From **NEDARC** data workshops
Instructions for creating a data field validations in Microsoft® Excel®
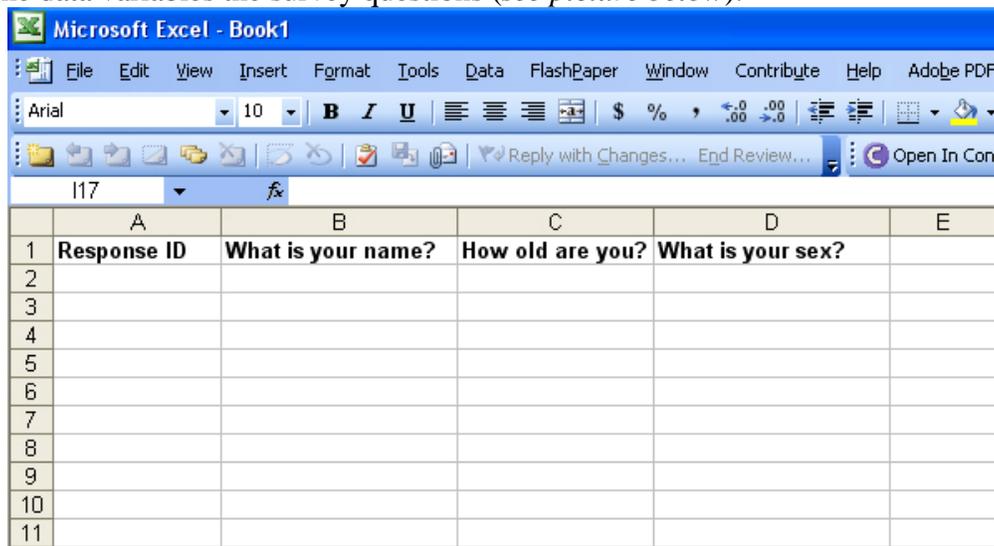1 of 10

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Instructions for applying data validation(s) to data fields in Microsoft® Excel®

According to Microsoft® Excel®, a data validation is used to control the type of data or the values that users enter into a cell. For example, you may want to restrict data entry to a certain range of dates, limit choices by using a list, or make sure that only positive whole numbers are entered. Below are the steps for applying data validations to an Excel® document.

1) Before you can use or create a data validation in Microsoft® Excel®, the dataset must have data variables at the top of each column. For example, if you are entering survey responses it may be best to make the data variables the survey questions (*see picture below*).
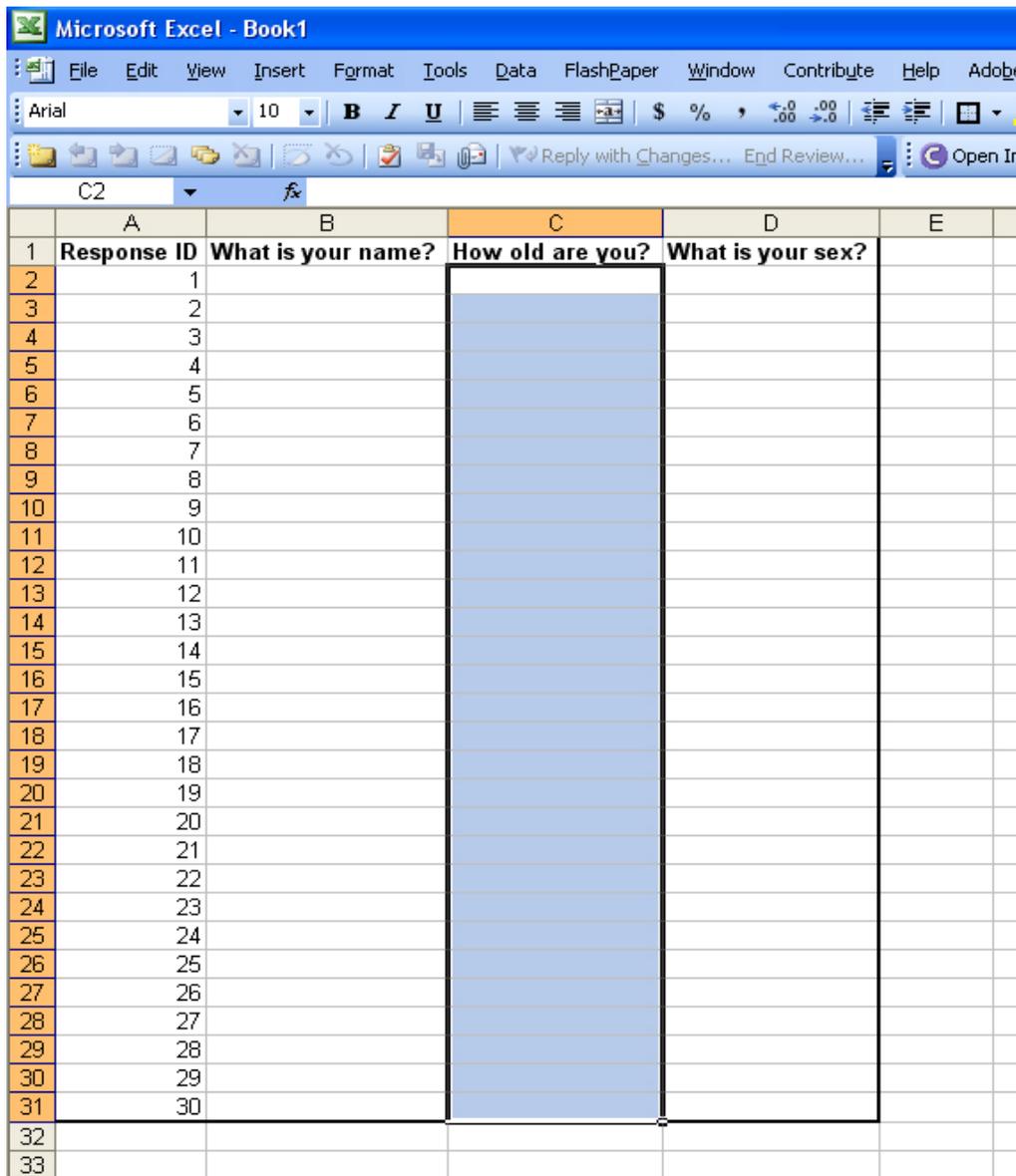

