A User's Guide for JASP

James MacDougall, Ph.D.

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This *Users Guide* is designed to introduce students and faculty members to a completely free and powerful data analysis program called *JASP*. It is intended for academic purposes and may be reproduced for distribution to faculty members and students without restriction. It is not intended to be sold.

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A free PDF copy of this Guide can be obtained by emailing the author at:

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Welcome to the *JASP* *User's Guide*

This *User's Guide* provides a short but reasonably comprehensive introduction to a modern statistical analysis program called *JASP*. Unlike older programs such as *SPSS* (Statistical Package for the Social Sciences), *SAS* (Statistical Analysis Software), and *Minitab*, *JASP* uses an intuitive point-and-click interface that is simple to learn and extremely handy to use.

There are two intended audiences for this *Guide*. The first is the undergraduate student taking her or his first course in statistical methods. Ideally, this *Guide* is all the instruction that a beginning statistics student will need to effectively use *JASP* in the statistics course and later in more advanced research courses. For those students, I suggest reading through the entire *Guide* once to "get a feel" for how *JASP* works. Then, download *JASP* and work page by page through the *Guide*, actually carrying out in *JASP* what you are learning in the *Guide*. Two hours study should make you proficient in using *JASP*—it's that simple!

The second audience for this *Guide* is the faculty member or student already familiar with *SPSS* or *SAS*. *JASP* is much easier to use than either of these older programs and 20 minutes reading this *Guide* will make you an expert in *JASP*.

The purpose of this *Guide* is to encourage students and faculty members to adopt *JASP* in place of the older and very expensive commercial statistical packages. Everyone is free to reproduce this *Guide* without charge for academic use. It is not intended to be sold.

What is *JASP*?

JASP, which stands for "Jeffreys's Amazing Statistics Program" is an easy to use, feature-rich data analysis program that runs on Windows and Macintosh computers. The program is named in honor of the Bayesian statistics pioneer Sir Harold Jeffreys. *JASP* was developed by members of the Department of Psychological Methods of the University of Amsterdam under the direction of Dr. Eric-Jan Wagenmakers. It is now widely used throughout the world and is supported by several major universities.

Unlike older data analysis programs like *SPSS*, *SAS,* and Minitab, which are expensive and often available only in college or university computer labs, *JASP* is available to everyone for free—forever! Students and faculty can do their statistics on their own time and on their own computer.

Downloading *JASP*

You can download *JASP* to your personal computer from the *JASP* web site:

https://jasp-stats.org/download/

Some tips about downloading *JASP*. First, *JASP* is a large program, so read the instructions concerning the amount of available memory required to save and run the program. Generally, this shouldn't be a problem unless you have filled your hard drive with videos and multiplayer video games. Second, the folks at jasp-stats.org are meticulous about the download not interfering with other programs. Nonetheless, before I download any program, I shut down any other active programs and restart the computer—sort of a blank slate! Third, it takes a while to download—be patient and resist the urge to press keys!

At the time this *Guide* was written, the current version of *JASP* is v 0.19.0. Because it is open source, it is periodically updated and improved, so some of the screenshots of the program in this *Guide* may be slightly out of date in the future. When a new version becomes available, the main screen will alert you to that fact and ask if you want to download the new version.

Which brings up an important point. This *Guide* is a condensed introduction to get you started using *JASP*. Jasp-stats.org has an excellent, much longer on-line tutorial for using *JASP* to do all types of data analyses. You should make extensive use of it as your course progresses. Google "Statistical Analysis in *JASP*" and click on Statistical-Analysis-in-JASP A-Students-Guide-v16.pdf. You will get the following:

Statistical Analysis in JASP:
A Guide for Students
By Mark A. Gross-Sampson
2020

Dr. Gross-Sampson is one of the early users of *JASP* and his *Guide* is a very detailed introduction to using *JASP* for data analysis. In addition to Dr. Gross-Sampson's excellent *Guide*, the web is filled with *YouTube* videos for doing almost anything with *JASP*. If you get stuck, grab a video!

Data Files

All statistical packages including *JASP* assume that the data to be analyzed exist in a separate data file which is "loaded into" the statistical package for analysis. When *JASP* was first developed, the guiding principle was that users would create their data files using a separate program called a spreadsheet. It made sense because spreadsheet programs are readily available and permit very sophisticated manipulations of numerical data. The idea was, "don't reinvent the wheel," and concentrate on making a powerful and easy-to-use data analysis program. However, as the development of *JASP* progressed, there was an increasing call to include a data editor as part of the program. Version 0.18 released in 2023 included a new internal Data Editor. That editor has become more sophisticated in recent releases. This *Guide* will focus on how a data file is created using the *JASP* Data Editor.

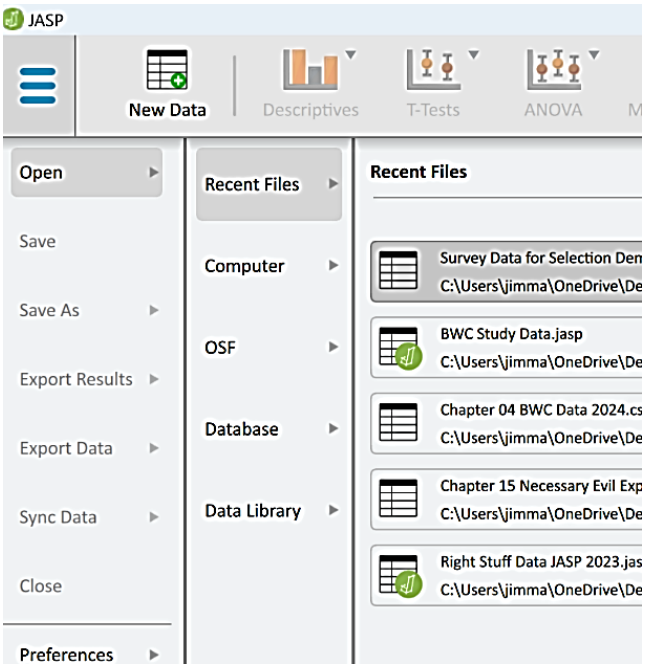
However, if you have experience using spreadsheet programs, you might elect to create your data files with a spreadsheet rather than using the *JASP* Data Editor. In that case, the files should be saved in .csv or comma-delimited file format. If you have previously created data files using *SPSS*, those .sav files are directly readable by *JASP*.

All major data analysis packages including *JASP* assume that the data are formatted in a particular manner. This format is so standard that we'll call it the "Iron Law of Data Files." A data file consists of a grid of rows and columns. In a data file, the columns are the variables and the rows are the specific cases (individual people, cities, etc.). Do not violate this rule.

Retrieving and Saving Data Files

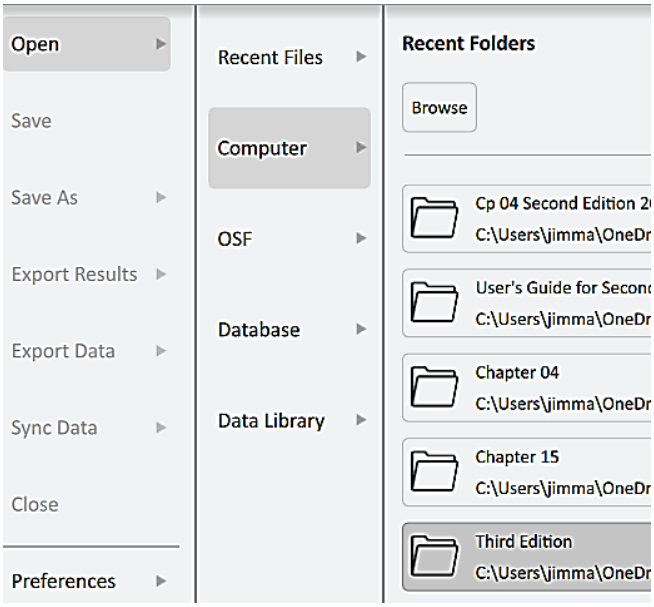
When you activate *JASP*, you are presented with a friendly greeting screen (**previous page**) that proclaims that the program is free, friendly, and flexible—and, indeed, it is! In the upper left-hand corner of the screen are two clickable options—three bars and "New Data" :

The "three bars" option is the main interface for retrieving and saving data files. If you click on the bars, the general *JASP* interface window opens. Click on the "Open" option and the window expands to this:



The "Recent Files" option is already selected and the right-hand portion of the display shows the five most recent data files that have been opened in *JASP*. Clicking on one of them retrieves that data file.

