

Customising SPSS Statistics procedures

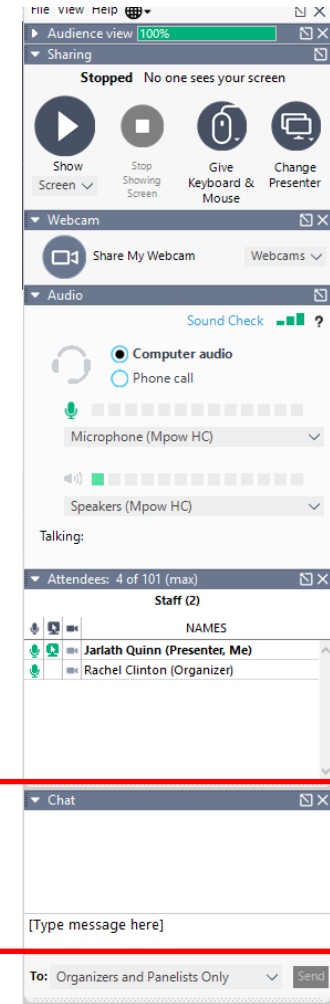
Jarlath Quinn

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Agenda

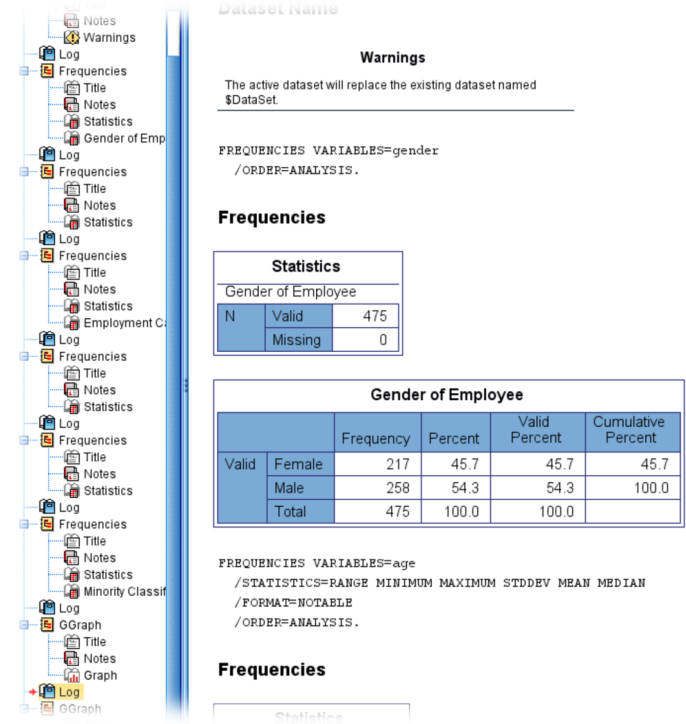
- Creating custom 'hot buttons'
- Introducing the Custom Dialog Builder
- Creating a custom dialog that to quickly switch between Tablelooks
- Creating a custom dialog to combine different routines in a single location



Creating custom 'hot buttons'

The OUTPUT MODIFY command

- OUTPUT MODIFY is a powerful and functionally rich procedure that can apply formatting and other changes to the contents of the active Viewer window.
- It is useful for automatically deleting unwanted objects such as warnings or syntax logs
- It can also be used to highlight specific types of values such as totals in tables



The screenshot displays the SAS Output window. On the left is a tree view showing a hierarchy of objects: Notes, Warnings, Log, Frequencies, Title, Notes, Statistics, Gender of Employee, Log, Frequencies, Title, Notes, Statistics, Employment C..., Log, Frequencies, Title, Notes, Statistics, Log, Frequencies, Title, Notes, Statistics, Minority Classif..., Log, GGraph, Title, Notes, Graph, Log, and GGraph. The 'Log' object under the 'Gender of Employee' node is selected.

On the right, the preview area shows the content of the selected 'Log' object. It includes a 'Dataset Name' section, a 'Warnings' section with a message about replacing the active dataset, a SAS code snippet for a frequency procedure, and two tables: a 'Statistics' table for 'Gender of Employee' and a 'Gender of Employee' table showing frequency and percent data.

