

IBQ_R 2022

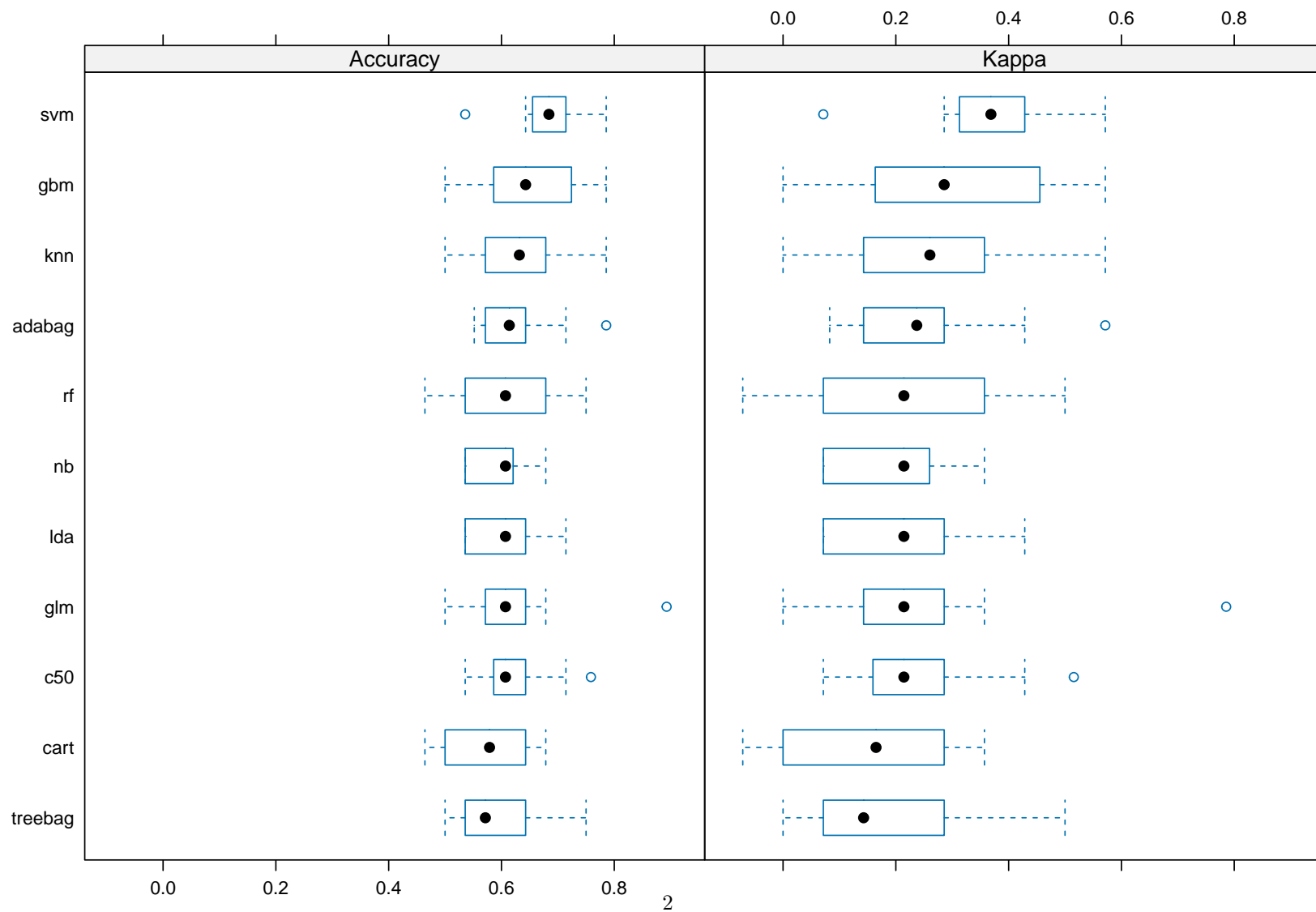
Masha Gartstein, Erich Seamon

10/25/2022

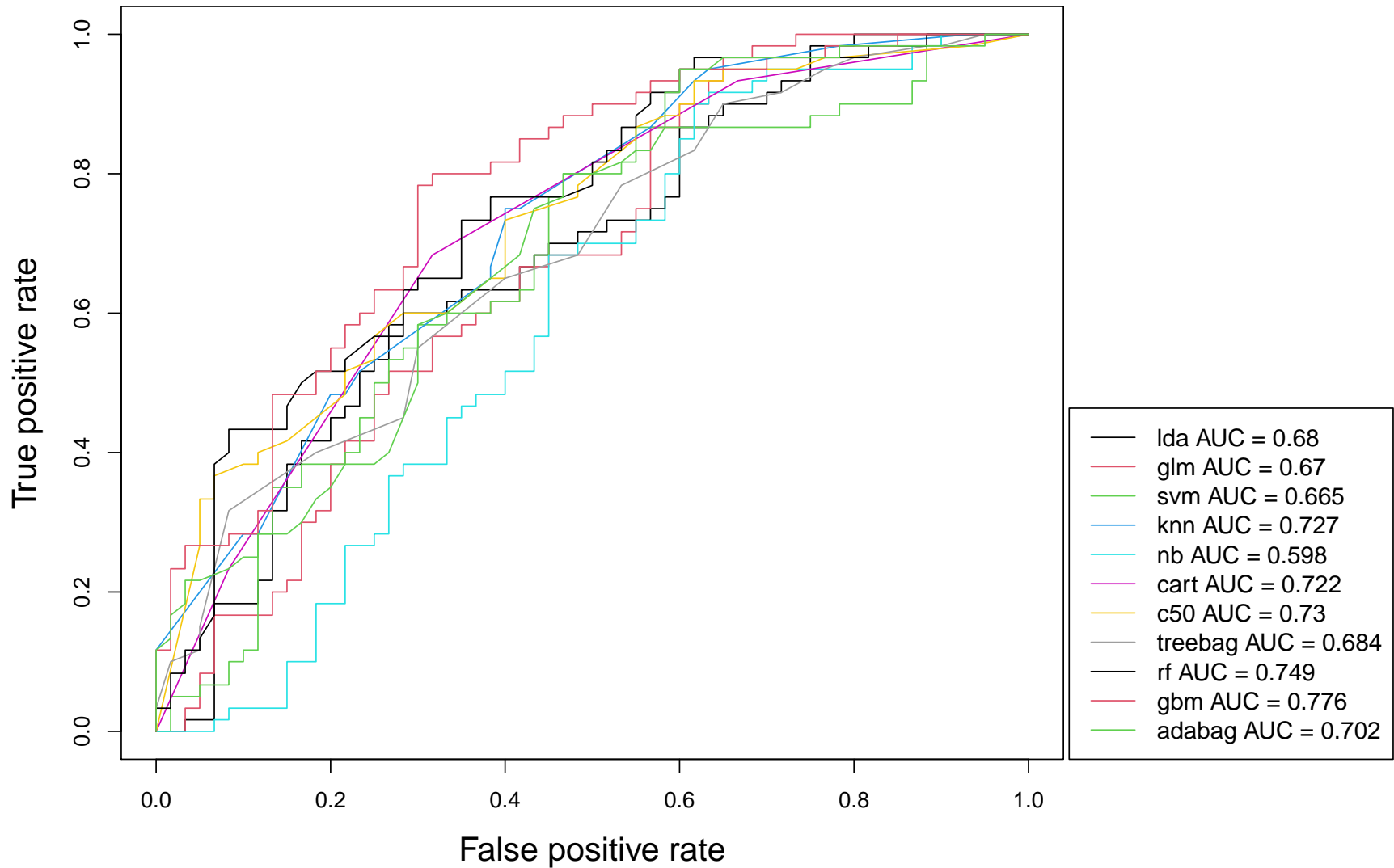
Exploratory Data Analysis

Model Development and Output: Control Group One VS. Experimental - ALL VARIABLES

Model Accuracy Estimates: Control Group One VS. Experimental Group – All Variables