If you click on the "Computer" option, you will get the following browsing option to find and retrieve a data file:



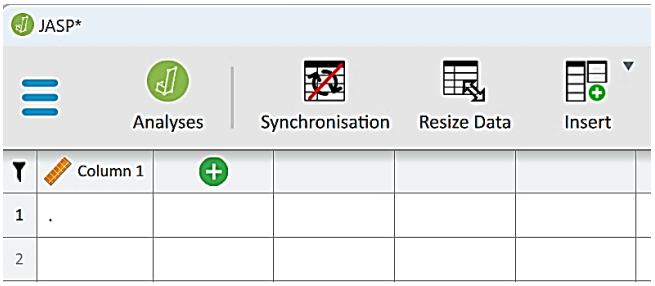
Clicking on "Browse" under "Recent Folders" will take you to the computer's general file directory from which you can retrieve a data file.

Creating a Data File With the *JASP* Data Editor

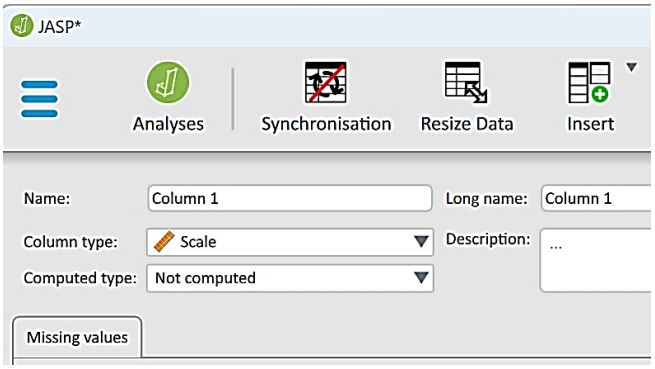
We'll see how to construct and save a data file using the data from a hypothetical study of the relationship between the EEG response to a visual problem and conventionally measured general intelligence. **Read the description of the "Brain Waves Study" on the next page before proceeding.**

From the upper left-hand portion of the opening screen, click on the "New Data" option to open the Data Editor, i.e., :

Here is the opening screen of the Data Editor:



Notice that the first column is labeled just "Column 1." Double click on the column and the following dialog box will open:

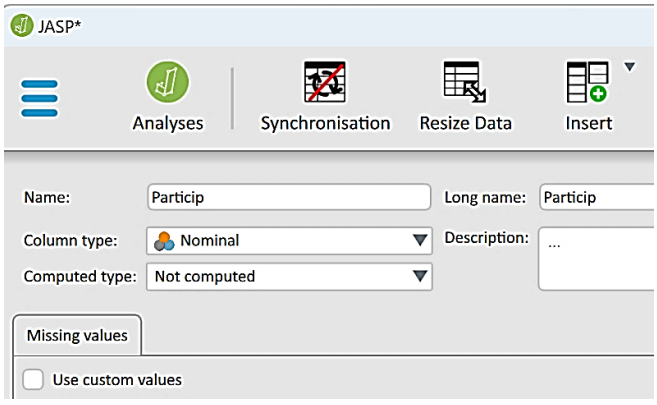


Brain Waves Study

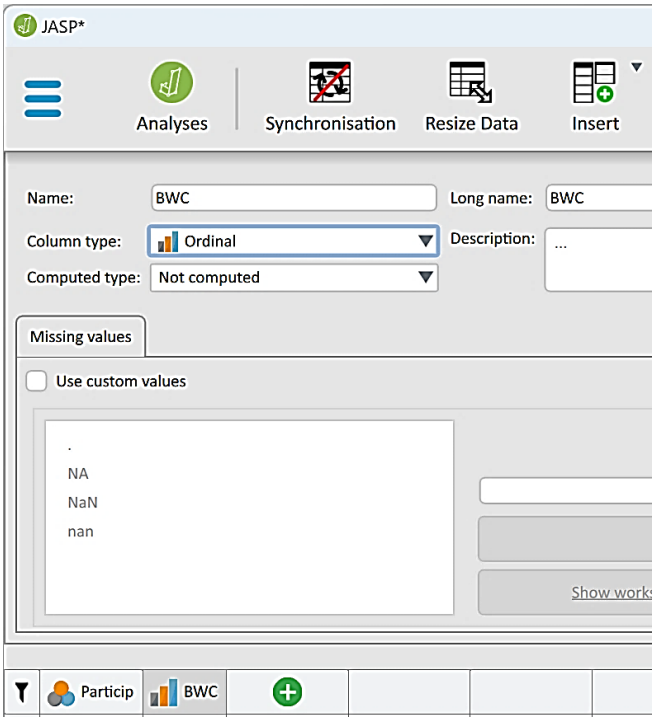
Most neuropsychologists believe that individual differences in intelligence are, in part at least, due to differences in brain functioning. Putting it crudely, some people have more "efficient" brains than others. In a preliminary study in this area, a researcher discovered that one of her most promising graduate students showed unusually complex electroencephalographic responses to a dynamic geometric pattern recognition problem that she was testing. Two other students showed a rather simpler brain-wave pattern and didn't perform as well on the task. Encouraged, the researcher conducted a larger study involving a sample of 15 sophomores enrolled in a required general biology course. Each student was tested for the complexity of his/her brain-wave pattern, and subsequently given a standardized IQ test (IQ) by the Director of the Counseling Center. Below are the data. The complexity of the brain-wave pattern was rated on a scale of 1-7 (BWC) by the investigators before they learned of the students' IQ scores. As a measure of academic performance, they also obtained the student's grade point average (GPA) from his/her freshman year.

Particp	BWC	IQ	GPA	Particp	BWC	IQ	GPA
R.R.	6	116	3.41	A.J.	3	112	2.75
S.M.	3	121	2.05	J.M.	2	109	2.15
W.T.	3	110	2.90	J.P.	7	135	4.00
L.A.	2	113	3.50	F.H.	5	128	2.00
D.B.	3	121	3.95	L.M.	3	119	2.15
J.H.	2	105	2.10	M.F.	4	120	2.90
C.D.	2	117	1.75	R.S.	6	142	4.00
B.M.	4	126	3.33				

This is the dialog box for identifying and labeling the variables in the data set. In the **Name:** field enter the variable name "Particip", which stands for the participant's initials. In the **Column type:** field change the value from "Scale" (a numerical variable) to "Nominal" (a categorical variable), e.g.:



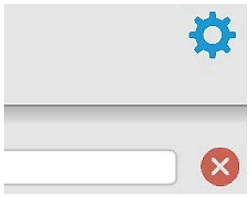
Now click on the green "**+**" at the top of the second column. That will allow you to define the second variable in the data set. We'll call it BWC, standing for "Brain Wave Complexity." It is an ordinal variable, so change the Column type: to Ordinal, e.g.:



Continue in this manner to define the third and fourth variables IQ and GPA—both being numerical or interval variables. Here is what the data file should then look like (**top of next page**):

	Particip	BWC	IQ	GPA
1	.	.	.	.