After you have added your data variables to the Excel® document, you can create a data entry validation for each variable. By placing a validation on a cell or variable column, you can ensure that the data entered for that data variable field is within the validation parameters. For example, if you wanted ages in years and only wanted whole numbers to be entered, you could put a validation on the entire column (*see example above, column C*). If a whole number is not entered, an error message will come up and will tell them what is wrong and how to correct the data entry mistake.

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2) To create a validation for a data variable field, you will need to select the entire data entry field. To select the entire data entry field you would select the first cell in column to the last cell in column of the dataset by highlighting it with your cursor *(see picture below)*.

Note: do NOT select the data variable name when selecting the range that will have a validation. For example, if your data variable names are on row 1 of your Excel® worksheet, you would begin your selection on row 2 (see picture below). Also, you need to know the end of your data set to apply the validation. In the example above the dataset ends on line 31 of the worksheet, therefore the selected column ends there as well.
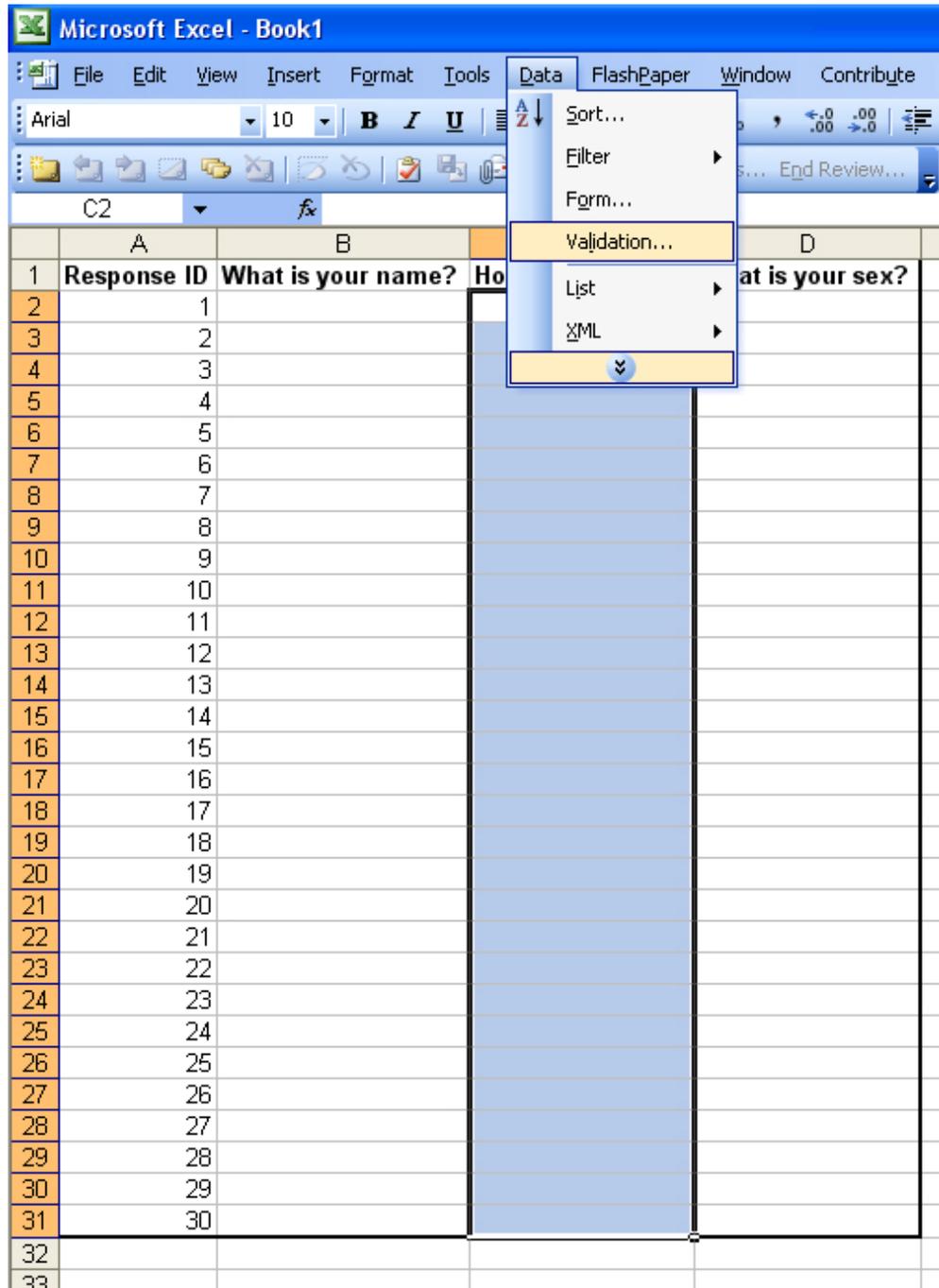
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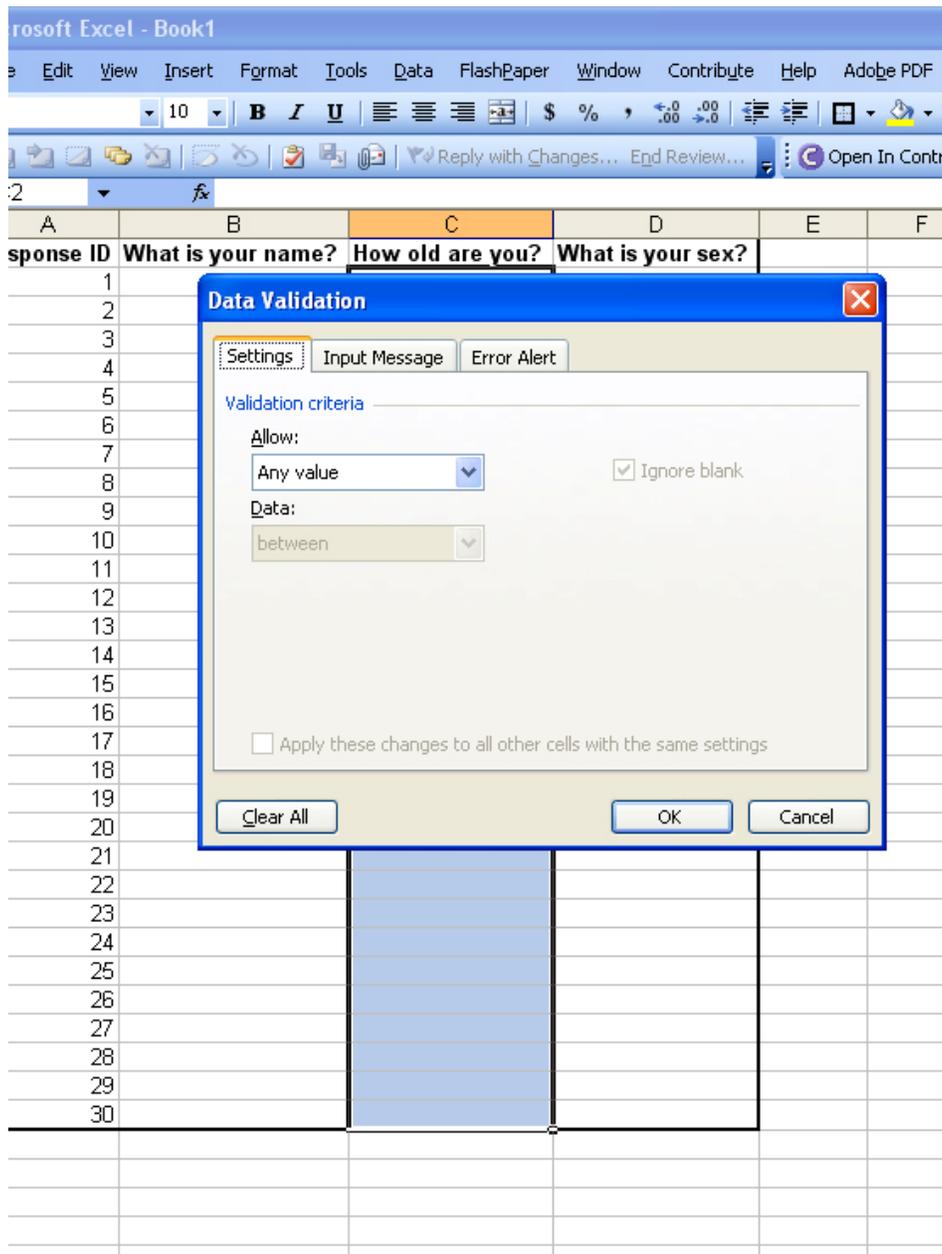Instructions for creating a data field validations in Microsoft® Excel®
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3) After selecting the range with your cursor, click on "Data" on the tool bar and select "Validation…" from the drop-down list. (*see picture below*)

