Writing a Method Section

Describing measures

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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 <u>measures</u> or <u>materials</u> section

- Other tutorials cover the <u>participants</u> and <u>procedures</u> 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 <u>rest</u> 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

Name of the Measure/Citation

- 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)…

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

Number of items/Sample item/Scoring-Example

- 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 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

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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