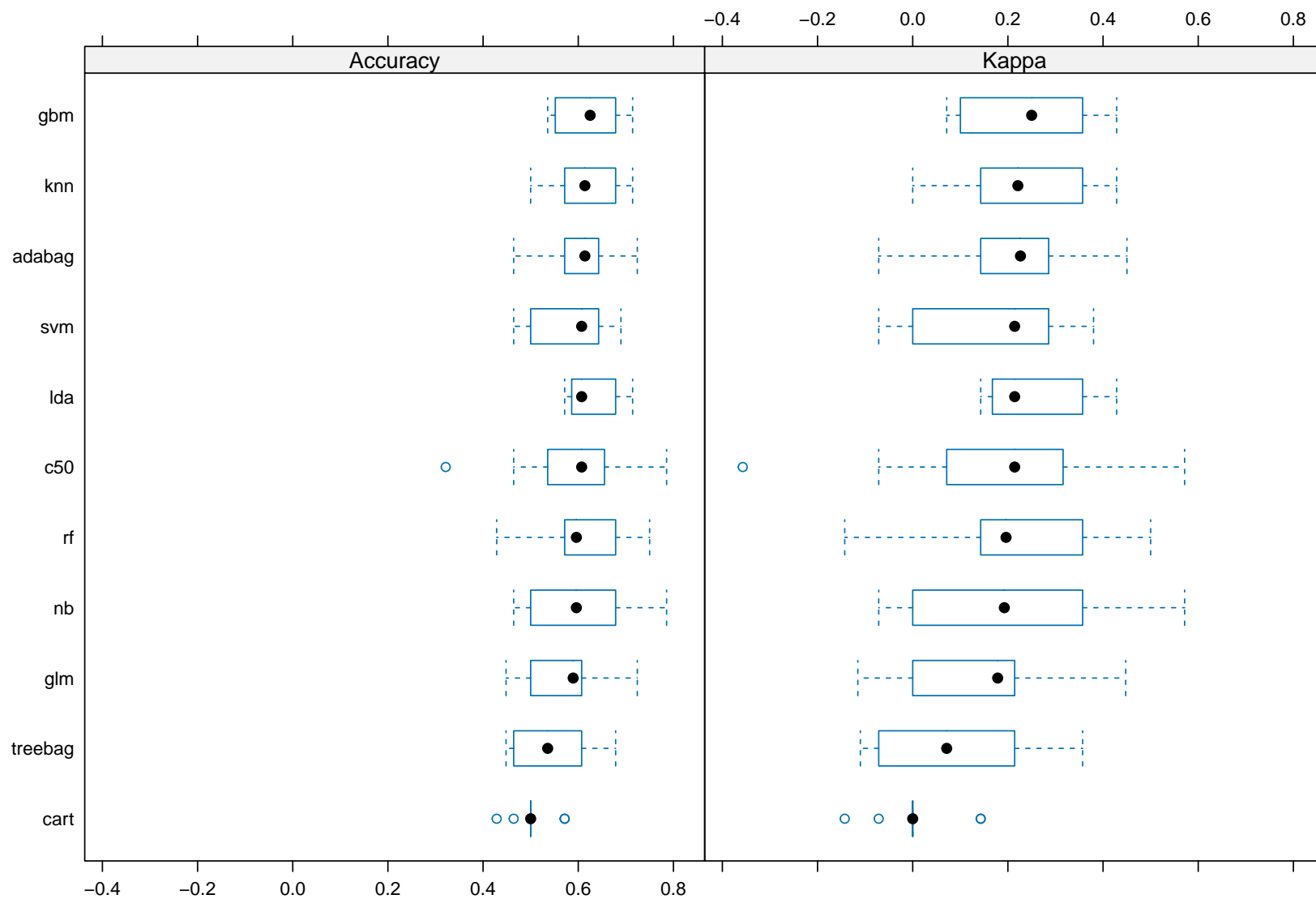


ROC Curve: Control Group One VS. Experimental – All Variables

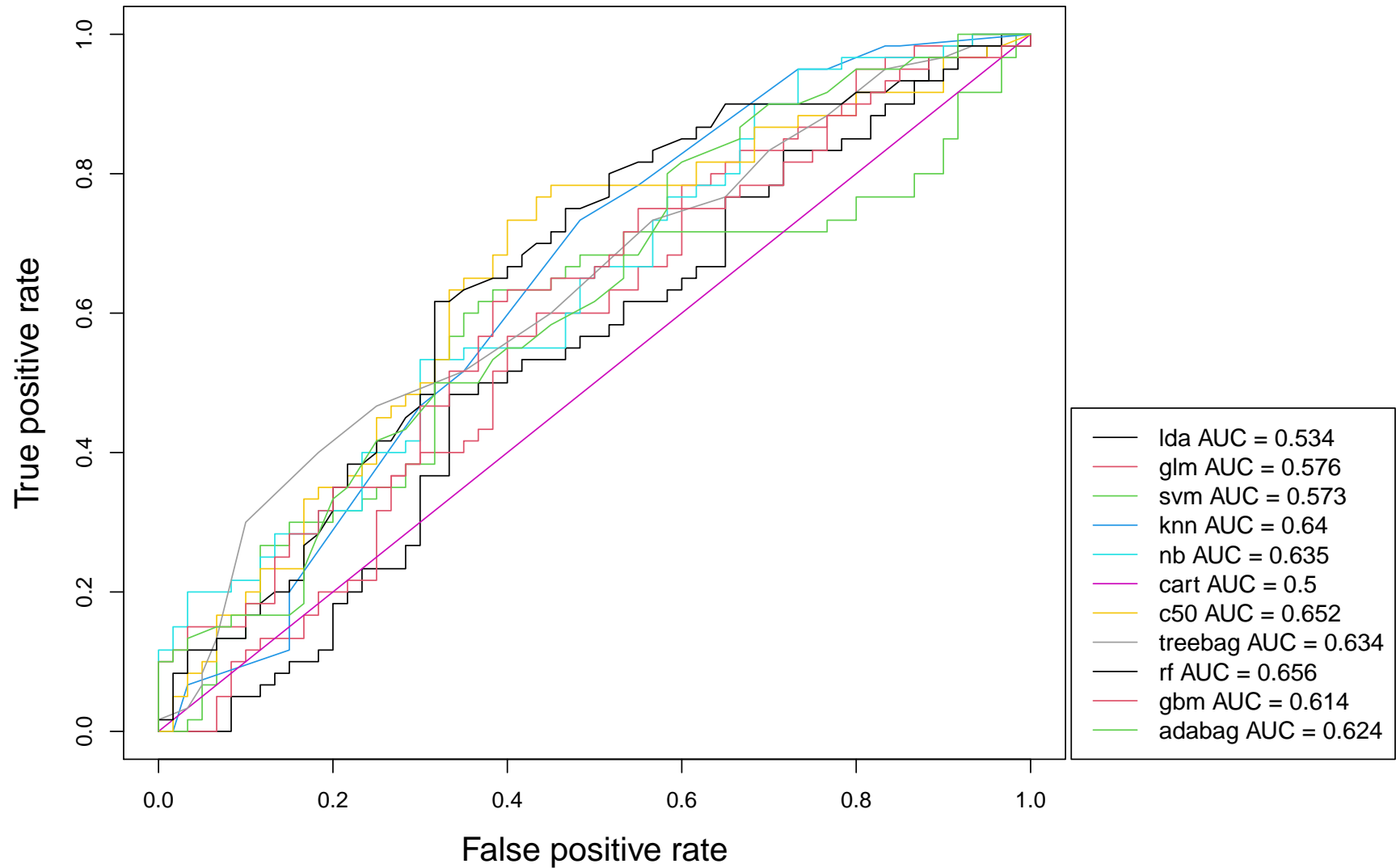


Model Development and Output: Control Group Two VS. Experimental - ALL VARIABLES

Model Accuracy Estimates: Control Group Two VS. Experimental Group – All Variables