Note: If you do not see "Validation…" in the drop-down list, it means you will have to expand the list by clicking on the ⏬ at the bottom of the drop-down list.

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4) After clicking on "Validation…" you will get a message box similar to the one shown below from Microsoft® Excel®.

NOTE: The message box should have 3 tabs as shown above. When the message box opens, it could open on any one of these 3 tabs.
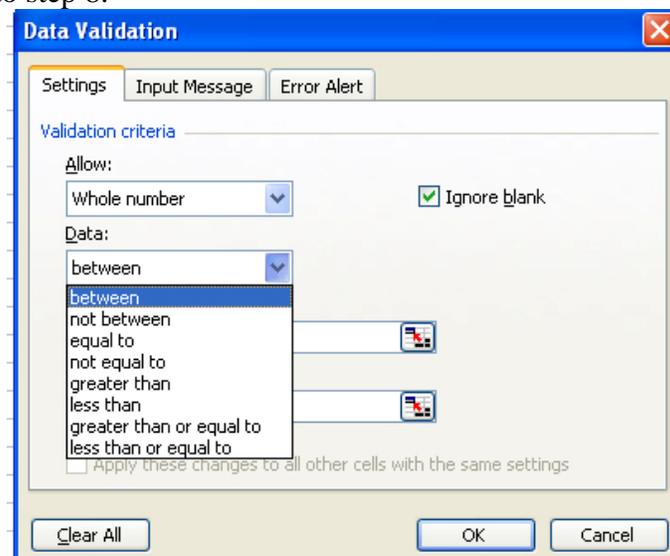
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5) Under the "Settings" tab in the message box, move your cursor to the dropdown box - and click on it. The menu selections will appear. Since we want to apply a validation to the age data variable field, we would choose "Whole number" (*see picture below*).
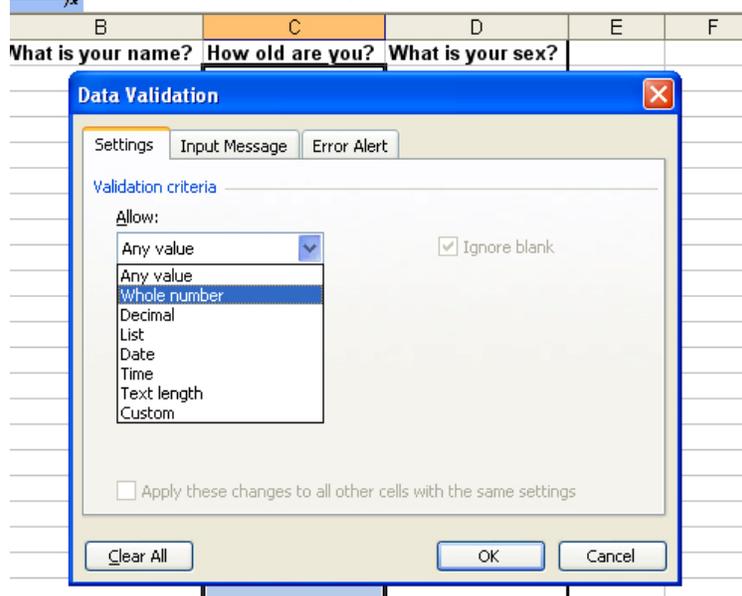

As you can see in the picture above, there are several items to choose from in the drop-down. You would choose one of these based on what parameters you want applied to the data variable field. Choose list if you want to make a drop-down list for a variable field.