Dataset Name

Warnings

The active dataset will replace the existing dataset named \$DataSet.

```
FREQUENCIES VARIABLES=gender  
/ORDER=ANALYSIS.
```

Frequencies

Statistics		
Gender of Employee		
N	Valid	475
	Missing	0

Gender of Employee					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	217	45.7	45.7	45.7
	Male	258	54.3	54.3	100.0
	Total	475	100.0	100.0	

```
FREQUENCIES VARIABLES=age  
/STATISTICS=RANGE MINIMUM MAXIMUM STDDEV MEAN MEDIAN  
/FORMAT=NOTABLE  
/ORDER=ANALYSIS.
```

Frequencies

Statistics		
------------	--	--

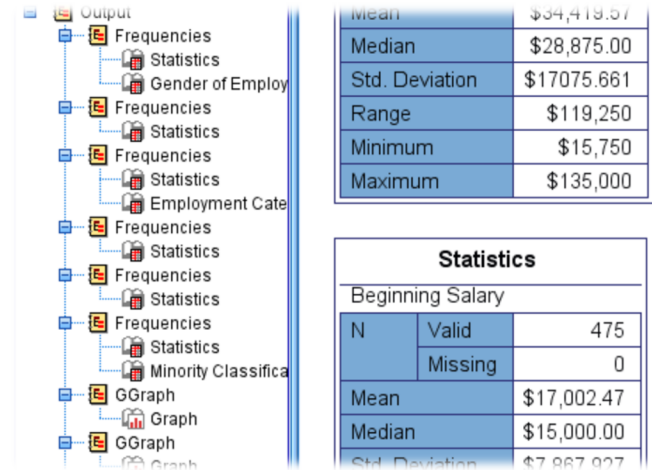
The OUTPUT MODIFY command

- The following syntax deletes all preceding output except for tables and charts

OUTPUT MODIFY

/SELECT ALL EXCEPT (TABLES CHARTS)

/DELETEOBJECT DELETE = YES.



The screenshot shows the SPSS Output window. On the left, a tree view lists several objects: 'Frequencies' for 'Gender of Employee', 'Frequencies' for 'Statistics', 'Frequencies' for 'Employment Category', 'Frequencies' for 'Statistics', 'Frequencies' for 'Statistics', 'Frequencies' for 'Minority Classification', and three 'GGraph' objects. On the right, two summary tables are displayed. The first table shows summary statistics for a variable, and the second table shows 'Beginning Salary' statistics.

Mean	\$34,419.57
Median	\$28,875.00
Std. Deviation	\$17075.661
Range	\$119,250
Minimum	\$15,750
Maximum	\$135,000

Statistics		
Beginning Salary		
N	Valid	475
	Missing	0
Mean		\$17,002.47
Median		\$15,000.00
Std. Deviation		\$7,987.927

The OUTPUT MODIFY command

- The following syntax finds Frequency tables in the output viewer and emboldens the Total values in each table

OUTPUT MODIFY

```
/SELECT TABLES  
/IF SUBTYPES=["Frequencies"]  
/TABLECELLS SELECT=["Total"]  
  SELECTDIMENSION=ROWS  
  STYLE=BOLD APPLYTO=ROW.
```

Employment Category					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Clerical	364	76.6	76.6	76.6
	Custodial	27	5.7	5.7	82.3
	Manager	84	17.7	17.7	100.0
	Total	475	100.0	100.0	

See the Smart Vision Europe video series 'Getting Started with SPSS Syntax' for more details:

<https://www.sv-europe.com/video-guides/>

The OUTPUT MODIFY command

In our example we will use the following command to simply remove headings, outline headers and warnings