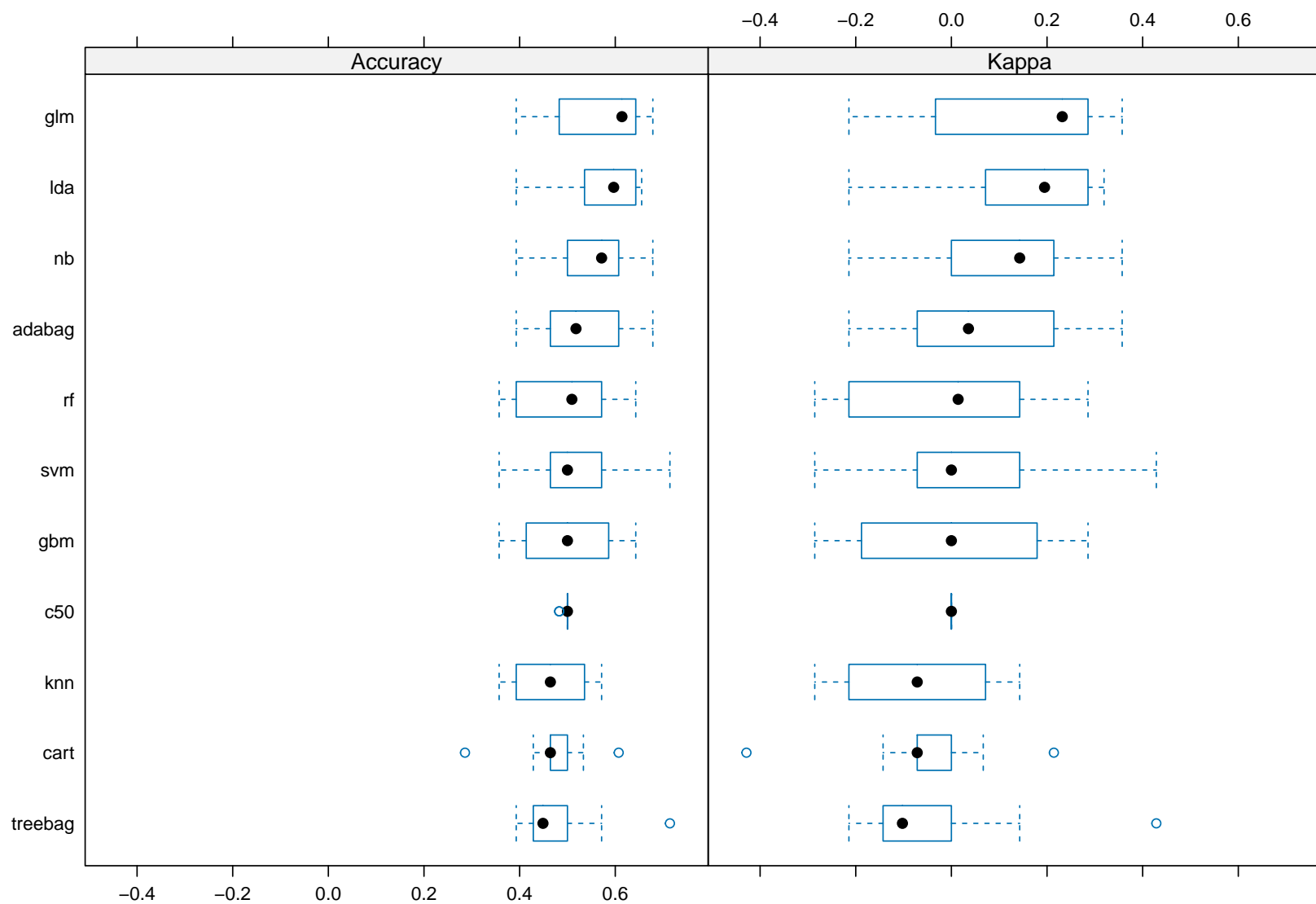


ROC Curve: Control Group Two VS. Experimental – All Variables

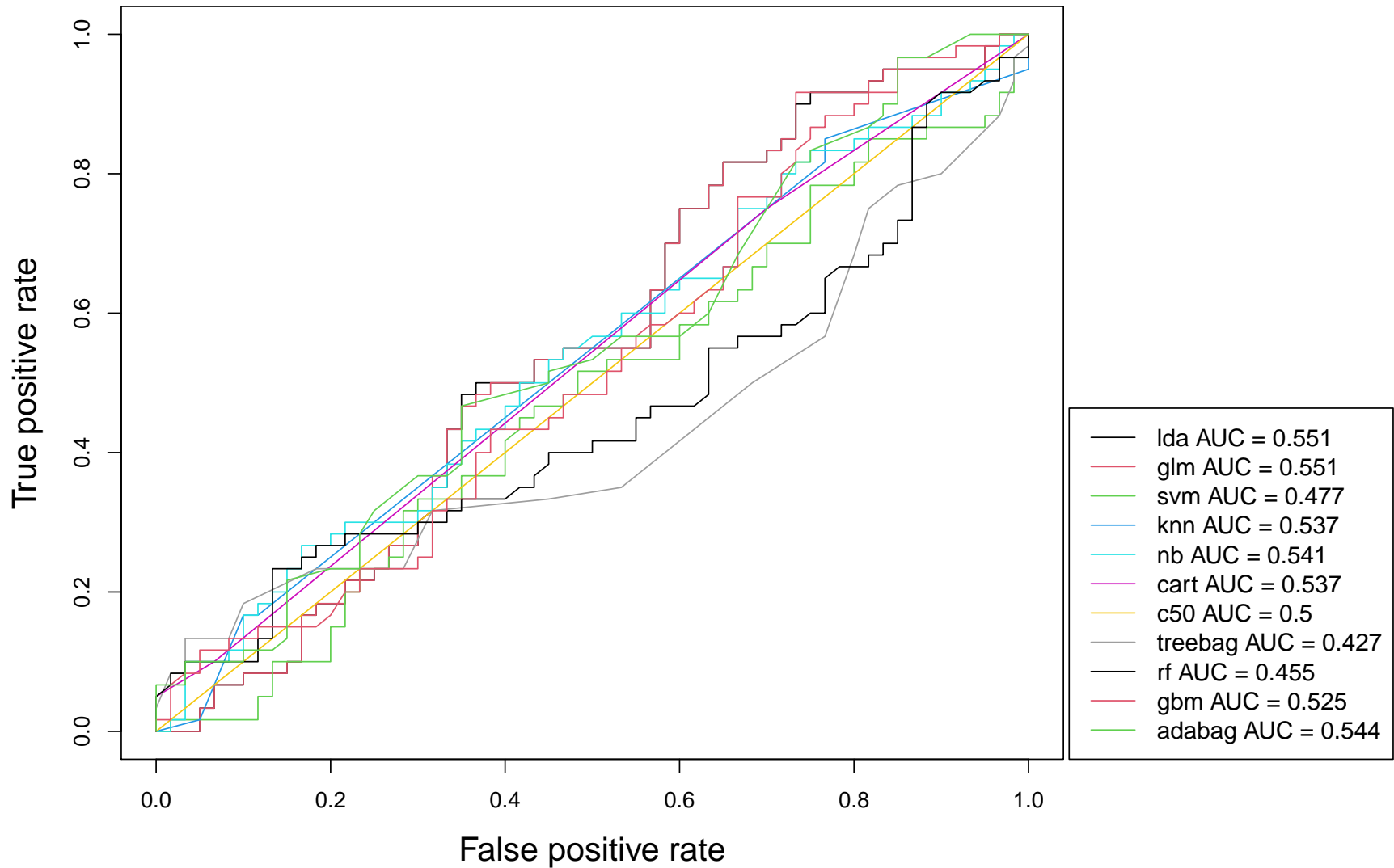


Model Development and Output: Control Group One VS. Experimental - TRANSFORMED VARIABLES

Model Accuracy Estimates: Control Group One VS. Experimental Group – Transformed Variables