6) After selecting "Whole number," the message box will allow you to choose if you want to apply other validation criteria. For example, if you were only entering data for a pediatric patient, the ages for the dataset should only be *between* 1 and 18. You would choose "between" from the drop-down under "Data:" (*see picture below*). If you do not want to have the numbers between a range, you can skip this step and go to step 8.

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7) After selecting "between", you can then put "1" in the "Minimum", and 18 in the "Maximum". (*see picture below*).

NOTE: There is a box checked that says "Ignore blank". If you do NOT want a variable field blank, you can uncheck this box. If you want every cell in your dataset to have data in it—no "null" or empty values—you could select the entire dataset, choose "Validation" from the "Data" and then unckeck the "Ignore blank" box.
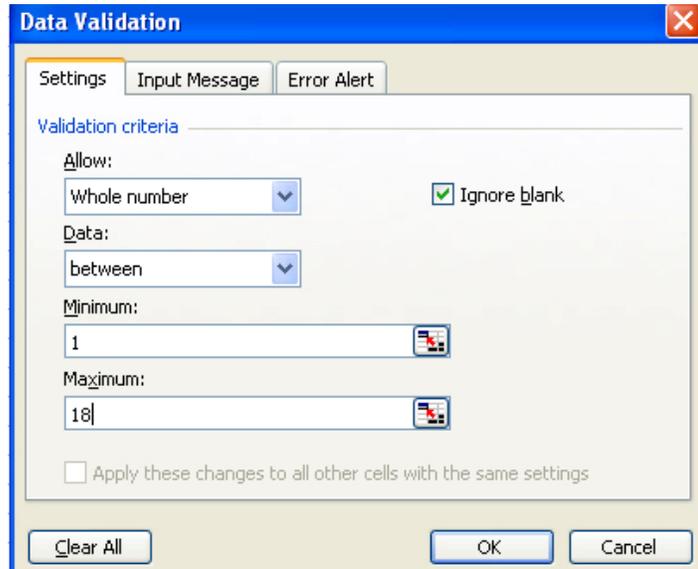

8) Next you will need to click on the "Input Message" tab in the message box. You do not have to enter a message under this tab but it helps explain to the person entering data what the data entry requirements are for that data variable field. Below is a picture with an example for an "Input message:" for the age data variable field (*see picture below*).


NOTE: There is a box checked that says "Show input message when cell is selected." If you want an input message to appear when you click on a cell, this box needs to be checked.

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9) Next you will need to click on the "Error Alert" tab in the message box. You do not have to enter a message under this tab, but if someone enters data that is **not** within the data variable field parameters, they will not know why their data is unacceptable. Below is a picture with an example for an "Error message:" for the age data variable field (*see picture below*):
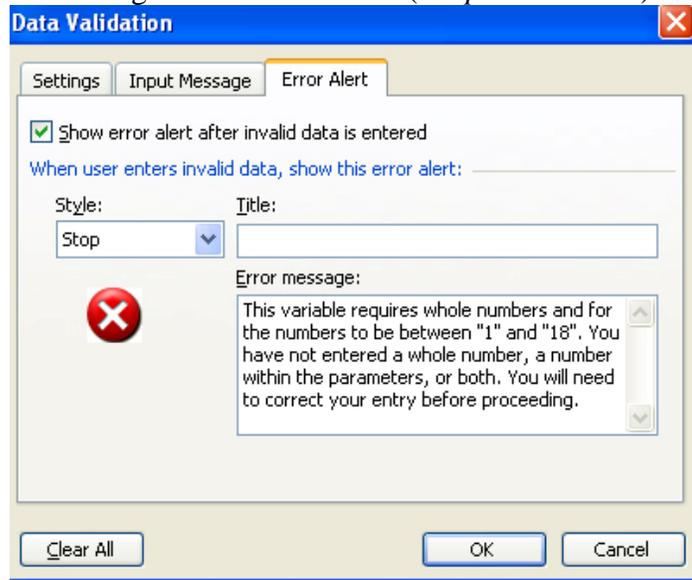

