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Using SPSS to get the Most out of your CORE Alcohol and other Drug Data

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Introductions

- Name
- Institution
- Position/Title
- Why you are here today!!!

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Opening Data

- Open -> Data->

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Data View vs. Variable View

- Data view = the actual data entered
- Variable view = description/definition of data contained in data view

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Variable View

- Essential to have. Without it you can analyze data, but you'll be looking back at answer codes
- Variable data = place for words
- Data view – you can put words in, however SPSS will not analyze data.

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Variable View - Name

- Names of your variables
- Any length, but SPSS likes names less than 10 characters
- Must begin with a letter
- May not end with a period
- Can use @, #, _, or $
- Duplicate names are not allowed
- Names arenot case sensitive, Alc, ALC, AlC are all identical
- Certain variable names may not be used – see page 31 bottom

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Variable View - Type

- Numeric variables are most common
- Can include comma, dot, scientific notation, date, dollar, currency

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Variable View -Width

- Number of characters you expect variable entry to have

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Variable View - Decimals

- Number of decimal places for each variable

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Variable View - Label

- Ability to give meaning to variable name

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Variable View - Values

- Every variable and level of a variable must be given some form of numerical representation/value
- E.g. gender: 1 = female, 2 = male
- Up to 60 characters

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Variable View - Missing

- Rarely used
- Used to differentiate those who did not answer vs those who answered differently

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Variable View – Column Width

- Column width
- Can be manipulated to allow you to see more or less columns

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Variable View - Measure

- Nominal – groups, no order of rankling. Fr/So/Jr/Sr – one is not greater than the other
  - circles
- Ordinal – many of the CORE Scales, ranking without
  - Bar chart
- Interval Scale – temperature
- Ratio Scale - age

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Variable View- Measure

- Interval Scale – temperature
  - ruler
- Ratio Scale – age
  - ruler

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Entering Data

- By Variable- data view
- By Variable – variable view
- By case or subject

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Editing Data

- Changing a Cell value – click on cell and enter data
- Inseting a new case – click on case number above where you want the new case to be
- Insering a new variable – click on variable to the right of the variable where you want to add
- Copying and Pasting Cells

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Replacing Missing Data – Categorical Data

- ethnicity as an example, code missing data as an extra level. For example, if you have 5 levels – code the missing data as a 6th level.

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Replacing Missing Data – Continuous Data

- SPSS has several different mechanisms to do so
- Transform ->Replace Missing Values
- Series Mean – mean or average value of all cases
- Mean of Nearby points – mean of surrounding cases
- Median of Nearby points – median of surrounding cases

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Creating Variables
Computing Variables

- Summing up all quizzes, test grades
- Transform->Compute Variable
- Target Variable Box = name of new variable
- Numeric Expression Box = expression that will define the new variable
- Functions – math functions that you can use

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Recoding into Different Variables

- Creates new variables by dividing existing categories
  - Example – recoding %'s into letter grades

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Recoding into Different Variables

- Transform->Recode into Different Variables
- Grades (Q9) -> numeric variable/output variable
- Put in new variable name and label
- Click old and new values

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Recoding into Different Variables Cont

- Place one level of "old variable"
  - A+ = 13, now A+ = 4
- Click add
- Continue with A=12, now A=4, etc.
- Click Continue
- Click Okay

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Graphing

- Bar
- Line
- Pie
- Box
- Error Bar
- Histograms
- Scatter Plots

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Graphing

- Graphs->chart builder->choose graph type and move to box
- Determine x axis and y axis
- Element properties -> x-axis,mark sort by label under categories
- Element properties ->y-axis indicate scale range if you want it changed
- Hit apply
- Hit okay in chart builder
- Graph will come out in output
- Double Click on chart to edit

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Reports - Codebook

- Analyze->reports->codebook

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Frequencies

- Analyze->descriptive statistics->frequencies
- Determine descriptive statistics
- Determine charts if wanted or desired
- Hit okay

