

S2 Table. Classifier hyperparameter tuning grid. The potential of machine learning for the prediction of TQ_distress at T1 (after treatment) using questionnaire data from T0 (at baseline) only was investigated with the following 11 algorithms: LASSO [1], RIDGE [2], support vector machine (SVM) [3], a feed-forward neural network with one single hidden layer (NNET) [4], generalized partial least squares (GPLS) [5], weighted k-nearest neighbor classifier (WKNN) [6], Naïve Bayes classifier (NB), CART decision tree [7], C5.0 decision tree [8], random forest (RF) [9] and gradient boosted trees (GBT) [10]. All classifiers were implemented with the statistical programming language R [11] using the package mlr [12], which provides a consistent interface to many machine learning algorithms from other R packages. A grid search was employed for hyperparameter tuning using area under the ROC curve (AUC) as evaluation measure. The table below provides an overview about each classifier, including used R package, tuned hyperparameters and their value ranges. Any other hyperparameters were set to default values.

Algorithm (R package)	Hyperparameter	Min	Max	#Values
lasso, ridge (both <code>glmnet</code> [1])	<code>lambda</code>	0.01	10^{10}	100
wknn (<code>kknn</code> [6])	<code>k</code>	1	77	20
<code>svm</code> (<code>e1071</code> [13])	<code>cost</code>	0.01	3	6
	<code>gamma</code>	0	3	4
	<code>kernel</code>	*	-	4
	<code>laplace</code>	1	5	5
<code>nb</code> (<code>e1071</code> [13])	<code>size</code>	1	13	7
	<code>decay</code>	10^{-4}	1	6
	<code>ncomp</code>	1	5	5
<code>cart</code> (<code>rpart</code> [16])	<code>cp</code>	0.001	0.1	5
	<code>CF</code>	0	0.35	7
<code>c5.0</code> (<code>C50</code> [17])	<code>rules</code>	FALSE	TRUE	2
	<code>winnow</code>	FALSE	TRUE	2
	<code>mtry</code>	4	100	7
	<code>min.node.size</code>	1	25	6
<code>rf</code> (<code>ranger</code> [18])	<code>eta</code>	0.01	0.4	4
	<code>max_depth</code>	1	3	3
	<code>colsample_bytree</code>	0.2	1	5
	<code>min_child_weight</code>	0.5	2	3
	<code>subsample</code>	0.2	1	3
	<code>nrounds</code>	50	250	3

* = {linear, polynomial, radial, sigmoid}

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