Exit the variable naming and typing dialog box by clicking on the red circle "X" on the far right side of the dialog box, i.e.:

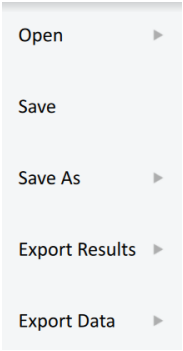


Begin entering data for participant R.R. Enter his initials in the first cell. Use the TAB key to move to the next cell and enter his BWC value, and then the rest of R.R.'s data in the cells in columns three and four. The ENTER key moves you down one row and the mouse cursor control will move you to any desired cell. Here is what the first two cases look like:

	Particip	BWC	IQ	GPA
1	R.R.	6	116	3.41
2	S.M.	3	121	2.05

Options for Saving Data

After entering all of the data and checking it for accuracy, if you click on the three bars you will have two options for saving the data to a file:

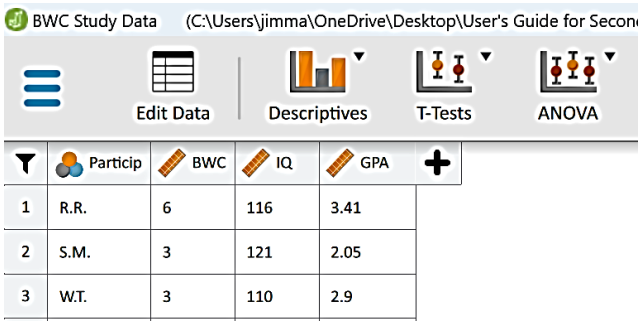


The first option involves using the "Save As" command. This allows you to save the data to whatever hard drive directory you choose. It will be saved in the *JASP* data format. Click on "Save As" then "Computer" and then "Browse" to locate the directory where you want to save the file.

If you use the "Export Data" option, the data will be saved in a standard comma-delimited format called .CSV You might elect to save the file in both formats. The third option, the "Save" command, is used when a previously created file has been loaded into *JASP* and modified in some way.

Naturally, it's a good idea to name the file something that precisely indicates the nature of the study. This file was named "BWC Study Data."

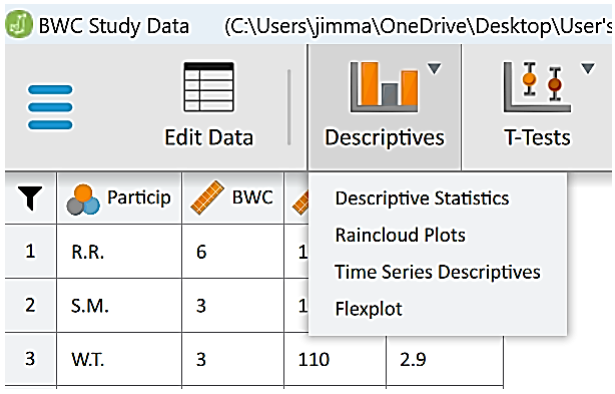
Once the data have been saved, click on the "Analyses" option and that will return you to the main data analysis screen shown here:



	Particip	BWC	IQ	GPA
1	R.R.	6	116	3.41
2	S.M.	3	121	2.05
3	W.T.	3	110	2.9

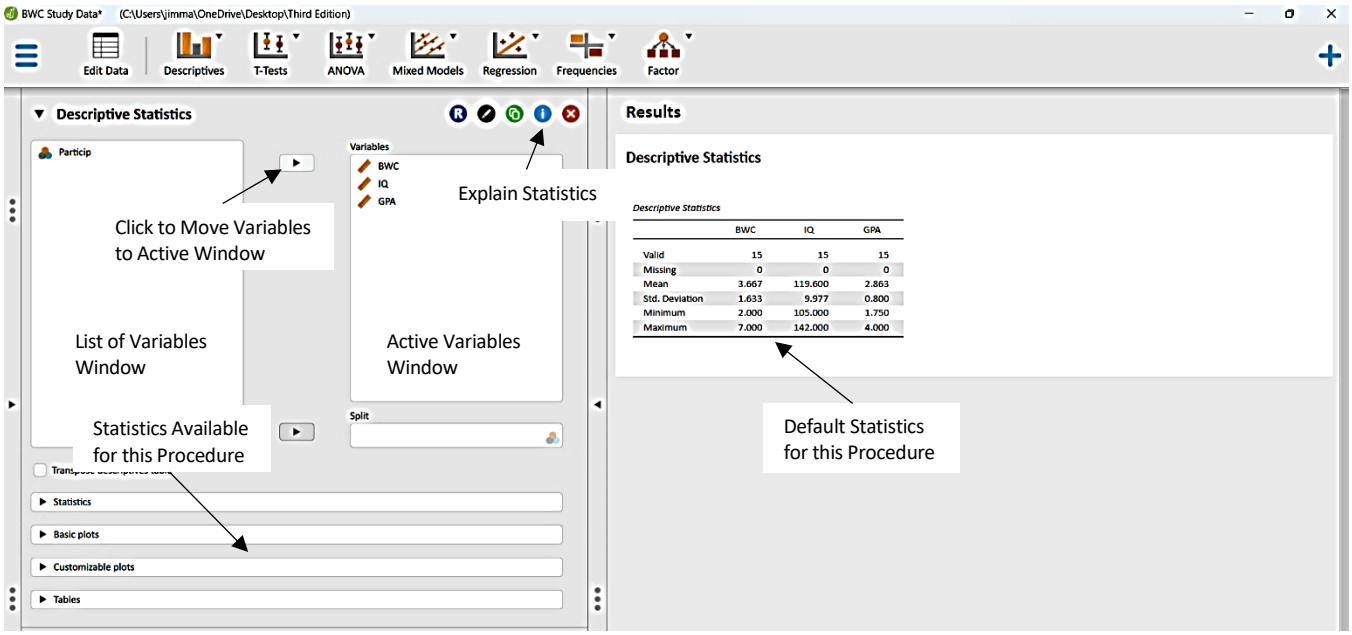
Using *JASP* to Analyze Data

The first analysis that we'll run uses the main Descriptives routines. Click on Descriptives and a pop-up submenu will open:



	Particip	BWC		
1	R.R.	6	1	
2	S.M.	3	1	
3	W.T.	3	110	2.9

Click on "Descriptive Statistics" and a large data analysis screen will open. The screen is shown on the **top of the next page**.



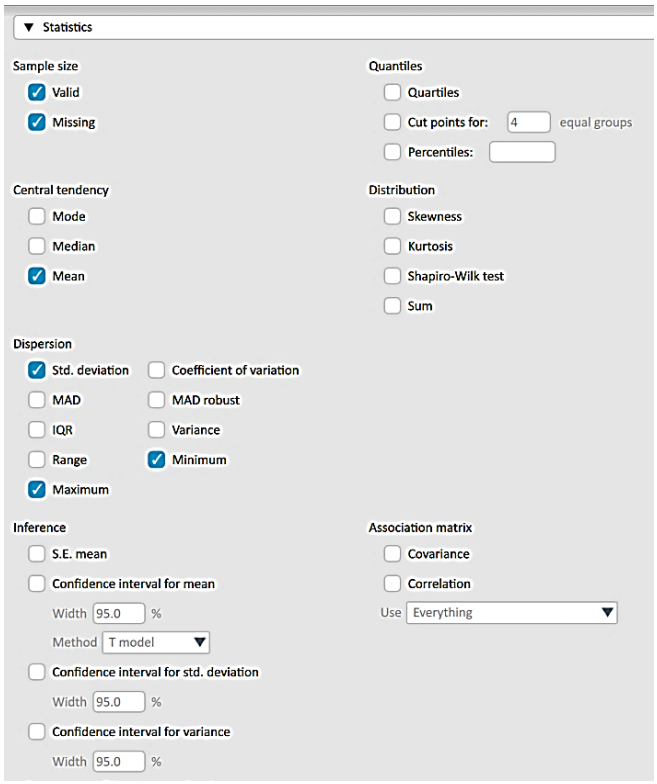
The screen is divided into two large display panels. We'll describe the screen in some detail. The panel on the left is labeled "Descriptive Statistics" and we'll call it the "Statistics Panel." The panel on the right is labeled "Results" and we'll call it the "Results Panel."

In the Statistics Panel are two windows. The one on the left we'll call the "List of Variables" window. Initially, it will contain the list of all variables in the data set. It currently contains only the Particip variable because the three variables to be analyzed (BWC, IQ, and GPA) have already been moved over to the "Active Variables Window." Variables in the List of Variables window are moved to the Active Variables Window by highlighting a variable or several variables and then clicking on the ▶ button. As variables are moved over, the Results window begins the initial display of the descriptive analysis—in this case the default statistics of Mean, Std. Deviation, Minimum, and Maximum.