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Descriptive Statistics

- Analyze->descriptive statistics->descriptive

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Crosstabulations

- Analyze->descriptive statistics->crosstabs
- Place one variable in rows
- Place another variable in columns
- Click on statistics
- Click on Chi Square

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Crosstabulations Continued

- Click on cells, click on observed and expected in counts
- Click okay
- Look at output, look at Pearson's Chi Square
- If Asymp sig is less than 0.05, findings are statistically significant
- If Asymp sig is equal to or greater than than 0.05, and equal to or less than 0.10 findings are marginally significant

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Means Procedures

- Analyze->CompareMeans->Means
- Dependent Variable – Must be scale (interval or ordinal)
- Independent Variable – grouping variable
- Means Options Box

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T-Tests – Independent Samples

- Used to determine a statistically significant difference in means between two groups
- Since we're looking at means, must have scale level data (interval or ratio)
  - Ave # of drinks per week
- Analyze->CompareMeans->Independent Samples T-test
- Test Variable – Dependent Variable
- Grouping Variable – Independent Variable
- Define Groups – need to know the numbers used for labeling independent variable

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T-Test Independent Samples Continued

- Options = confidence level. 0.05 considered most typical cut-off
- Levene's Test for equality
  - If significance of F is =/< .05, variance differences exist between the two groups – use the unequal line to determine if t-test is significant
  - If significance of F is >.05, variance differences do not exist between the two groups, use the equal line to determine if t-test is significant.

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T-Tests – One Sample

- Use to compare mean of a distribution with some standard objective.
- Use to compare your mean average of drinks consumed with state average (5.2)
- Analyze->CompareMeans->One Sample T-test
- Test value = 5.2

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Paired Samples T-test

- Within subjects needed – two test scores
- Also looks at correlation. Do those who score high on test one score high on test two

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One-Way ANOVA

- Used to determine a statistically significant difference in means between three or more groups
- One dependent variable and one independent variable
- Since we're looking at means, must have scale level data (interval or ratio)
  - Ave # of drinks per week

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One-Way ANOVA Continued

- Post-hoc tests will be needed to determine where difference exist, ANOVA only tells you if differences exist-not where.
- Analyze->CompareMeans->One-Way ANOVA
- Review of AdHoc Post tests

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Two-Way ANOVA

- Like 1-Way ANOVA, but looks at the influence of 2 categorical variables on an scale dependent variable.
- Gender and Greek Status by drinks per week
- READ Chapter 13

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Two Way ANOVA

- Analyze->General Linear Model ->Univariate
- Move DV to Dependent Variable
- Move IV's to Fixed Factors
- Determine Post-Hocs – ESD prefers Tukeys B
- Click Options – Descriptive Stats, Estimates of effect size, and observed power
- Click continue and click OK

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Correlations

- Chapter 10
- Correlation does not imply causality

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Pearson's Correlation

- Used when dependent variable is scale level (rankings)
  - Interval
  - ratio
- Analyze->Correlate->Bivariate
- Move Variables Over
- Click on Pearson Correlation

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Pearson's Correlations

- Determine if you're using one or two tailed -= Two-Tailed will be selected by default
- Click on one-tail if you have clear knowledge of the direction of your correlation
- Pairwise – include subject/case even if missing a few values
- List-wise- exclude case if missing any data

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Correlations - Spearmans

- Used when dependent variable is ordinal level (rankings)
  - First, second,third
  - Core questions when ranges are used (0-2, 3-5, etc.)
- Analyze->Correlate->Bivariate
- Move Variables Over
- Click on Spearman Correlation

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Correlations - Spearmans

- Determine if you're using one or two tailed -= Two-Tailed will be selected by default
- Click on one-tail if you have clear knowledge of the direction of your correlation
- Pairwise – include subject/case even if missing a few values
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Presenter Information

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