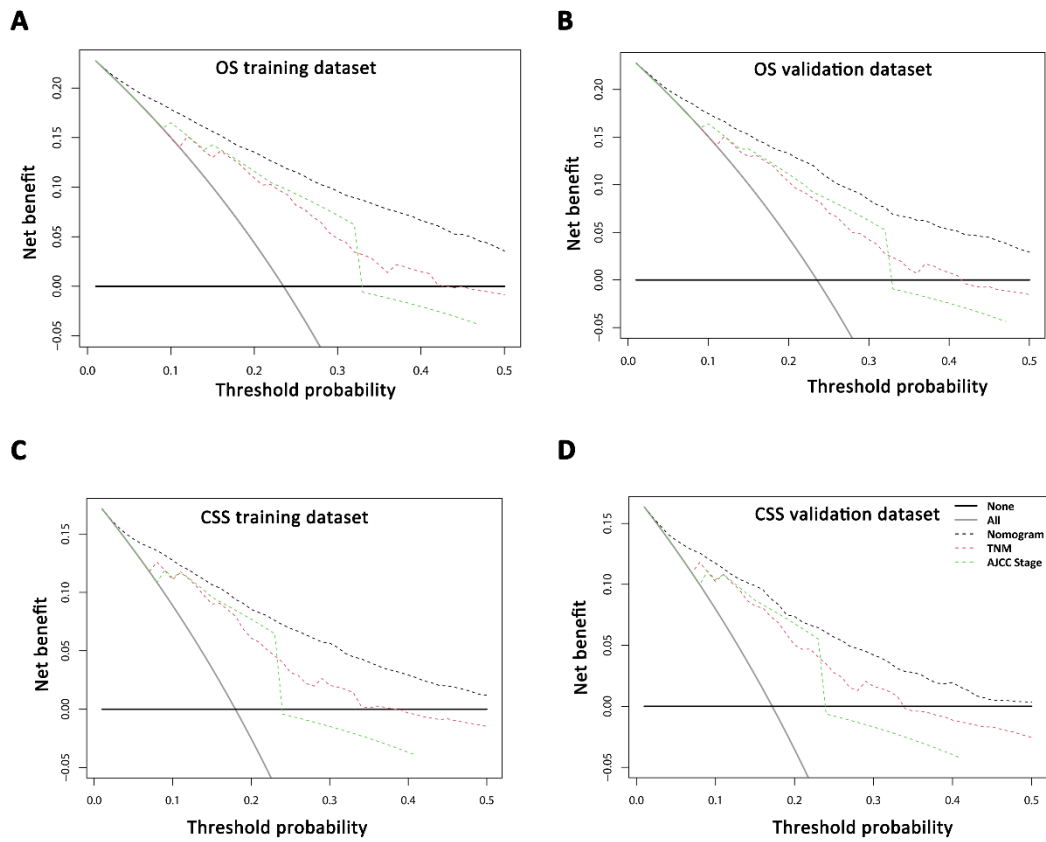
MSGC, major salivary gland carcinoma; OS, overall survival; CSS, cancer-specific survival; AJCC, American Joint Committee on Cancer; AUC, area under curve; CI, confidence interval.



**Figure S2** The ROC curves of nomograms, AJCC stage, and TNM stage for 3-year prediction in training and validation dataset. OS in the training dataset (A) and validation dataset (B). CSS in the training dataset (C) and validation dataset (D). ROC, receiver operating characteristic; AJCC, American Joint Committee on Cancer; OS, overall survival; CSS, cancer-specific survival.



**Figure S3** The calibration curves of nomograms, AJCC stage, and TNM stage for 3-year prediction in training and validation dataset. OS in the training dataset (A) and validation dataset (B). CSS in the training dataset (C) and validation dataset (D). AJCC, American Joint Committee on Cancer; OS, overall survival; CSS, cancer-specific survival.



**Figure S4** The DCA of nomograms, AJCC stage, and TNM stage for 5-year prediction in training and validation dataset. OS in the training dataset (A) and validation dataset (B). CSS in the training dataset (C) and validation dataset (D). DCA, decision curve analysis; AJCC, American Joint Committee on Cancer; OS, overall survival; CSS, cancer-specific survival.