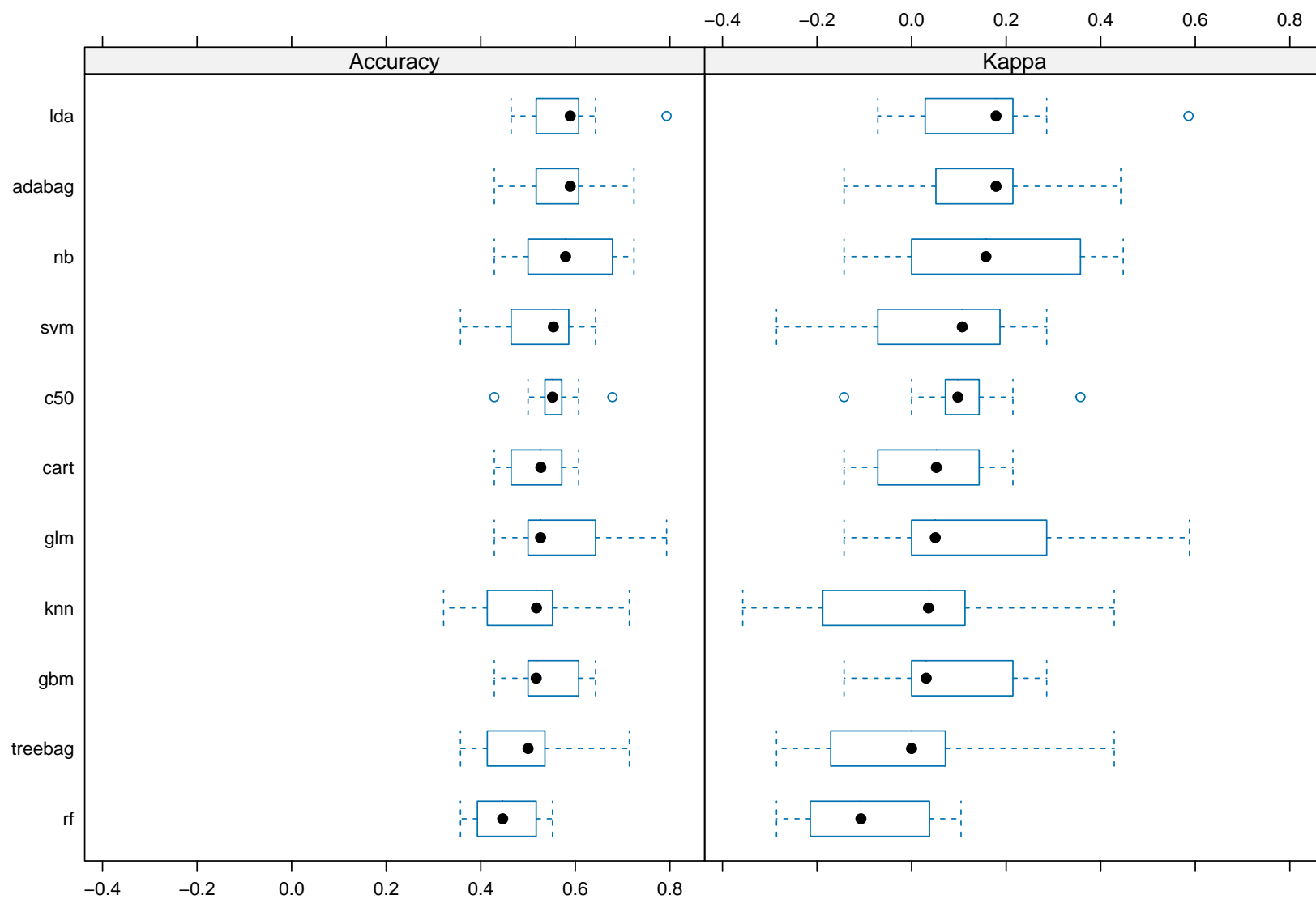


ROC Curve: Control Group One VS. Experimental – Transformed Variables

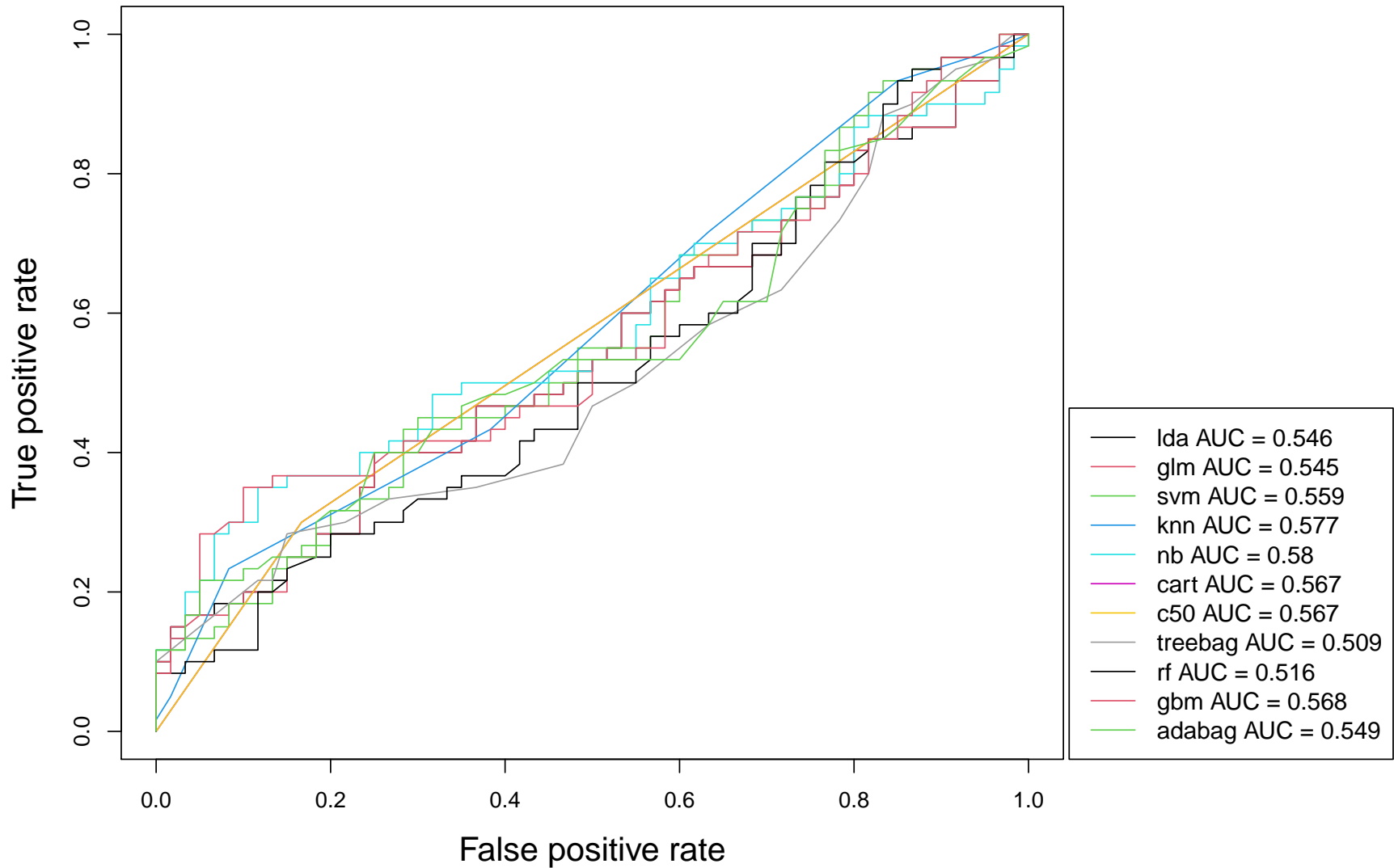


Model Development and Output: Control Group Two VS. Experimental - TRANSFORMED VARIABLES