As many variables as desired can be moved over to the Variables window. *JASP* carries out analyses as soon as a variable is selected—which can fill up the Results window very fast indeed.

In the bottom of the *JASP* Statistics Panel are four categories of analyses that can be carried out—Statistics, Basic plots, Customizable plots, and Tables.

We'll start by clicking on Statistics. That reveals an enormous number of possible statistics that could be computed and displayed for the BWC, IQ, and GPA data:



Under the category Central Tendency, the mean is selected by default. Under Dispersion, the standard deviation, minimum, and maximum are default. We'll expand our analysis by selecting Median under Central Tendency and Interquartile Range (IQR) under Dispersion. As each is selected, the Descriptive Statistics table in the Results window expands with the new statistics.

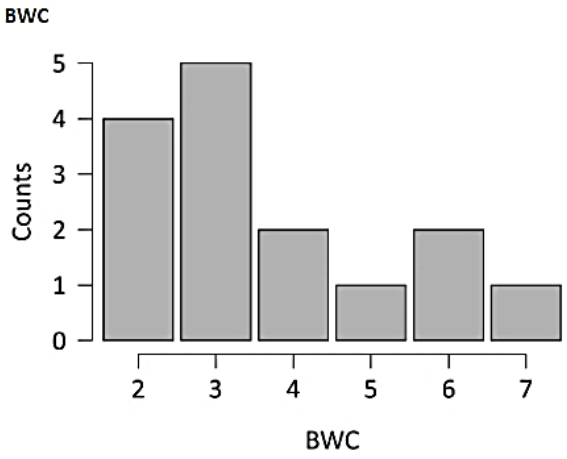
Clicking on the Basic Plots Option and selecting Distribution Plots will generate a histogram plot of the variables. This is displayed below where the expanded statistics table and the histogram for BWC is seen. Scrolling down the Results window would show the plots for the other variables.

Descriptive Statistics

Descriptive Statistics

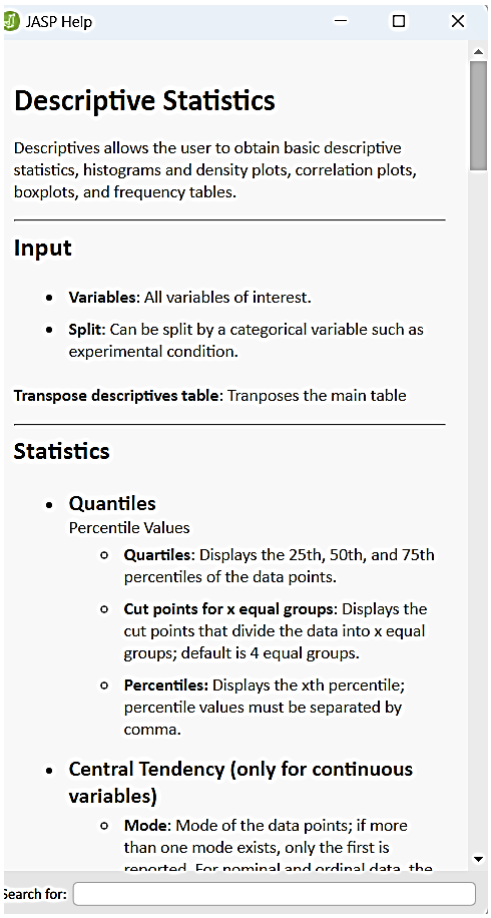
	BWC	IQ	GPA
Valid	15	15	15
Missing	0	0	0
Median	3.000	119.000	2.900
Mean	3.667	119.600	2.863
Std. Deviation	1.633	9.977	0.800
IQR	2.000	11.000	1.330
Minimum	2.000	105.000	1.750
Maximum	7.000	142.000	4.000

Distribution Plots ▼

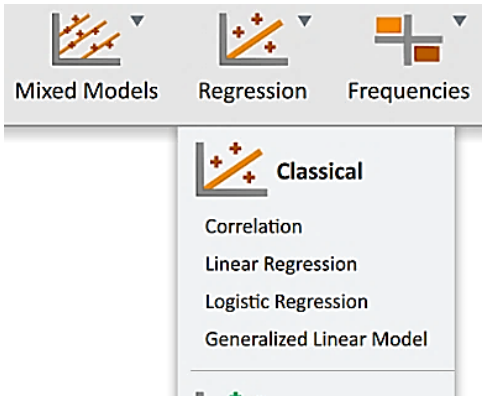


Brief inspection of the statistics indicates that the BWC data are highly positively skewed and extremely variable ($\bar{X}_{BWC} = 3.67, s_{BWC} = 1.63$). The average IQ score of 119 is over one standard deviation above the population mean and also quite variable. The freshman GPA is a solid "B" and also quite variable. Inspection of the frequency distributions for IQ and GPA (not shown) indicate that IQ is also modestly positively skewed while that for GPA is almost flat with a slight negative skewing.

Clicking on the "i" or Help icon opens a scrollable window that gives explanations for the various statistics:



We have one more analysis to perform. Recall that the purpose of the "Brain Waves Study" was to determine whether measures of brain wave complexity were related to intelligence and school performance (GPA). The statistic to measure such a relationship is called Pearson Correlation (*r*), which is located under the Regression procedure. To exit the "Descriptive Statistics" procedure, click on the red "X" located adjacent to the "i" icon. That takes you back to the data display screen. There, click on the main Regression routine and then Classical "Correlation" in the pop-up window, i.e.:



When a new procedure is selected, all of the variables are reset back into the List-of-Variables window, and the Active Variables window is empty. We're going to move all three variables into the Variables window using the ► button, with BWC moved over first as the "predictor" variable. When all three variables are moved over, *JASP* automatically computes the value of Pearson's *r* and displays it in a correlation table in the Results window:

Correlation ▼

Pearson's Correlations

Variable		BWC	IQ	GPA
1. BWC	Pearson's r	—		
	p-value	—		
2. IQ	Pearson's r	0.772	—	
	p-value	< .001	—	
3. GPA	Pearson's r	0.565	0.497	—
	p-value	0.028	0.060	—

Under the Plots subhead, we'll check Scatter plots. When that's done, *JASP* will fill in the Results window with a collection of graphs called scatterplots. The scatterplot showing the relationship between BWC and IQ is shown at the **top of the next column**. As you will learn, the scatterplot clearly shows that the relationship between BWC and IQ is linear and quite strong.

Printing Out The Statistical Analyses

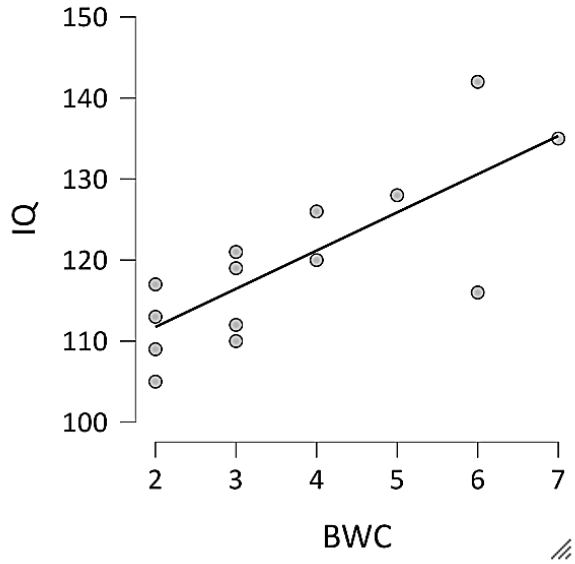
The last step in analyzing your data is to print it out and save it for further use. To save tables and figures, *JASP* provides two general ways to export results. One option is to click on the three bars and choose the "Export Results" option. This will allow you to save the analyses in the Results window to either an HTML or PDF file that you create. This approach allows you to quickly accumulate printable results. HTML files will open in your word processor.