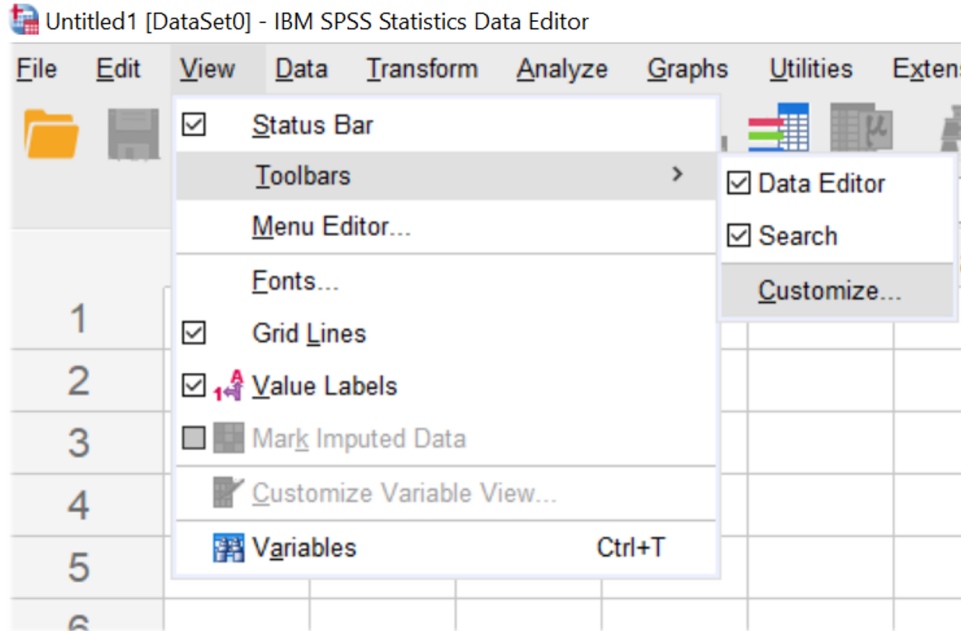
OUTPUT MODIFY

/SELECT LOGS WARNINGS OUTLINEHEADERS HEADINGS

/DELETEOBJECT DELETE= YES.

