Creating a Validation Column (Holdout Sample)

This page describes how to create a validation column in JMP®. Validation, or out-of-sample cross-validation, is used to control overfitting and to assess the predictive ability of a model. Different methods for model validation are available in JMP. In **JMP Pro**, a validation column (example at right) can be used for automated model cross-validation in many modeling platforms.

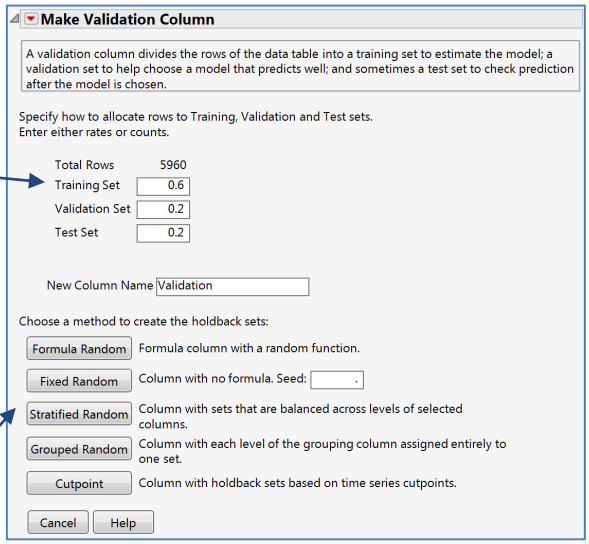
Validation
Test
Test
Train
Test
Train
Test
Train
Validate
Train
Train
Validate
Train

JMP PRO Creating a Validation Column (Train, Validate, Test) in JMP Pro

1. From an open JMP data table, select **Analyze > Predictive Modeling > Make Validation Column**.
2. In the resulting window, enter values (counts or proportions) indicating how the data will be allocated to the training, validation and test sets.

   The observations in the Training Set will be used to train the model. The observations in the Validation Set will be used to validate the model, and the observations in the Test set will be used to test the model.

   Note that for some algorithms, the validation set is used for model selection and to control overfitting.



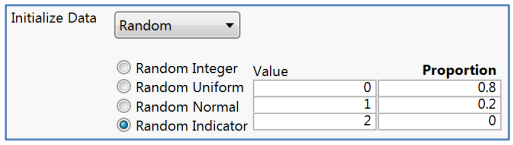
3. Select a **method** for partitioning the data. The available methods, including **Fixed Random** and **Stratified Random**, are described in the dialog window.

   A new column is created, populated with the values Train, Validation, and Test, in the proportions (or counts) specified above. Note that the resulting proportions will be approximate equal to those specified.

   For reproducibility, enter a value greater than 1 in the **Seed** field and use **Fixed Random**.

Creating a Validation Column – Another Way

1. From an open JMP data table, select **New Column** from the **Cols** menu.
2. In the resulting **New Column** window, change the **Column Name** to **Validation**.
3. Next to **Initialize Data**, click on the arrow and select **Random**.
4. Select **Random Indicator**. By default, the new column will contain 80% 0s (train), 20% 1s (validate) and 0% (test)s.
5. Change the default proportions as desired.



6. To display the labels Train, Validate and Test rather than 0, 1 and 2, select **Value Labels** under **Column Properties** and enter the values and the desired labels, then click **Add**.
7. Click **Apply** to view the new column in the data table (to verify that the column will be created as desired). Then click **OK** to create the column.

Notes: For information on creating validation columns and validation options available in the different modeling platforms and model validation in JMP Pro, see the books ***Fitting Linear Models*** or ***Predictive and Specialized Models*** (under **Help > Books**) or search for "validation" in the JMP Help.