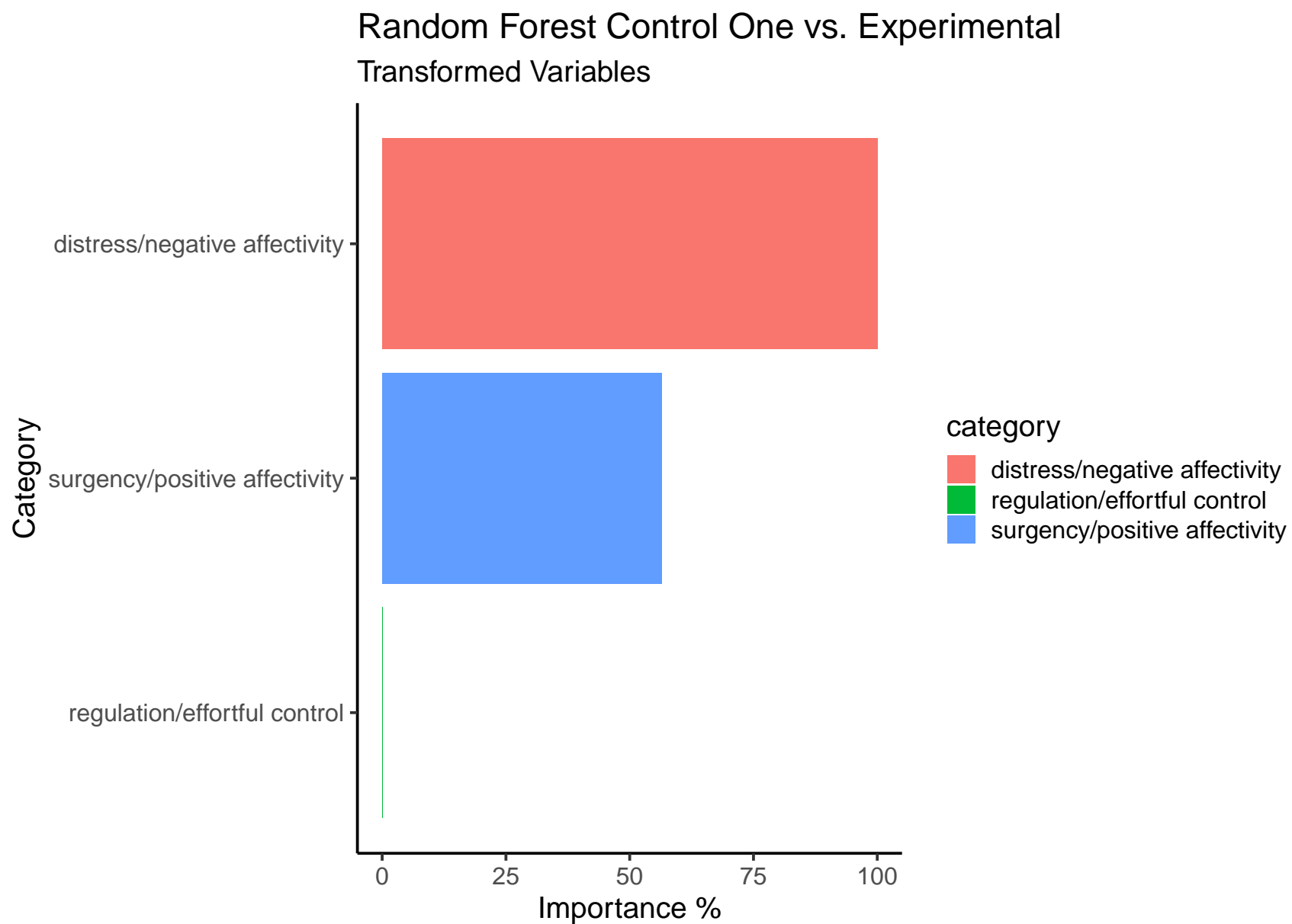
Model Accuracy Estimates: Control Group Two VS. Experimental Group – Transformed Variables