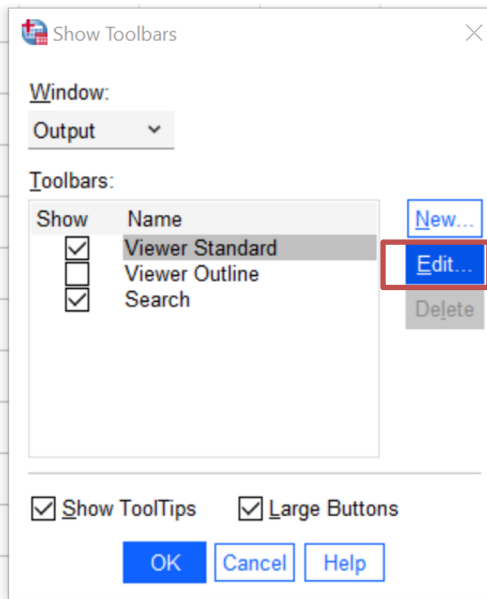
Customising the Toolbar

1

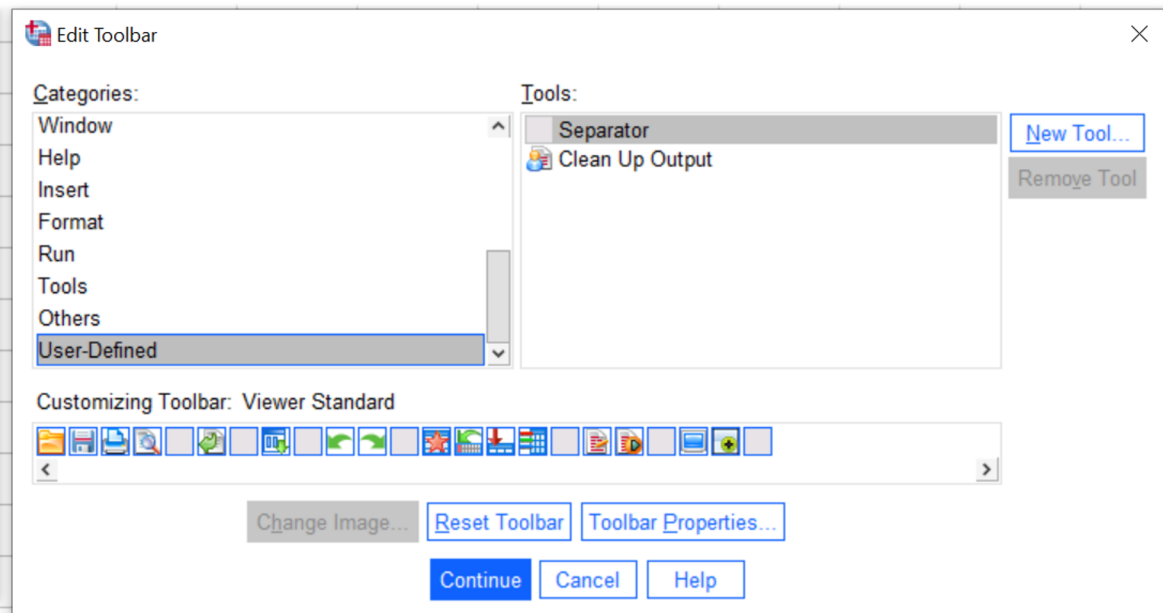


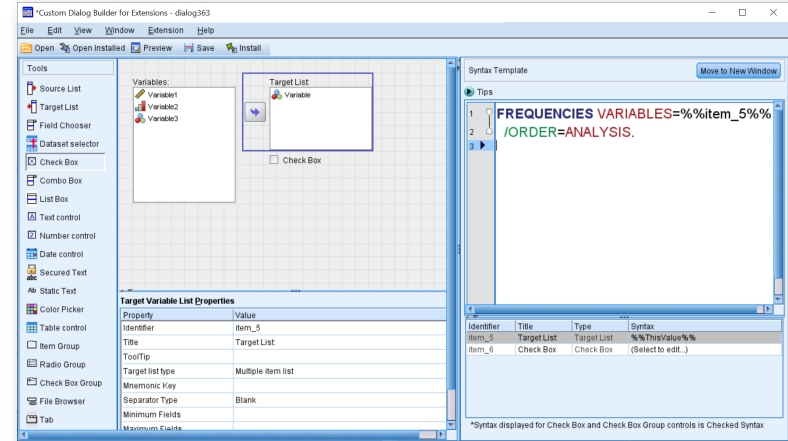
Customising the Toolbar

2



3





Introducing the Custom Dialog Builder

Example:

- This is the default syntax for a frequencies procedure
- Where **Variablex** could be continuous or categorical

FREQUENCIES VARIABLES= **Variablex**
/ORDER=ANALYSIS.

Example:

- But what if you wanted the default syntax to look like this: where **Variablex** *could only be a continuous variable*?