The other approach is to directly copy and paste the results into a word processor document. That's what we're going to do, using Microsoft *Word* as an example.

We'll begin by starting Microsoft *Word* and selecting a blank document. In the *JASP* Results window

Scatter plots ▼

BWC vs. IQ ▼



each output table or graph has a solid down-pointing triangle next to the title (see in the scatterplot above). If you click on the triangle, a small dialog box opens. For tables and figures, we'll select the option "Copy." When you click on Copy, *JASP* will make a copy of the table or graph and paste it to the Windows Clipboard. The usual shortcut for pasting a clipboard object into your word processor is Ctrl – V.

Here's the above correlation table printed out into a Windows *Word* document, i.e., this *Guide*.

Pearson's Correlations

Variable		BWC	IQ	GPA
1. BWC	Pearson's r	—		
	p-value	—		
2. IQ	Pearson's r	0.772	—	
	p-value	< .001	—	
3. GPA	Pearson's r	0.565	0.497	—
	p-value	0.028	0.060	—

Tips for Editing Saved Tables

JASP defaults to formatting tables in what is called APA style. APA stands for the American Psychological Association and their *Publication Manual* is the bible for manuscript preparation for most of the social sciences.

When you paste a table into your word processor, it may appear different than your usual document formatting. Editing parts of the table is done by highlighting whatever parts of the table you want to modify either by using Hold-Shift-Mouse or by right-clicking on the box in the upper left-hand part of the table. For example, you may wish to change the font style and/or point size to be compatible with text you have added. The size of the table can be changed by dragging the box on the lower right-hand part of the table.

The correlation table on the previous page is in *APA Publication Manual* format. We'll modify it a bit by expanding the title and adding a clarifying definition. We could also change the font style (Times-Roman is not appropriate for APA tables) and the size of the font.

Pearson Correlations Among the Three Variables.

Variable		BWC	IQ	GPA
1. BWC	Pearson's r	—		
	p-value	—		
2. IQ	Pearson's r	0.772	—	
	p-value	< .001	—	
3. GPA	Pearson's r	0.565	0.497	—
	p-value	0.028	0.060	—

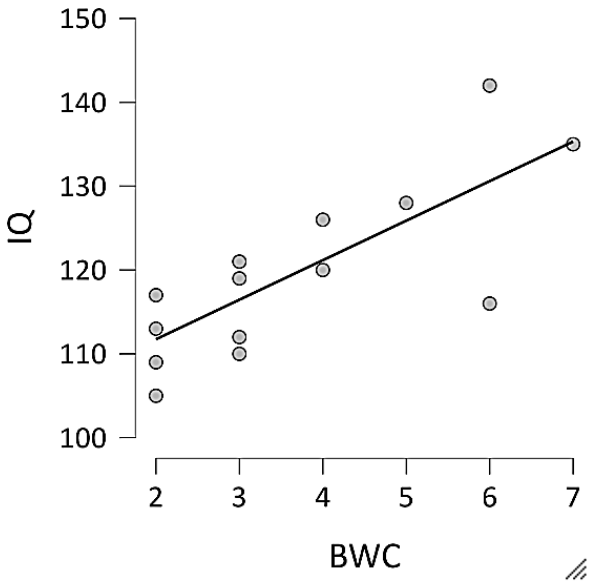
Note: BWC = Brain Wave Complexity.

Here is a tip for dealing with tables. *JASP* tables are basically grid structures and, unlike figures, they are sometimes awkward to position within a document. A useful trick is to create a text box and then move the table into the box after you retrieve and modify it. Then the table can be easily moved about within a document as a figure.

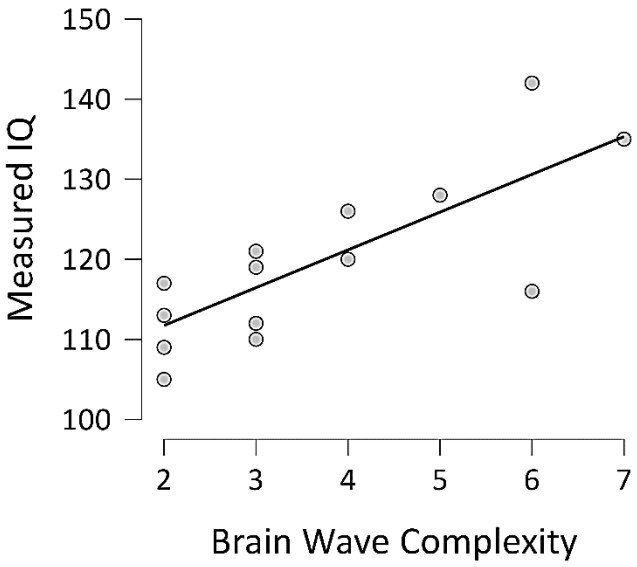
Best advice, take 20 minutes and play around with the possibilities until you can modify a table in any way desired.

Tips for Editing Saved Figures

Figures can be edited within *JASP*, either changing the size or shape of the figure or modifying the axes labels and scaling. Changing the size of the figure is done by clicking on the triangle shaped handle on the lower right-hand part of the figure with your mouse and dragging it in or out. Here is the scatterplot as it is produced and pasted by *JASP* without modification:



Modification of the labeling and scaling of the figure axes within *JASP* is done by clicking on the small triangle next to the title of the figure in the *JASP* output window and selecting "Edit Image" from the pop-up window. This option is particularly useful when you want to make the axes labeling more precise, or you want to rescale the *Y* axis to make several figures more directly comparable. Here's an edited version of the scatterplot:



Once pasted into your document, you can change the size by clicking on the figure and dragging the lower right-hand figure dot or, if you're especially adventurous, you can click on the figure after pasting it

and use the Picture Format function in *Word* to sharpen and darken the elements comprising the figure.

Selecting Data Within a Data File

Frequently in more complex data sets you might want to carry out an analysis on only a portion of the cases in the sample. For example, you might want to analyze the data separately for Males and Females or for only those cases that meet some numerical criterion. *JASP* provides a simple way to do that.

Let's imagine you have access to a large social science survey data set that contains the responses to the following questions for a representative sample of American adults (*n* = 1200):

1. Code Number (001 – 1200)
2. Gender (F = Female; M = Male)
3. Age in years
4. Religious Preference (Pros, Cath, Jewish, Other, None)

Those are followed by four contemporary social issue questions with scale responses that range from 1 = Extremely Liberal to 7 = Extremely Conservative.

5. Sponsored Childcare (ChildCare)
6. Abortion Access (Abortion)
7. Immigration Policies (Immigrat)
8. LGTBQ+ Issues (LGBTQ+)

The screen shot at the **bottom of this page** is of the *JASP* Data Editor with the data for the first 10 cases of the data set.

Selecting Cases Based on Categorical Variables

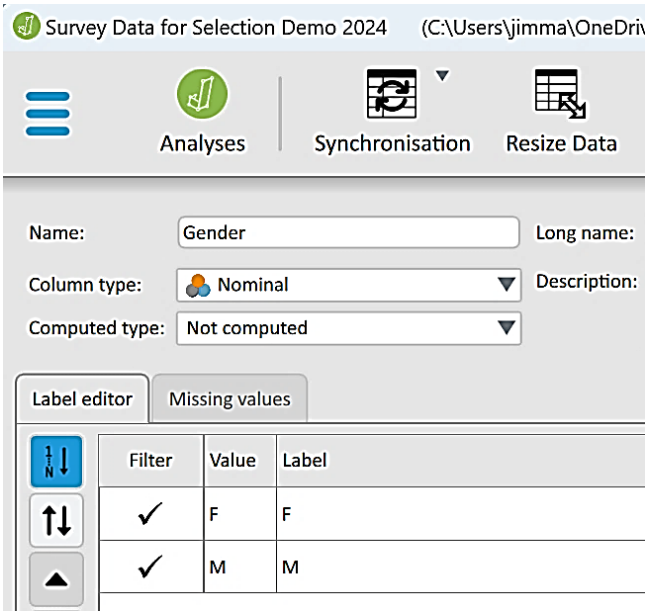
Without getting into the details of the types of analyses that you might want to run, let's see how you would select the data for just the females in the sample.