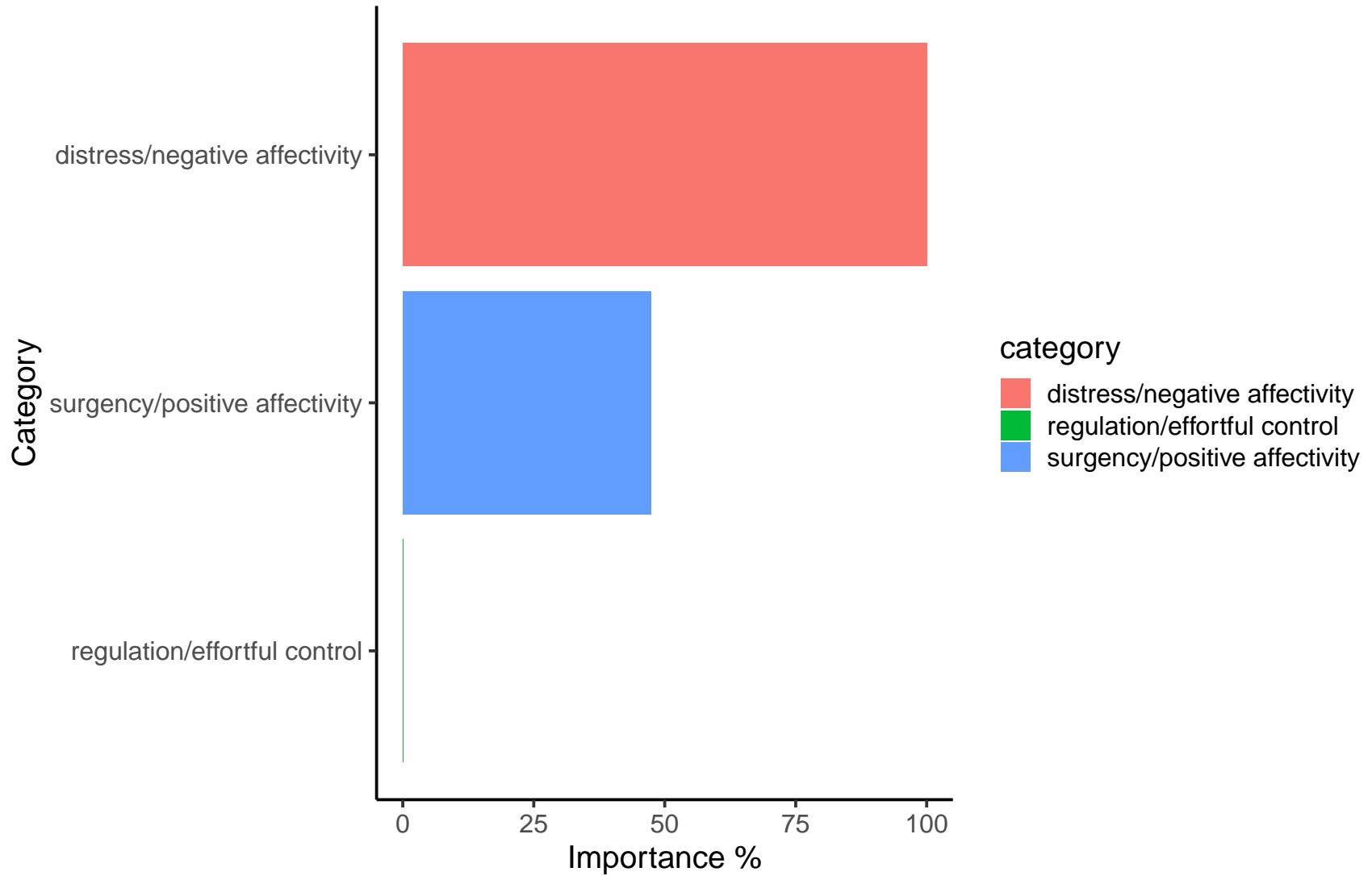
ROC Curve: Control Group Two VS. Experimental – Transformed Variables



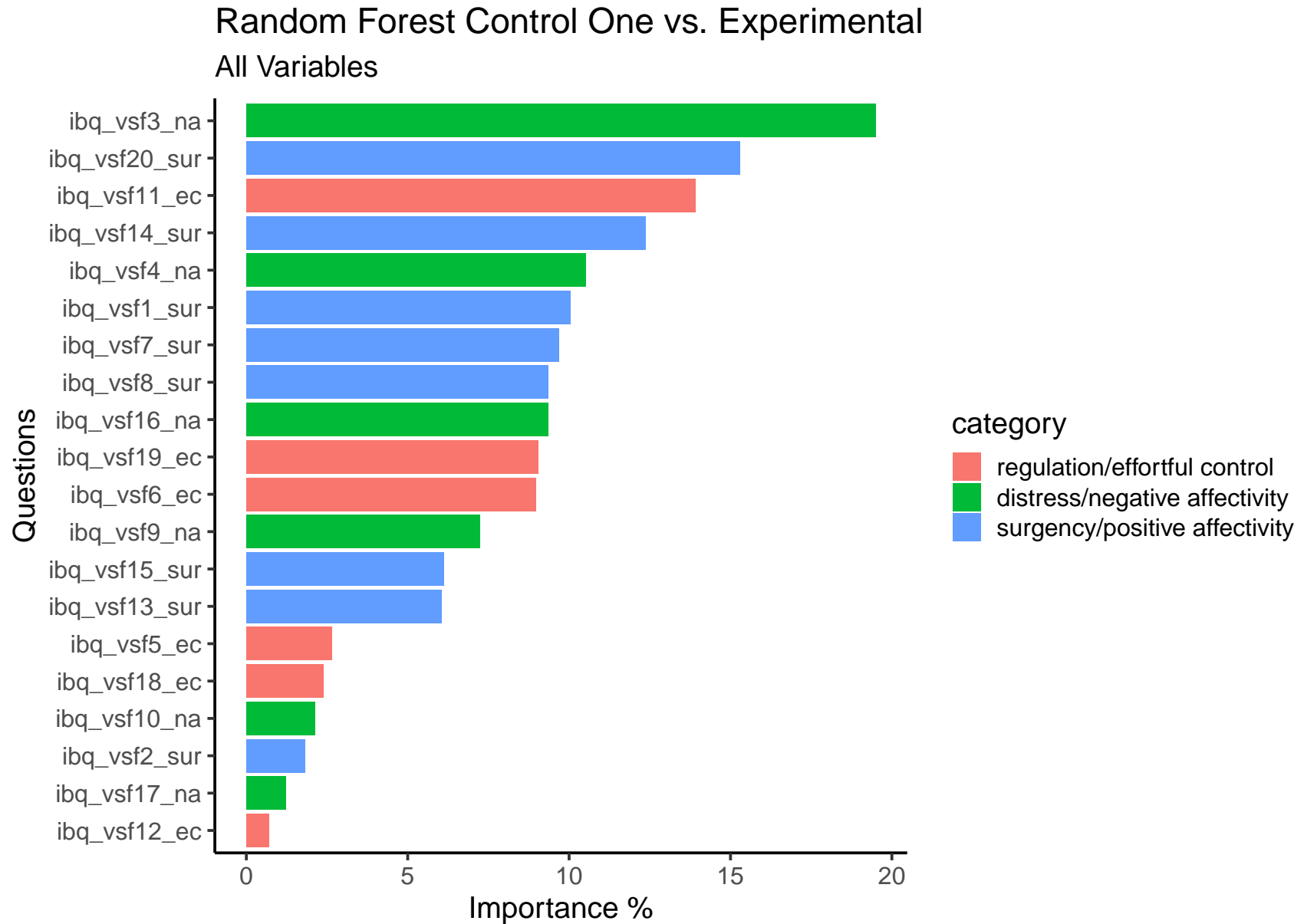
Feature Importance - Random Forest Model Results: Transformed Variables