FREQUENCIES VARIABLES= Variablex

/ORDER=ANALYSIS

/FORMAT=NOTABLE

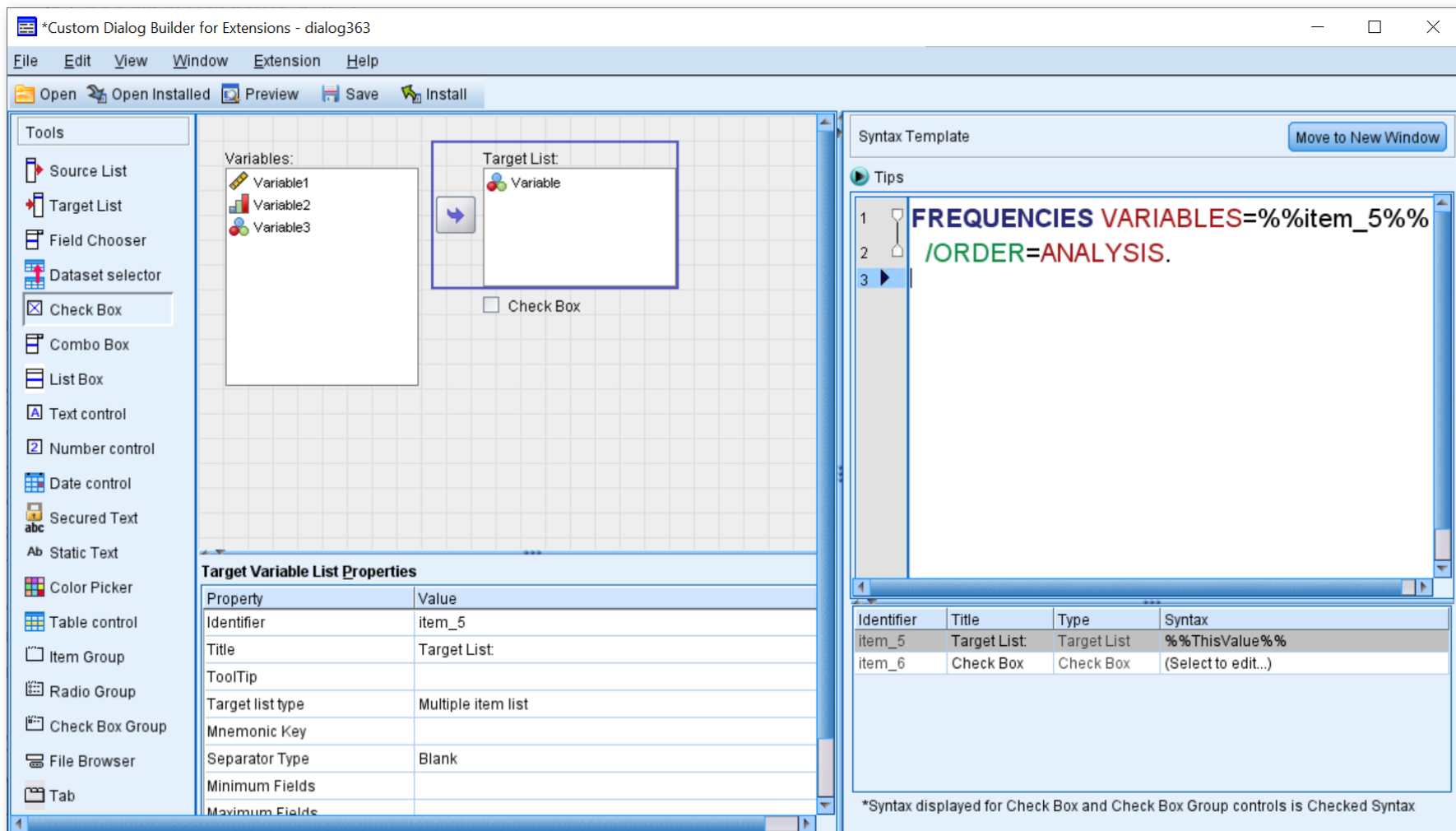
/NTILES=4

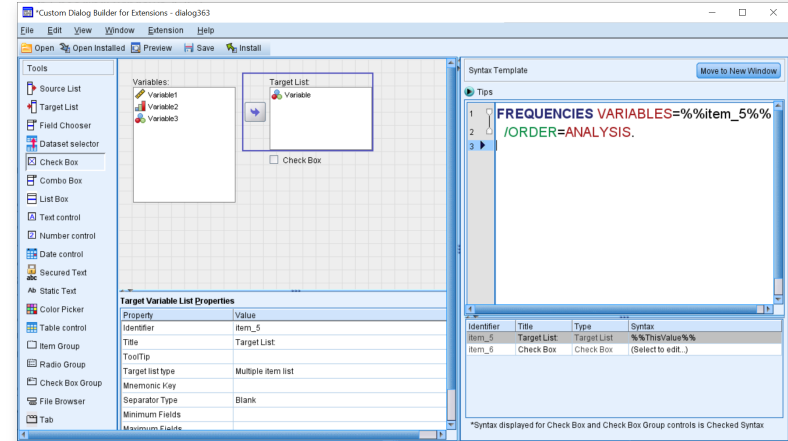
/PERCENTILES=5.0 95.0

/STATISTICS=STDDEV RANGE MINIMUM MAXIMUM MEAN MEDIAN SKEWNESS

/HISTOGRAM NORMAL

/ORDER=ANALYSIS.





Creating a Custom Dialog to switch TableLooks

Creating a Custom Dialog to switch TableLooks

Custom Dialog Builder for Extensions - dialog007

File Edit View Window Extension Help

Open Open Installed Preview Save Install

Tools

- Source List
- Target List
- Field Chooser
- Dataset selector
- Check Box
- Combo Box
- List Box
- Text control
- Number control
- Date control
- Secured Text
- Static Text
- Color Picker
- Table control
- Item Group
- Radio Group
- Check Box Group
- File Browser
- Tab
- Sub-dialog Button

Select a new TableLook

Table Looks

- ☐ Bamboo
- ☐ Beige Black
- ☐ Brick and Stone
- ☐ Chalk Board
- ☒ Denim
- ☐ Mondrian
- ☐ Moody Blues
- ☐ Old School
- ☐ Red Lines
- ☐ St Patricky
- ☐ Teal Grey Stripe

Syntax Template

Move to New Window

Tips

1 ▶ SET TLOOK ="C:\Smart Vision Custom Dialogs\TableLooks\%%item_4%%".