You can designate the error messages as "Stop", "Warning", or "Information" (*see picture below*). Choosing the "stop" option will not let data entry proceed until the error is fixed. Choosing "Warning" or "Information" will allow data entry to continue even if the data entered is not within the validation rules (*see steps #s 5-7*).
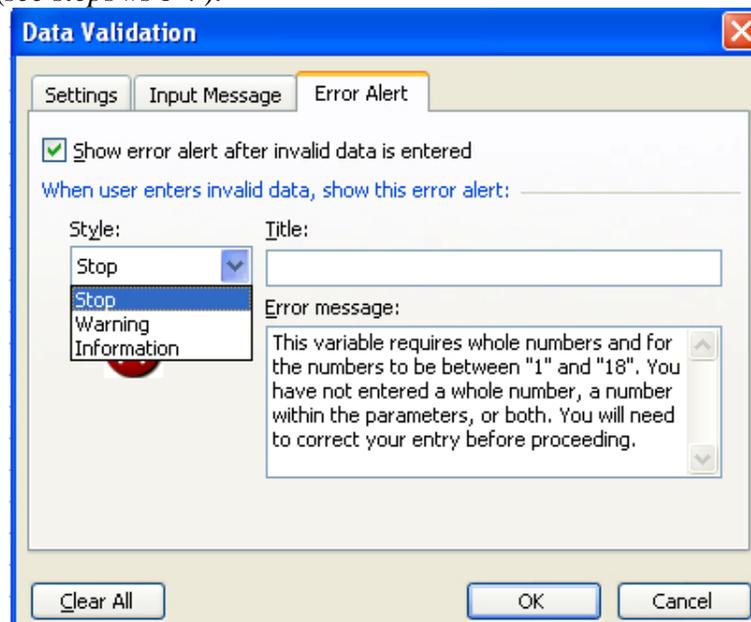

10) Now you can click on the "OK" button and the validation has been applied to all of the cells or columns you had highlighted in step # 2.

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11) When you click on a cell within a column to which you've set the validation, it should have an input message if you chose to enter one (*see picture below*).
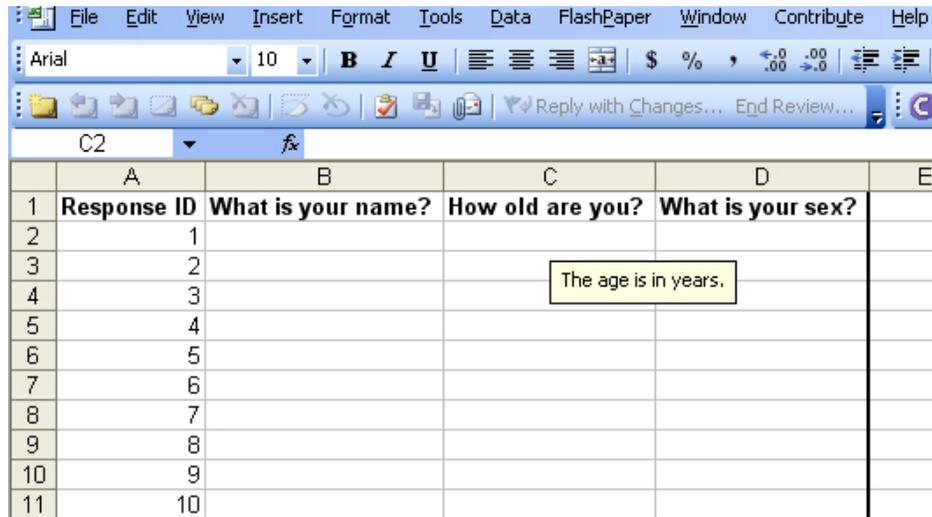