Double click on the column header labeled "Gender" and the variable definition window will open (**top of the next page**). It's the one that you used for the BWC study to define the variables. In this case the

Survey Data for Selection Demo 2024 (C:\Users\jimma\OneDrive\Desktop\Second Edition\Cp 04 Second Edition 2024)

Analyses | Synchronisation | Resize Data | Insert | Remove | Undo | Redo

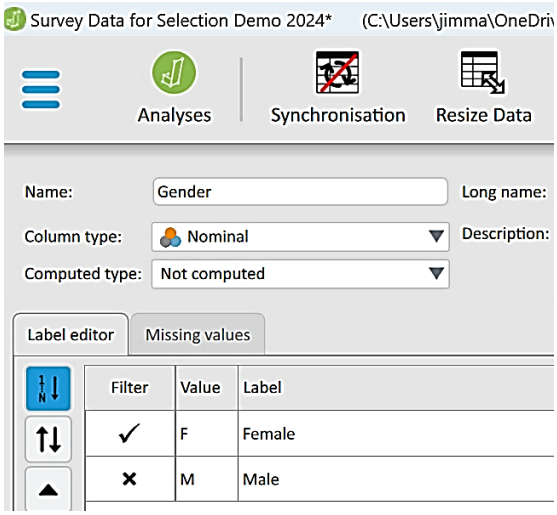
	CodeNum	Gender	Age	Rel Pref	ChildCare	Abortion	Immigrat	LGBTQ+	
1	1	F	32	None	2	2	4	2	
2	2	F	67	Cath	6	4	5	6	
3	3	M	44	Cath	7	6	7	3	
4	4	F	23	Pros	4	1	1	1	
5	5	M	69	Cath	6	7	7	7	
6	6	M	51	Pros	2	6	6	6	
7	7	M	33	Jewish	7	7	5	5	
8	8	F	75	Other	1	3	3	5	
9	9	F	65	Pros	2	2	5	7	
10	10	F	47	Cath	4	7	2	3	



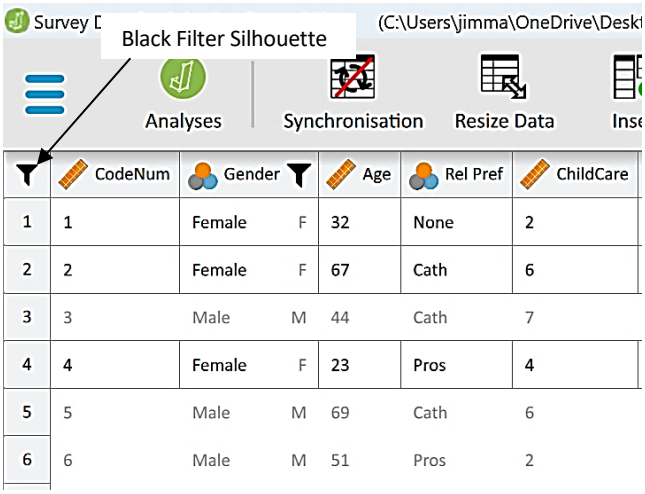
variables have already been defined and *JASP* has categorized Gender as a categorial (Nominal) variable. The checkmarks under the column labeled "Filter" indicate that both values are active in the data set.

We're going to do two things here. First, let's change the labels for the values of Gender. As the data were entered, the values are "F" for female and "M" for male. Under the field "Label", change the F to Female and the M to Male. The new values will immediately appear in the spreadsheet.

Next we'll deactivate the data for the male participants. Click on the checkmark for M (Male) and see what happens. Volia! The checkmark is replaced by an X, indicating that the value is no longer active, i.e., has been "deselected" in the data set.



Now, exit the variable definition window by clicking on the red "X" in the upper right hand corner. This is what the data now look like in the Data Editor for the first six cases:

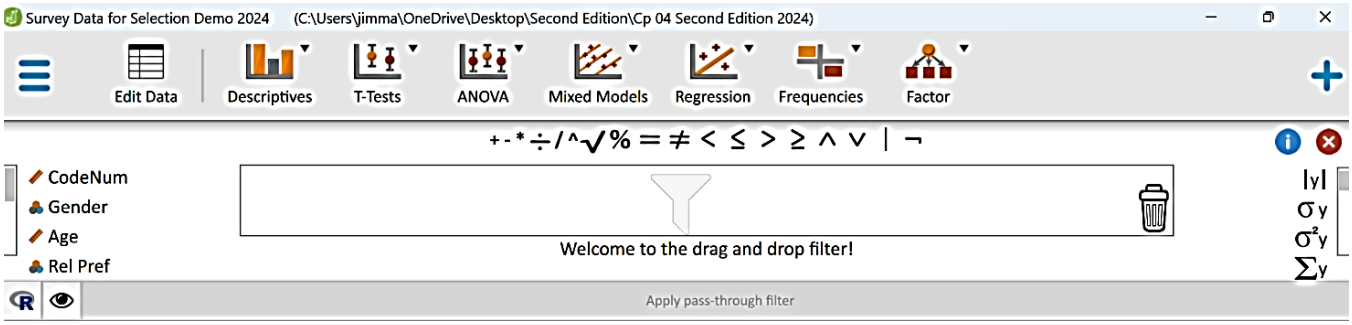


Any statistical analyses now run will include only the female respondents. Reversing the process will reselect the males for inclusion in the data set. The other categorical variable, Religious Preference, could be treated in the same way, e.g., selecting just Catholics by deselecting "Pros", "Jewish", "Other", and "None."

Selecting Cases Based on Numerical Variables

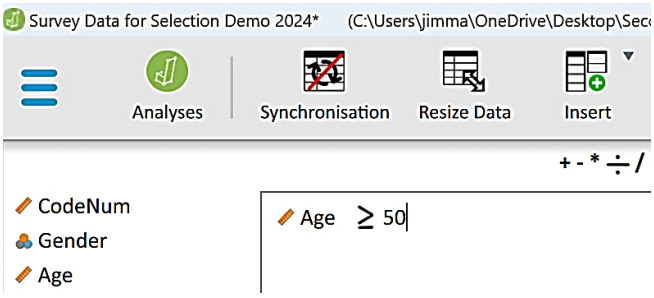
Often in analyzing numerical data, you may want to include only cases that meet some numerical criterion. In the present data set we might wish to study only respondents who are 50 years of age or older. To do so, we need to write a mathematical expression to identify them. Technically, it's called a Boolean expression and it results in a "True-False" decision for each case to which it's applied—where True-False means include or not include. Begin by clicking on the **black filter silhouette** in the upper far left-hand corner of the variables names row of the *JASP* Data Editor. Notice that the filter silhouette is also present on the Gender column indicating that this variable has been filtered.

When you click on it, a new Filter Window opens that permits more complex data selection (**top of the next page**).



Click on the variable Age on the left-hand side of the window. *JASP* knows that Age is a numerical variable and will allow all mathematical operations on it. We're going to write an expression to select all cases in which Age is equal to or greater than 50, i.e., Age ≥ 50.