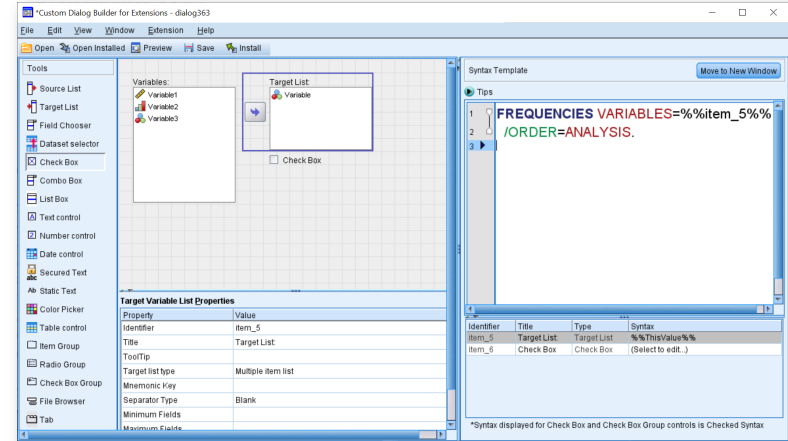
Radio Group Properties

Identifier	Column Name	ToolTip	Mnemonic Key	Nested Group	Default	Enabling Rule	Syntax
item_4_a	Bamboo	Bamboo		false	false	(Select to edit...)	Bamboo.stt
item_4_b	Beige Black	Beige Black		false	false	(Select to edit...)	Beige_Black.stt
item_4_c	Brick and Stone	Brick and Stone		false	false	(Select to edit...)	Brick_and_Stone.stt
item_4_e	Chalk Board	Chalk Board		false	false	(Select to edit...)	Chalk_Board.stt
item_4_g	Denim	Denim		false	true	(Select to edit...)	Denim.stt
item_4_i	Mondrian	Mondrian		false	false	(Select to edit...)	Mondrian.stt
item_4_k	Moody Blues	Moody Blues		false	false	(Select to edit...)	Moody_Blues.stt
item_4_m	Old School	Old School		false	false	(Select to edit...)	Old_School.stt
item_4_o	Red Lines	Red Lines		false	false	(Select to edit...)	Red_Lines.stt
item_4_q	St Patricky	St Patricky		false	false	(Select to edit...)	St_Patricky.stt
item_4_s	Teal Grey Stripe	Teal Grey Stripe		false	false	(Select to edit...)	Teal_Grey_Stripe.stt

OK Cancel Help

Radio Button Group Properties

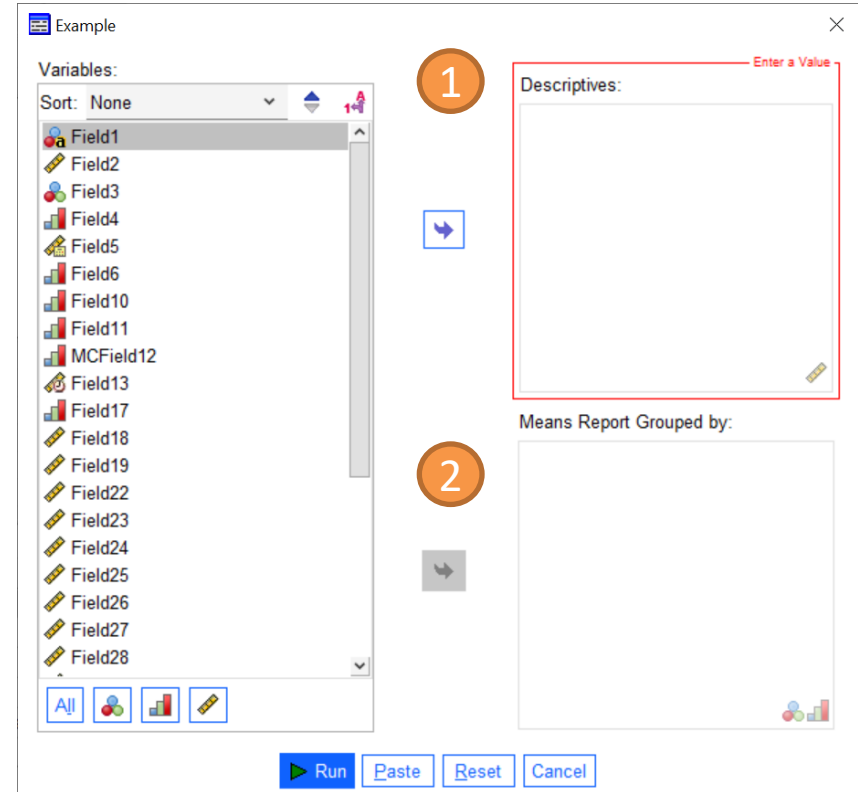
Property	Value
Identifier	item_4
Title	Table Looks
ToolTip	Select a new TableLook
Radio Buttons	(Select to edit...)
Syntax	%%ThisValue%%



