Writing a Method Section

Describing measures
Steps in this tutorial

• 1) State the goals of this tutorial
• 2) What is a method section
• 3) What is in a method section
• 4) What is the measures part of a method section
• 5) What goes in the measures section
• 6) The specific elements of a measures section
• 7) Detailed example of a measures section
Goals of this tutorial

• Explain the purpose of a method section
• Demonstrate the measures section of the method section
Objectives

• By the end of this tutorial you should be able to
  – Articulate what the method section of a psychology paper is
  – State what goes in that section
  – State the components of a measures section
  – Draft a measures section for your own work
What is a Method Section?

• It is the part of the proposal or research paper that describes the methods used to collect the data
• It follows the introduction
• It allows the reader to understand how the data were collected, and to judge for herself if she thinks the methods were good
• It should be detailed enough for a good researcher to be able to replicate the study from reading the method section
What is the Method section?

• The method section contains several sections
  – Participants
    • Who was in the study
  – Procedure
    • What happened study
  – Measures/Materials
    • What measures were used—like surveys
    • Or what materials—like special lab equipement
  – Analysis section-not covered in these tutorials
    • Describes the statistical analysis
Method Section-Measures

• This tutorial demonstrates the measures or materials section
• Other tutorials cover the participants and procedures sections
What are Measures?

• Measures are the source of the actual data
• These can be
  – Interviews
  – Surveys
  – Measurements of physical characteristics
    • Height
    • weight
Why describe measures?

• Because measures are the source of your data, all the results rest on whether or not the measures are adequate
• Describing the measures helps the reader judge whether or not the results are valid
• The measures section may be a lengthy and detailed section
Measures

• Measures include the following elements:
  – The construct or variable being measured
  – The name of the measure
  – A citation for the measure if it is published
  – How many items there are
  – A sample item
  – How items are scored
  – What higher and lower scores mean
  – Research or data supporting the reliability of the measure
  – Research supporting the validity of the measure
A construct or variable being measured

• A construct is an idea or concept
• A construct might be depression, aggression, abuse, agitation
  – There can be more than one measure for a single construct
  – There can be several constructs in one study
• A variable is simply something that is measured
  – Like height, weight or income
• Many studies measure constructs and variables
• Constructs such as anxiety, risk behaviors, attitudes about marriage, etc., are likely (hopefully) using an existing measure.

• Existing measures have formal names and usually abbreviations

• If it is a published measure it should be cited
Construct/Measure name/Citation-Example

- Two measures of child behavior problems

**Child Behavior Problems**

- Parent reported child behavior problems were measured with the Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1991)...

- Parent reported child behavior problems were also measured with the Eyberg Child Behavior Inventory (ECBI; Eyberg & Pincus, 1999)...

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Notes on the Example

• Child behavior problems is the construct
• The first measure is the Child Behavior Checklist, abbreviated CBCL
  – The authors are cited using proper citation style
• The second measure is the Eyberg Child Behavior Inventory, abbreviated ECBI.
  – The authors are cited using proper citation style
A sample item

• It is very helpful for the reader to include an actual question or item from the measure that is described

• This helps the reader see how items are worded
  – How long items may be
  – How complicated wording may be
  – What types of issues are asked about
How Items are Scored

• Items may be scored in different ways, such as
  – True/false
  – Never, rarely, sometimes, often, always
• Word scoring is often assigned a number
• This should be described so the reader can understand the choices participants had for answering questions
• This helps the reader judge if the measure was adequate
Here is an example

The CBCL is a 113 item checklist of behavior problems. Parents are asked how often each behavior occurs compared to their experience of other similar age children currently or within the past 6 months. Items are scored on a scale of (0)= not true, (1)=sometimes true, and (2)= often true. Sample items include “bites fingernails” and “argues a lot.”
What high and low scores mean

• Reader don’t automatically know what high and low scores mean
• For instance, that a higher score on a depression scale means more depressive symptoms
• Scales are not always scored in obvious ways
• Readers need to know exactly what the range of possible scores is, and what higher or lower scores represent
Range and High and Low Scores - Example

- For a measure of psychopathy

The PCL-R has 20 items and possible scores range from 0 to 40, where higher scores indicate more psychopathic behaviors and attitudes.
Reliability and Validity of a Measure

• There must be evidence that a measure is reliable and valid
• Usually this will come from the published literature
Reliability of a Measure

• Descriptions should state support for the reliability of the measure
• Different types of reliability may be important for a measure
  – Test-retest reliability and internal consistency reliability for survey measures
  – Interrater reliability for observational measures
Reliability of the Measure-Example

• For a survey measure

The Beck Anxiety Inventory has been shown to have one-week test-retest reliability of .75 (Beck, Epstein, Brown & Steer, 1988). Internal consistency reliability in the current sample was .80.
Validity of the Measure

• There are many types of validity
• Measure do not have to be shown to be valid in all ways
• But some evidence of validity is usually necessary
Validity of the Measure-Example

• For a survey measure

The Beck Anxiety Inventory has been shown to be able to discriminate anxious from non-anxious patients, and is also correlated with other measures of anxiety (Beck, Epstein, Brown & Steer, 1988).
Measures-Summary

• Measures needs to be clearly described so the reader can understand what how the constructs and variables of interest were measured, and judge if the measures were good

• There are several components to describing a measure

• Describing a measure usually requires citations from the published literature
Summary

• This tutorial explained the purpose and parts of a method section of an empirical paper or proposal
• It reviewed in detail the specific components that may be in a measures section
• It demonstrated several examples of measures sections