This is done in the Filter Window by clicking Age and the symbol "≥" and then typing in 50, i.e.,

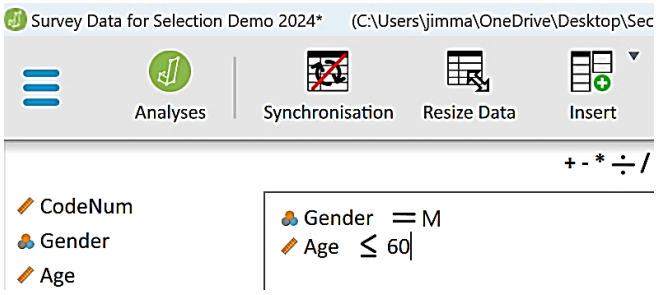


Clicking on the "Apply Pass Through Filter" at the bottom of the window will eliminate all cases less than 50 years of age. Exit the Filter Window by clicking on the Red "X" in the upper right corner of the window. That closes the window and leaves the data set like this:

	CodeNum	Gender		Age	Rel Pref	ChildCare
1	1	Female	F	32	None	2
2	2	Female	F	67	Cath	6
3	3	Male	M	44	Cath	7
4	4	Female	F	23	Pros	4
5	5	Male	M	69	Cath	6
6	6	Male	M	51	Pros	2

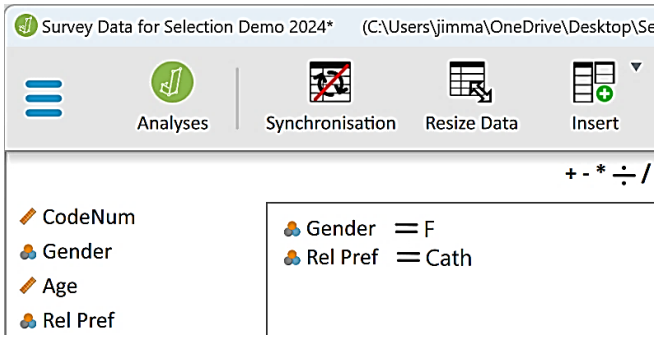
To reverse the selection process, click on the filter symbol to return to the Filter Window. Double-click the "Trashcan" symbol on the right-hand side of the window. When the window is blank, click on the Red "X" in the upper right corner of the window to exit.

The filter is capable of more complex Boolean Expressions. For example, to select only Males who are less than or equal to 60 years of age, you would click and type to enter the following expression:

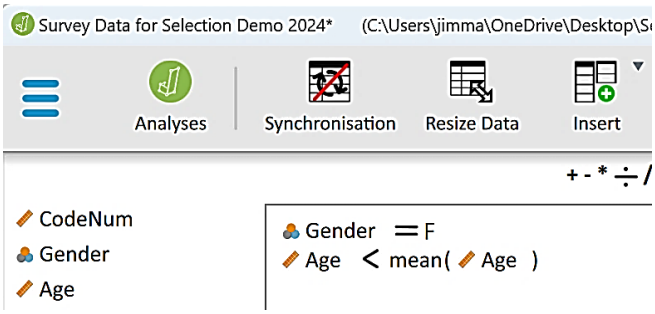


The expression says, "Gender equal Male" AND "Age less than or equal to 60."

The following would select the Catholic females from the sample:



Finally, one can select cases based on statistics from the data itself. Here is the expression that would select females who are less than the mean age for the entire sample (**top of the next page**):

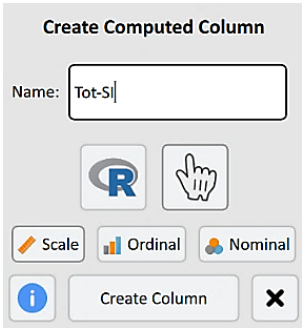


The statistic "mean ( )" is selected from the array of statistical options on the far right-hand side of the Filter Window and the variable Age is clicked on to insert it into the parentheses.

Computing New Variables From Existing Variables

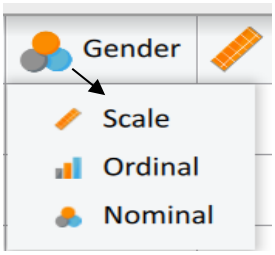
In the *JASP* Data Editor it's possible to combine existing variables to create a new variable. We'll do so by creating a new variable called "Tot-SI" which is the sum of the four social issue ratings.

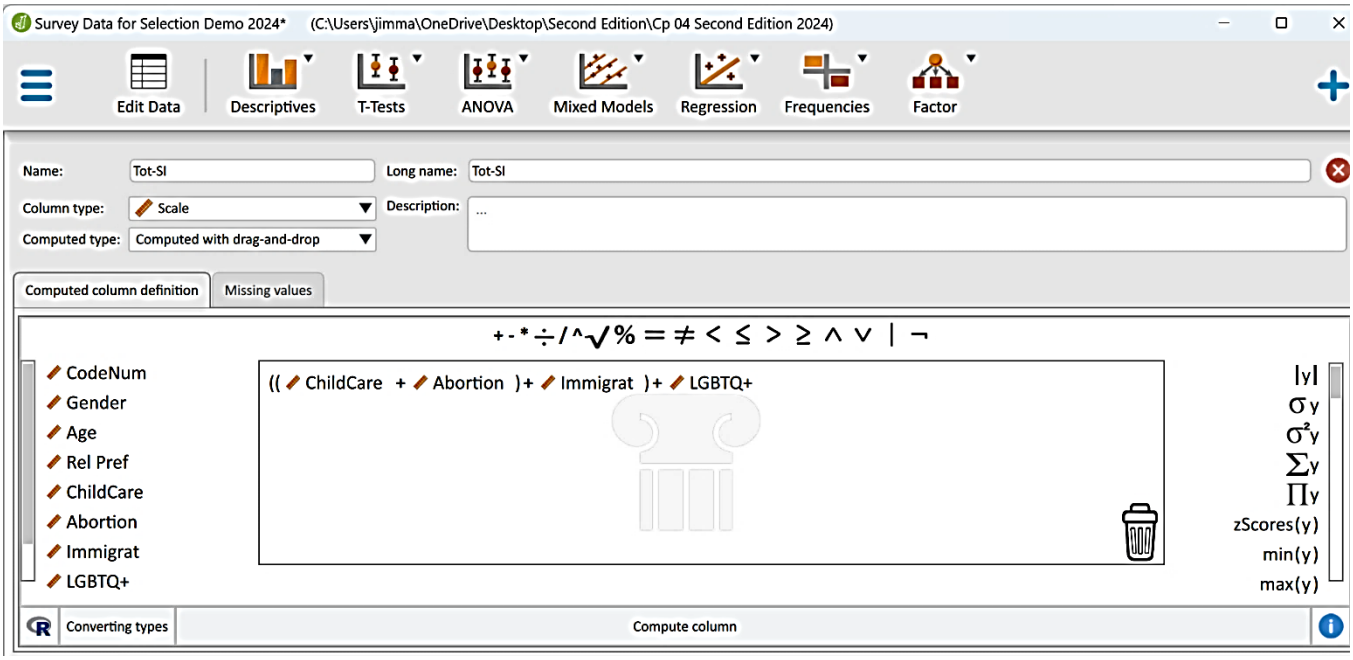
Click on the "+" at the end of the data columns and that will bring up a new variable dialog box (**top of the next column**). Fill in the variable name, "Tot-SI" and click on "Create Column." The new variable will then appear at the end of the data set, labeled "Tot-SI$\int_X$."



Double click on the new column and it will bring up the Compute Variable window at the **bottom of this page** in which you will write an expression to generate the new variable by combining already existing variables.

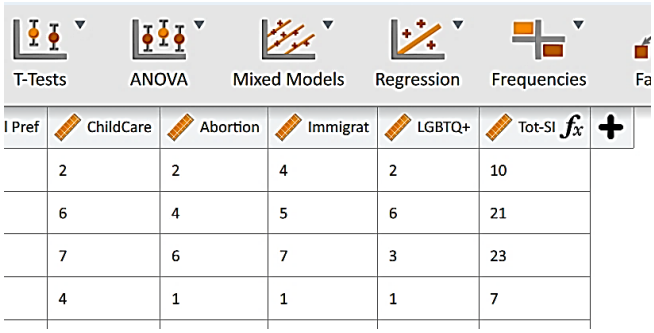
Before you do that make sure that the variables *Childcare* through *LGBTQ+* are all defined as "scale" (numerical**). *JASP* can be prone to defining variables that take on only integer values as "nominal" (categorical) even if they are intended to be analyzed as numerical.** To change the variable type for a variable, click on the type symbol next to the variable name and select an option from the small pop-up window, i.e.:





In the screen shot of the computation window at the bottom of the previous page each of the four SI variables has already been moved into the window by clicking on each from the variable list to the left of the variable window. After each is moved over, the **+** sign is added by clicking on it. Once all four were entered, the "Compute column" tab at the bottom of the window was clicked and the computed values were added to the Tot-SI$\int_X$ column. The window is exited by clicking on the red "X" button.