Combining different procedures in a single dialog

Combining Separate Procedures

- Suppose we want to create a dialog that combines separate procedures.
1. If only one continuous variable is selected we get a Descriptives Report
 2. But if a *second* categorical (or grouping) variable is selected we get a *Descriptives and a Means* report



Combining Different Procedures

Custom Dialog Builder for Extensions - dialog441

File Edit View Window Extension Help

Open Open Installed Preview Save Install

Tools

- Source List
- Target List
- Field Chooser
- Dataset selector
- Check Box
- Combo Box
- List Box
- Text control
- Number control
- Date control
- Secured Text
- Static Text
- Color Picker
- Table control
- Item Group
- Radio Group
- Check Box Group
- File Browser
- Tab
- Sub-dialog Button

Variables:

- Variable1
- Variable2
- Variable3

Target List:

- Variable

Target List:

- Variable

Syntax Template

Move to New Window

Tips

- 1 DESCRIPTIVES VARIABLES=%%item_21%%
- 2 /STATISTICS=MEAN STDDEV MIN MAX.
- 3
- 4 MEANS TABLES=%%item_21%% BY %%item_22%%
- 5 /CELLS=MEAN MEDIAN STDDEV MIN MAX COUNT.

This approach generates an error as everything in the Syntax template is execute even if the parameters are not populated

Target Variable List Properties

Property	Value
Identifier	item_22
Title	Target List
ToolTip	
Target list type	Multiple item list
Mnemonic Key	
Separator Type	Blank
Minimum Fields	
Maximum Fields	
Required for execution	False
Variable Filter	(Select to edit...)
Default Visible Items	

Identifier	Title	Type	Syntax
item_21	Target List:	Target List	(Select to edit...)
item_22	Target List:	Target List	MEANS TABLES=%%item_21%% B...

Combining Separate Procedures

But if we isolate the different procedures with different elements of the dialog then those procedures will execute only when those elements are selected

Syntax Property

Enter the syntax. Pressing the <CTRL> and <SPACEBAR> keys together displays elements of command syntax for the current context.

1 MEANS TABLES=%item_21% BY %%ThisValue%%
2 /CELLS=MEAN MEDIAN STDDEV MIN MAX COUNT.

OK Cancel Help

Identifier	Title	Type	Syntax
item_21	Target List:	Target List	DESCRIPTIVES VARIABLES=%ThisValue%
item_22	Target List:	Target List	MEANS TABLES=%item_21% BY %%ThisValue%%

Create customized charts: Search “GPL SPSS”