12) To test the validation, enter data that does not conform to the parameters you set. In the example below, we entered "hi" in the age variable field. The error message should appear after clicking outside of the cell you've entered the data into using the "Enter" key on your keyboard, or using the "Tab" key on your keyboard (*see picture below*).
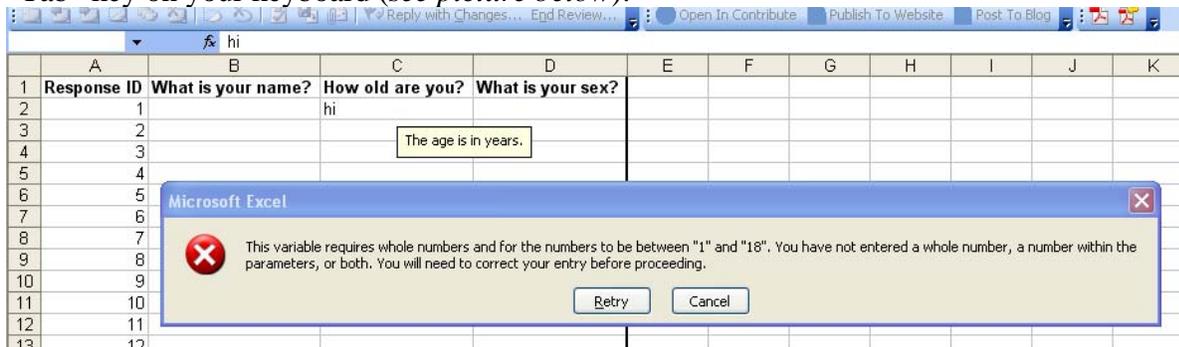

13) Repeat steps #2-12 for other data variable fields you want to put a validation on.

14) Here are the steps for creating a drop-down list in your dataset. First complete steps # 1-4, but for the data variable field you will want to select the drop-down list option. For example, if you wanted a drop-down list for sex, you would complete steps # 1-4 for column D of the dataset pictured in step # 1.

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15) Under the "Settings" tab, move your cursor to the [▼] and click on it. A drop-down menu will appear. Since we want to apply a drop-down list to the sex data variable field (*column D in the picture for step #12*), we would choose "List" (*see picture below*).
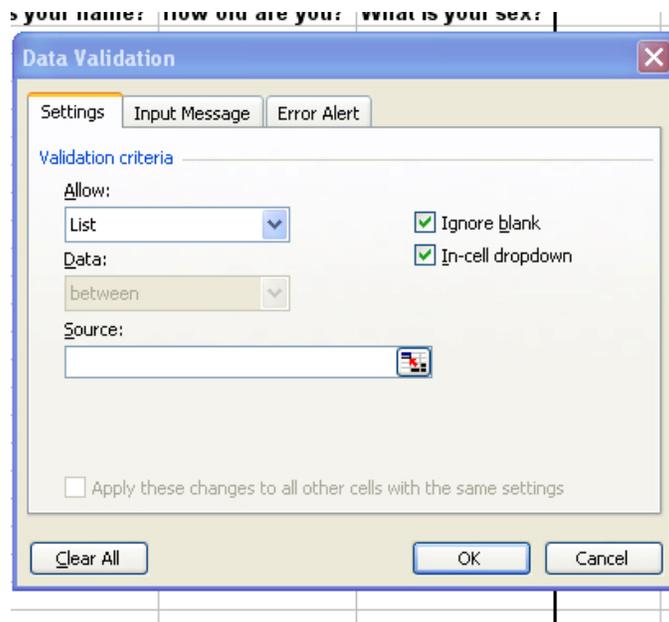
16) In the "Source:" field type in the items you want in the drop-down list. Separate items with a comma (*see picture below*).
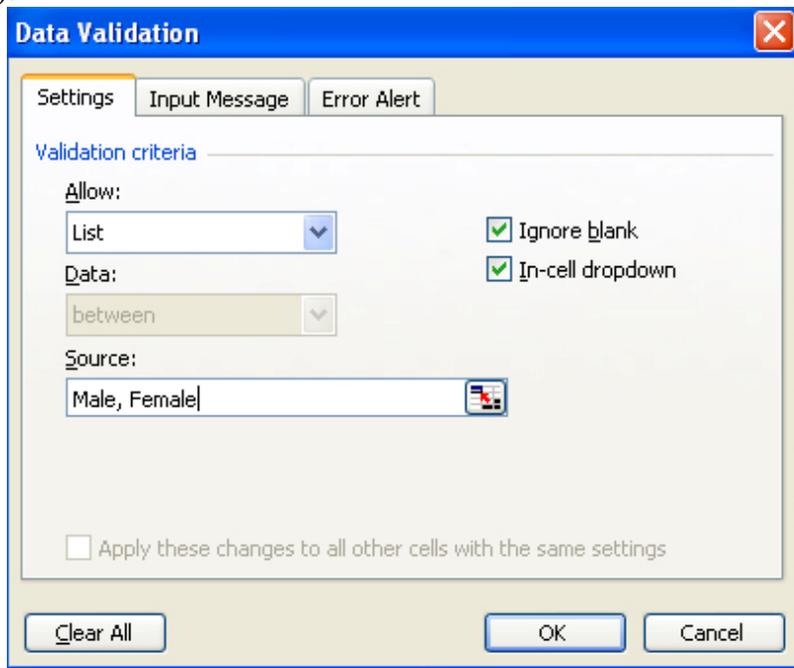
NOTE: The items you type into the "Source:" field are case sensitive. If you type in Male, data entry will have to be "Male" and not "male." Also, think of the "list" validation as a select only one—you cannot make it a multiple choice field by making it a "list".

