



# Media Master Courses

## Methods of Media Research

**Dr. Jacob Groshek**

Quantitative Content Analysis

Block 1, 2011

# Today

- o **Observing and measuring communication variables (Frey et al.)**
  - o Some Practice
- o **Homogenous Agendas, Disparate Frames (Groshek)**
  - o Some Application
- o **SPSS**
  - o Some Doing

# Personal description

- o **What am I about?**
  - o B.S., University of Wisconsin-Stout in Technology Education
  - o English Literature minor (UCL)
  - o Teacher, mechanic, food service, writer, editor and designer
  - o M.A., Marquette University in Mass Communication
  - o Editor, database manager, multi-platform media designer
  - o Ph.D., Indiana University in Political and International Communication
  - o Assistant Professor, Iowa State University
  - o Husband and father



# Observing and measuring communication variables

- o **“How ya doing?”**
  - o “Fine.”
- o **What is operationalization?**
  - o Identifying and determining how to measure the observable, or empirical, characteristics of whatever concepts or variables researchers wish to study (p. 81)

# Conceptual vs. operational definitions

## o **Conceptual**

- o describes what a concept means by relating it to other abstract concepts
- o think of writing a definition of love in a dictionary

## o **Operational**

- o describes a concept in terms of its observable and measurable characteristics or behaviors, by specifying how the concept can be observed in actual practice
- o think of ranking how “in love” couples seem to be by looking at media content of different couples



# The first step...

- **...is to move from the abstract, conceptual level to the concrete, operational level.**
  - Only after we have defined a concept operationally can we measure it; only after we have measured can we analyze
- **Measurement is the process of determining the existence, characteristics, size, and/or quantity of changes or differences in a variable through systematic recording and organization of the researcher's observations.**



# Measuring well

- o **What makes for a good operational measurement of communication variables?**
- o **Is the definition:**
  - o adequate?
  - o accurate?
  - o clear?
- o **Let's measure a communication concept:**
  - o violence

# Types of measurement

- **Quantitative measurements**
  - employ meaningful numerical indicators to ascertain the relative amounts of something, whereas
- **Qualitative measurements**
  - employ symbols (words, diagrams, and nonmeaningful numbers) to indicate the meanings (other than relative amounts) people have of something
- **250 pages or long**
- **50 status updates per day on facebook or frequent**
- **Number of copies sold or reasons bought**



# A media example of differences

- o Consider a sporting event, let's say a Feyenoord football match
  - We can look at the box scores of Feyenoord and its opponents and statistically decipher some reason why Feyenoord won or lost
    - With a large enough random sample, we might even be able to propose a universal rule
  - Or, we can examine the match in context of all other factors and “intangibles” as in a feature story of the game
    - Here we could consider coaching, passion, leadership, experience, and so on in a rich, detailed, and persuasive account



# Levels of measurement

- **Nominal**
- **Ordinal**
- **Interval**
- **Ratio**
  
- **These categories determine which data analysis techniques are appropriate**
- **Higher levels of measurement can be converted to lower levels after collection, but not easily vice versa**
- **Data collection is the key**



# Levels of measurement

- **Nominal: categorical distinctions only**
  - religion, gender, musical genres and so on
  - ideally, these are mutually exhaustive & exclusive
- **Ordinal: rank order without equivalent distinctions**
  - horse (and political) races, hierarchical rankings, etc.
- **Interval: rank order with equivalent distinctions**
  - thermometer, Likert scales of interest, attitudes, more
- **Ratio: rank order w/equivalent distinctions & true zero**
  - age, income, height, formal education, and the like

# Applying Levels of Measurement

| <i>Independent Variable</i> | <i>Dependent Variable</i>   | <i>Appropriate Statistical Test</i> |
|-----------------------------|-----------------------------|-------------------------------------|
| Nominal                     | Nominal                     | Chi square, Cramer's V              |
| Nominal (two categories)    | (Ordinal) Interval or Ratio | T-test                              |
| Nominal (2 < categories)    | (Ordinal) Interval or Ratio | Analysis of Variance (ANOVA)        |
| Interval or Ratio           | Interval or Ratio           | Correlations and/or Regressions     |

# Dimensions of measurement

## o **Unidimensional**

- o single set of indicators that can be combined together to ‘get at’ one overall score of one concept
- o example: humor, authoritativeness, trustworthiness, dynamism

## o **Multidimensional**

- o concept composed of several factors that are supported by their own unidimensional scale
- o example: credibility (comprised of authoritativeness, trustworthiness, and dynamism)



# Coding

- **For which features can we code media content?**
  - Any, really
- **How do we know we are coding correctly (validly)?**
  - Look at previous research
  - “Stand on the shoulders of giants”
- **How can we be sure others would code like us (reliably)?**
  - Intracoder reliability
  - Intercoder reliability