GPL Reference Guide for IBM SPSS Statistics

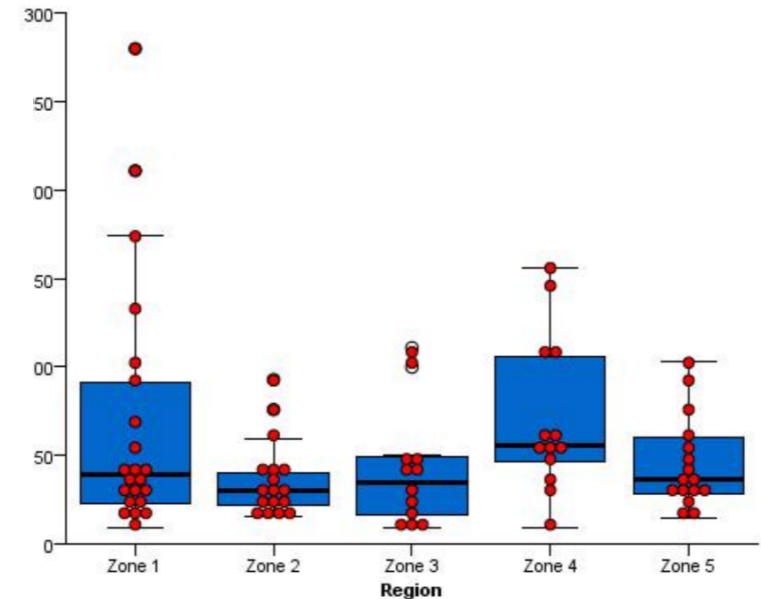


Boxplot With Overlaid Dot Plot

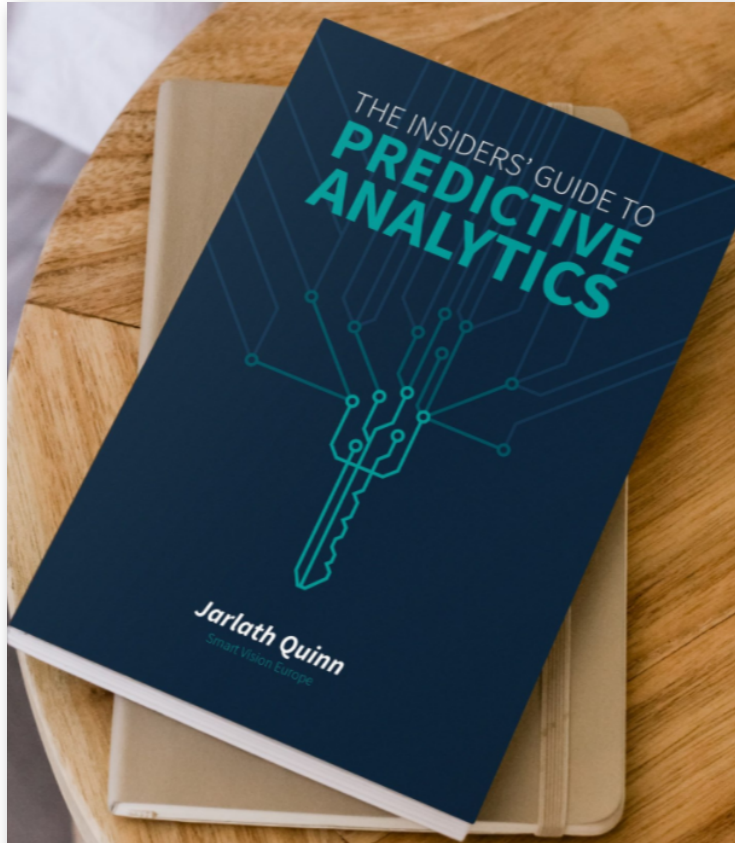
```
SOURCE: s = csvSource(file("customer_subset.csv"))
DATA: region = col(source(s), name("region"), unit.category())
DATA: income = col(source(s), name("income"))
GUIDE: axis(dim(2), label("Income"))
GUIDE: axis(dim(1), label("Region"))
SCALE: linear(dim(2), include(0))
ELEMENT: schema(position(bin.quantile.letter(region*income)))
ELEMENT: point.dodge.symmetric(position(bin.dot(region*income, dim(2))),
                                color(color.red))

SOURCE: s = userSource(id("customer_subset"))
DATA: region = col(source(s), name("region"), unit.category())
DATA: income = col(source(s), name("income"))
GUIDE: axis(dim(2), label("Income"))
GUIDE: axis(dim(1), label("Region"))
SCALE: linear(dim(2), include(0))
ELEMENT: schema(position(bin.quantile.letter(region*income)))
ELEMENT: point.dodge.symmetric(position(bin.dot(region*income, dim(2))),
                                color(color.red))
```

Figure 488. GPL for boxplot with overlaid dot plot



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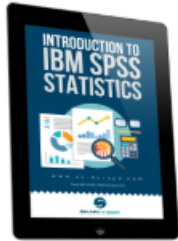
-	1	+
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