Here is what the data set looks like after the new variable is computed:



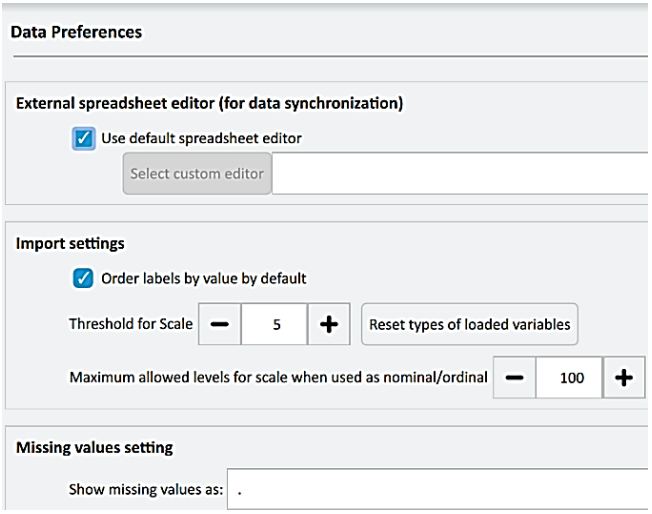
I Pref	ChildCare	Abortion	Immigrat	LGBTQ+	Tot-SI f_x
	2	2	4	2	10
	6	4	5	6	21
	7	6	7	3	23
	4	1	1	1	7

Customizing *JASP* for Your Needs

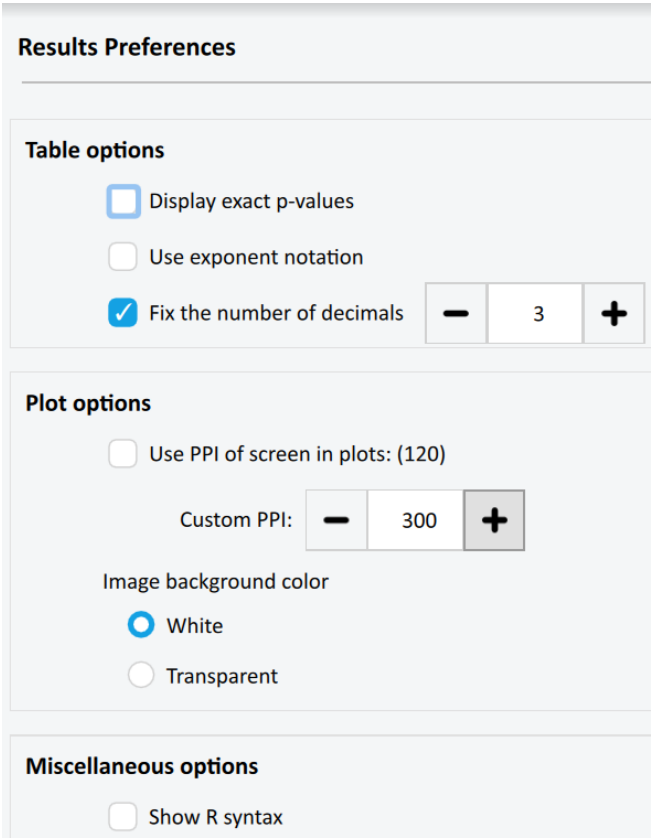
It is possible to change several settings in *JASP* to make the program work in ways that you choose. The menus for doing so are accessed by clicking on the three bars at the upper left corner of the main menu screen and selecting "Preferences."

Click on the "Data" option. The first submenu that appears is labeled "Data Preferences" shown at the **top of the next column**.

The one thing that you may wish to change is the "Import settings." Its default is 5, which means that when a data file is retrieved, if there are fewer than 5 different integer values the variable will be categorized as (a) categorical if only two values occur or (b) ordinal if between 3–4 values occur. Only when 5 or more values are found will the variable be categorized as "scale" (interval or ratio). I'd suggest clicking on this option and changing the threshold to 7 or 8. If you have a categorical variable having more than two numerical coding values, you'll have to change the variable type in the *JASP* Analyses screen.



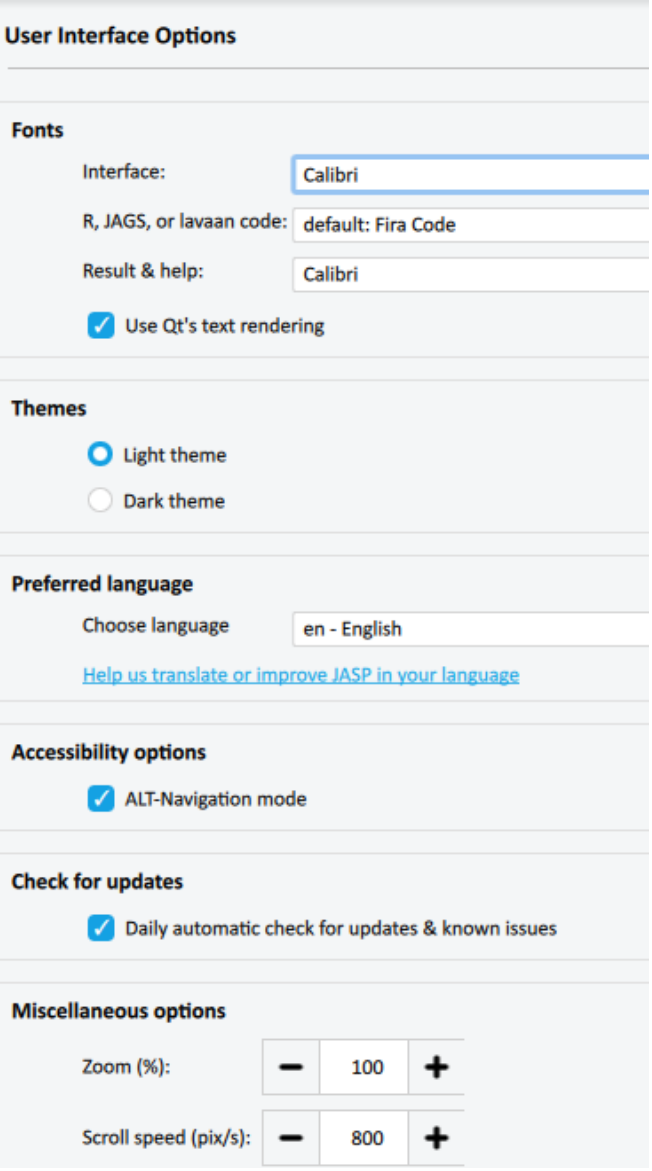
Next, click on the Procedure submenu "Results." The screenshot below shows the options available.



Here you may wish to change the number of decimals displayed in *JASP* results tables to something other than the default of three. Another set of options allow you to change the characteristics of graphs produced by *JASP* to increase their resolution (PPI = pixels per inch) and alter their background from white to transparent. The latter might be appropriate if you

are going to use the graphs in a *PowerPoint* presentation.

Finally, the "Interface" Preference option shown below allows you to control the font used in the figures and tables that *JASP* produces. This allows you to match *JASP* outputs to whatever word processing font you use—which can save you a good deal of reformatting effort. You can also change the on-screen size of the text and buttons for all *JASP* displays. And you can change the language for the *JASP* interface and output tables and figures to any one of 13 languages! (Pretty cool)



Final Comment

As I mentioned at the beginning of this *Guide*, it is a modest introduction to creating data files and using *JASP* to analyze data. Fortunately, *JASP* is very easy to use and you can quickly improve your data analysis skills by doing the data analysis problems in your statistics text. With a bit of effort on your part, you will soon be offering to help other students—and even professors—with their data analysis needs!!

James “Mac” MacDougall, Ph.D. is Professor Emeritus at Eckerd College in St. Petersburg, Florida. Mac taught Human Learning and Cognition, Statistics and Research Design I & II, Evolutionary Psychology, and advanced research seminars in evolutionary psychology.