# Homogenous Agendas, Disparate Frames (Groshek)

- o **What are the major findings?**
  - o Through which methods were these realized?
  - o Sample
  - o Dependent measures (DVs)
  - o Independent measures (IVs)
  
- o **What comprises the media?**
- o **Who is the audience?**
- o **What is this impact of this study? [Proven or implied]**



# Homogenous Agendas, Disparate Frames (Groshek)

- o **How were variables operationalized?**
  - o What is intercoder reliability?
  - o Strengths/weaknesses
  - o Validity/reliability
- o **What does this research mean for politics, the public, and the scholarly community?**
  - o Can we generalize?

# Homogenous Agendas, Disparate Frames (Groshek)

- o **The codebook**
  - o Let's have a look
- o **Consider the following codes and how do we know, well, what we know?**
  - o Control
  - o Which CNN
  - o Date
  - o Headline
  - o Category
  - o Celebrity
  - o Importance
  - o Picture Conflict Frame
  - o Country
  - o Region
  - o American Focus



# Before Opening SPSS

- Data collection is the key
- Levels of measurement
  - Nominal
  - Ordinal
  - Interval
  - Ratio
- These categories determine which data analysis techniques are appropriate
- Higher levels of measurement can be converted to lower levels after collection, but not easily vice versa



# Levels of Measurement Review

- Nominal: categorical distinctions only
  - religion, gender, musical genres and so on
- Ordinal: rank order without equivalent distinctions
  - horse (and political) races, hierarchical rankings, etc.
- Interval: rank order with equivalent distinctions
  - thermometer, Likert scales of interest, attitudes, more
- Ratio: rank order with equivalent distinctions and true zero
  - age, income, height, formal education, and the like

# Some Practical Application and Doing

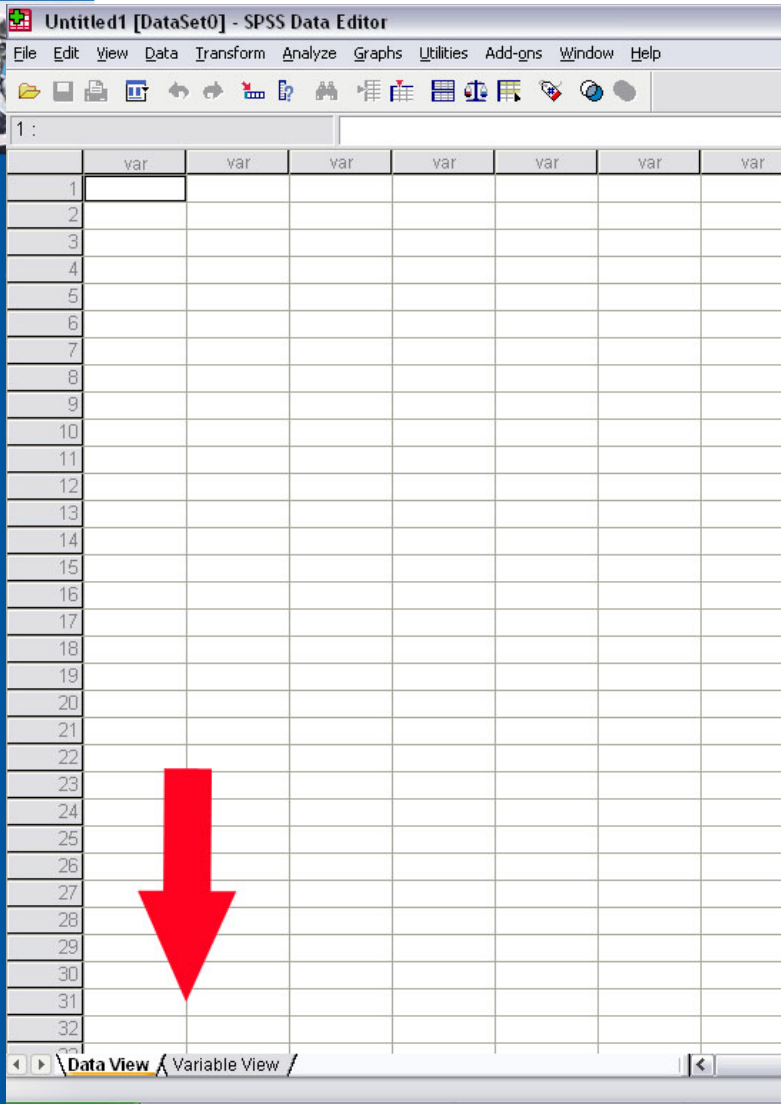
- Now, search for your own topic, and construct (in writing) at least two valid codes that are supported by previous research.
  - One must be above nominal
  - Identify the level of measurement
- Find some media content that you can code for this feature in the time remaining.
- Start coding, and we will work on data input when everyone is ready.