Random Forest Control Two vs. Experimental Transformed Variables

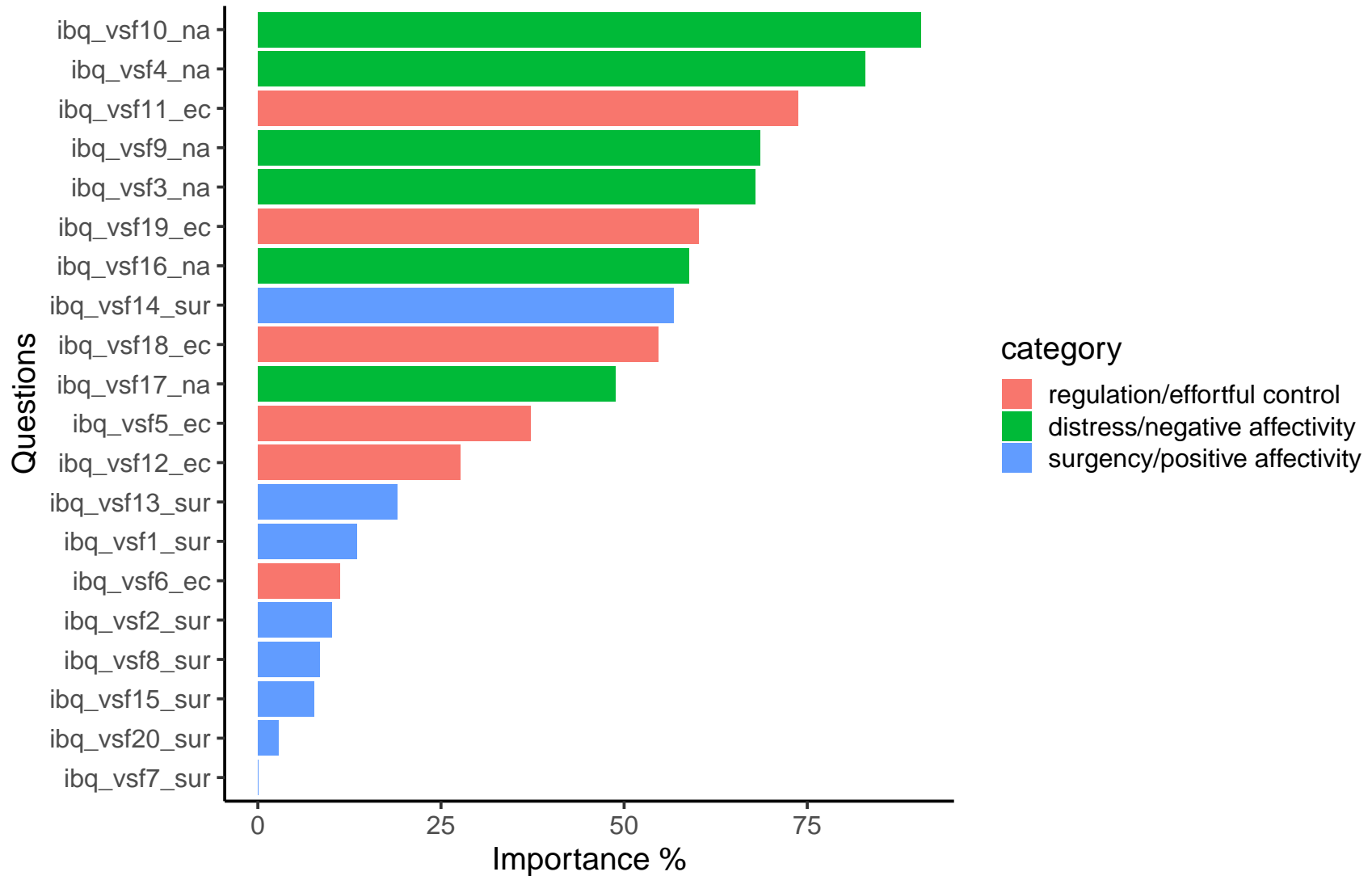


Feature Importance - Random Forest Model Results: All Variables



Random Forest Control Two vs. Experimental

All Variables



models	Exp. VS. CG1 classification: All Variables			Exp. VS. CG2 classification: All Variables		
	accuracy	kappa	AUC	accuracy	kappa	AUC
lda	0.634	0.204	0.670	0.553	0.250	0.576
glm	0.587	0.242	0.665	0.583	0.148	0.573
svm	0.597	0.369	0.727	0.603	0.171	0.640
knn	0.617	0.248	0.598	0.590	0.234	0.635
nb	0.637	0.199	0.722	0.608	0.212	0.500
cart	0.619	0.146	0.730	0.556	0.007	0.652
c5.0	0.630	0.253	0.684	0.573	0.164	0.634
bagging	0.616	0.191	0.749	0.632	0.087	0.656
rf	0.616	0.221	0.776	0.610	0.221	0.614
gbm	0.644	0.298	0.702	0.578	0.241	0.624
adabag	0.634	0.263	0.670	0.553	0.219	0.576

models	Exp. VS. CG1 classification: Transformed Variables			Exp. VS. CG2 classification: Transformed Variables		
	accuracy	kappa	AUC	accuracy	kappa	AUC
lda	0.552	0.142	0.551	0.494	0.161	0.545
glm	0.533	0.143	0.477	0.542	0.147	0.559
svm	0.516	0.021	0.537	0.513	0.058	0.577
knn	0.481	-0.065	0.541	0.531	0.007	0.580
nb	0.524	0.114	0.537	0.581	0.169	0.567
cart	0.497	-0.058	0.500	0.571	0.041	0.567
c5.0	0.514	0.000	0.427	0.525	0.105	0.509
bagging	0.510	-0.035	0.455	0.533	-0.019	0.516
rf	0.518	-0.014	0.525	0.525	-0.100	0.568
gbm	0.488	-0.008	0.544	0.545	0.070	0.549
adabag	0.552	0.058	0.551	0.494	0.149	0.545