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17) Repeat steps # 8-12 to complete applying a drop-down list validation. Data variable fields that have a drop-down list validation will appear slightly differently in the dataset. There will be an arrow by the cell when you click on it as well as the input message (*see picture below*).
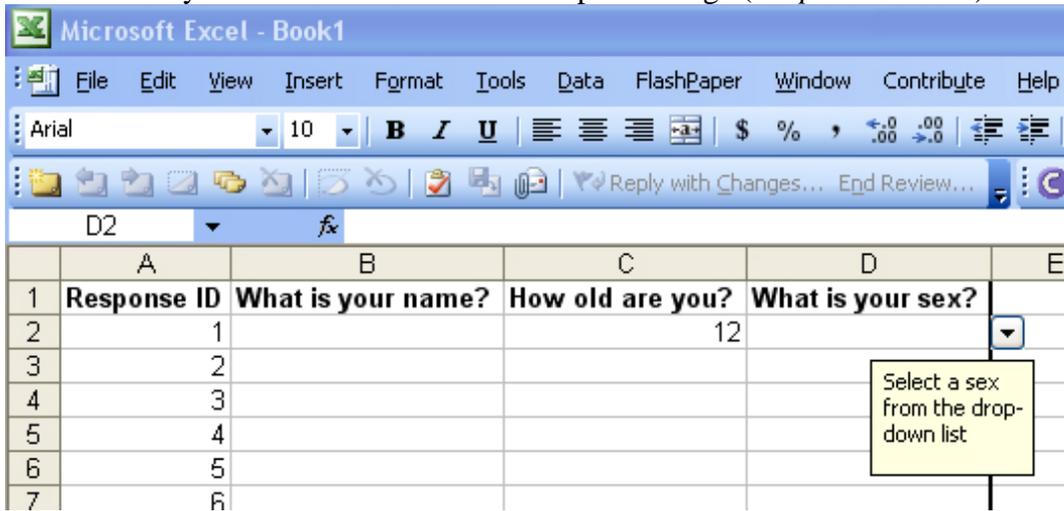
If you click on the arrow, the drop-down list will appear with the data field choices.
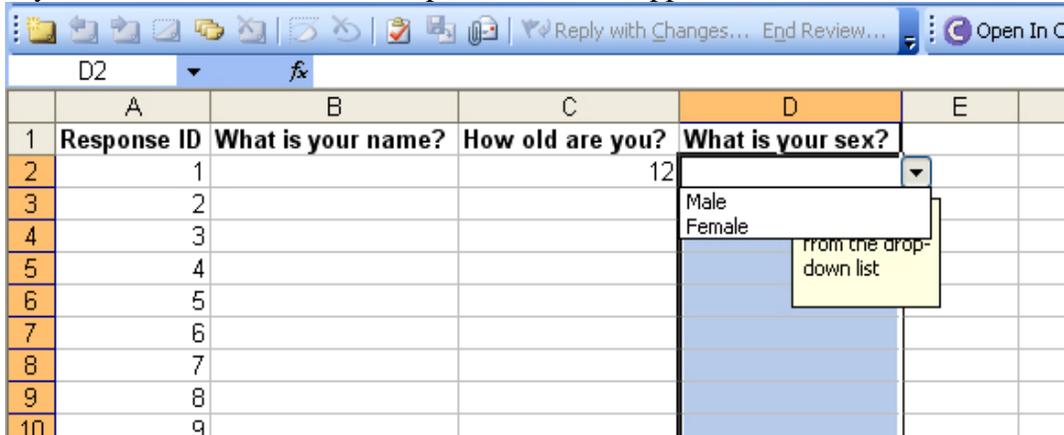
18) Once you have applied validations to all the desired fields, you are done. Validations do not have to be added before data is being entered, but it is strongly recommended that they should be applied before data entry begins.

⚠ **You can use the data entry form for datasets that already have validations. However, error messages will not appear until a record has been completed in the data entry form and the person doing the data entry moves on to the next record.**