# Data Definition and Entry

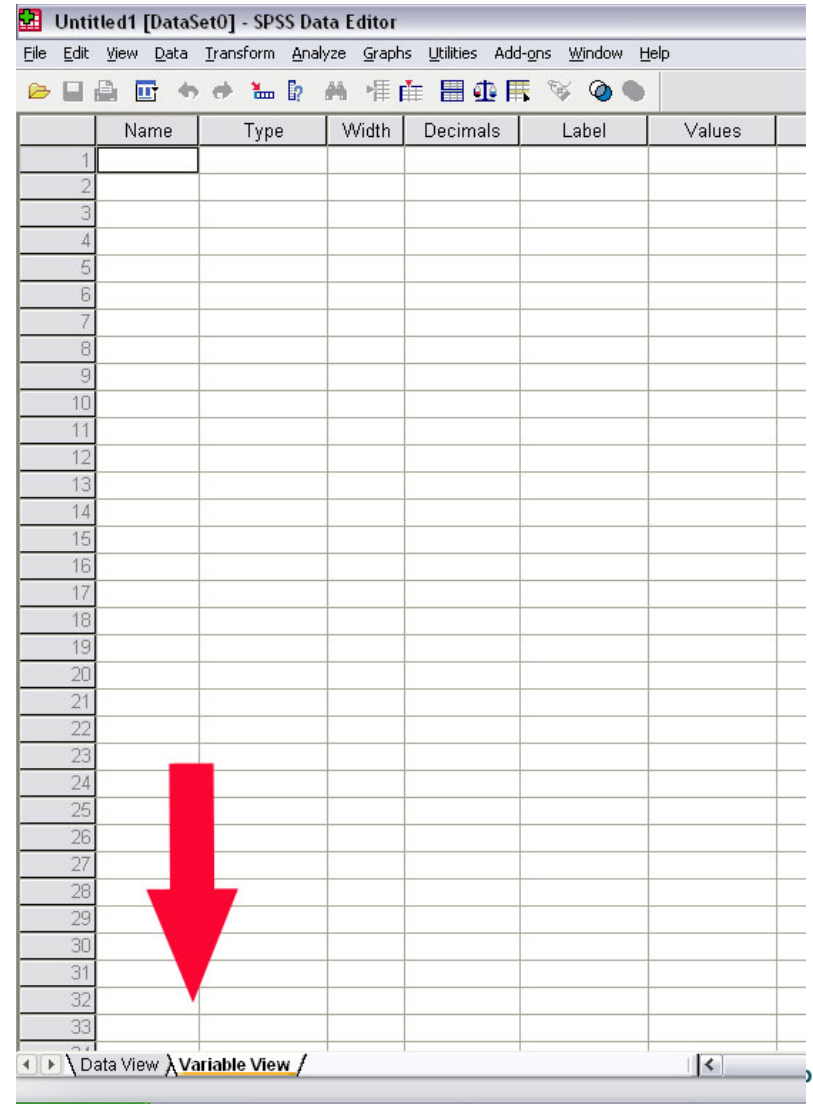
- When starting a new dataset, launch SPSS
- Select the *Type in data* option or use the *File* → *New Data* drop down menu
- Opening an existing dataset is the same as opening any typical software program
- One of the most pivotal functions is toggling between the data view and the variable view
  - The data view is where you enter values (numeric or otherwise) of your variables
  - The variable view is where you define and label your variables and their values



# Data View



# Variable View



# Examples of Basic Steps

- Variable View:
  - Naming variables
  - Identifying variable types
  - Labeling variables: A crucial step
  - Notating what values stand for: Equally critical
  - Declaring missing values

# More Examples of Basic Steps

- Data View:
  - Inputting values (*View* → *Value Labels*)
  - Find using the binoculars icon
- Either View:
  - Recoding variables (*Transform* → *Recode into Different Variables*)
  - Computing variables (*Transform* → *Compute Variable*)

# For next week

- **1. Read Frey, Chapter 9, pp 236 to 243**
- **2. Select topic (sEURch previous research)**
- **3. Select texts (sample of at least TWO different media)**
- **4. Determine unit of analysis (headline/paragraph/image)**
- **5. Develop content categories (codebook *informed* by previous research)**
- **6. Code units into categories (at least 100 units must be coded with 50 from one media and 50 from another)**
  - **Overlap at least 10% of your sample**
- **7. We will work on analyzing data for next week so you must bring your data (.sav file)**

