Today:

- Where we / you are?
- How to use upcoming dates?
- Presentation & opponents couples?
- Methodology – ontology / epistemology video.
- How to write a Method…Results…Discussion chapters?

Please, send your draft paper two days before your presentation to your opponent and to Risto

- Monday 10.04. 16.15-17.45 Aurora, 117 Meeting à 1:1 meetings
- Monday 24.04. 16.15-17.45 Aurora 117 Meeting à 1:1 meetings

- Thursday 04.05. 15.00-17.45 Minerva K222.1 Presentations
- Thursday 11.05. 10.15-11.45 Minverva K.114 Presentations

How to write a Method chapter?

4. Methodolgy / Method
4.1. Participants
4.2. Instruments
4.3. Procedures - Design
4.4. Data Analysis
4.5. Limitations

David James: How to get clear about method, methodology, epistemology and ontology, once and for all

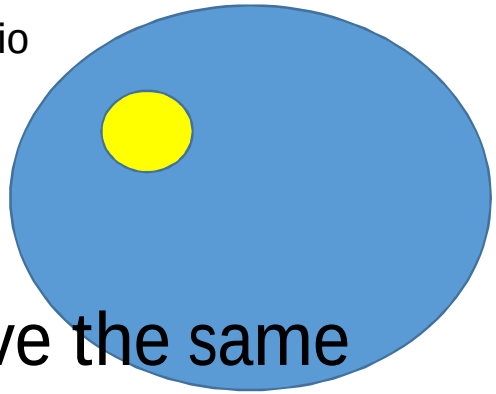
- “Methodology” implies more than simply the methods you intend to use to collect data. It is often necessary to include a consideration of the concepts and theories which underlie the methods. For instance, if you intend to highlight a specific feature of your chosen theory or test an assessment tool, you have to show that you understand the underlying concepts of the methodology.

à ” A good methodology is more a critical design attitude to be found always at work throughout a study, rather than confined within a brief chapter called ”Methodology”.

4.1 Participants

- Target population and the sample that you will use for generalizing about the target population.
- Demographic information such as age, gender, and ethnicity of your sample.
- Procedures for selecting the sample should be outlined, including justification for the sampling method, also known as Sampling Procedures

4.1 Participants



- *A population* is a group of individuals that have the same characteristic(s).
- *A sample* is a subgroup of the target population that the researcher plans to study for the purpose of making generalizations about the target population.

à Samples are only estimates.

à Difference between the sample estimate and the true population is the sampling error

• Common demographics:

1) Age, gender, and ethnicity (if relevant)

The general sample was composed of 223 participants (168 male, 55 female; *M*age= 44.55 years; SD= 12.55; age range, 19 – 64 years). ...here author could refer population...Participants were divided by education (23.1% class teachers, 53.8% subject teachers and 12.1% special ed. teachers and other teachers 12 %) ...here author could refer population...

2) Sampling procedure (how and when and what is the intent?)

4.2 Instruments / Materials / Measures

- This section should include the instruments you plan on using to measure the variables in the research questions.
  - o the source or developers of the instrument
  - o validity and reliability information
  - o information on how it was normed
  - o other salient information (e.g., number of items in each scale, subscales, etc.).

4.3. Procedures

à Procedures section is the “how-to” section of the study and will introduce the design of the research and how the data will be collected based on the questions of interest.

à The material should be presented in a step by step fashion. Rule of thumb: Another researcher should be able to replicate the study by reading your Procedures section without asking any questions

The Research Design (usually sub-heading under procedures)

• The research design is the actual structure or framework that indicates (a) the time frame(s) in which data will be collected, (b) when the intervention will be implemented (or not), and (c) how many groups will be involved (Edmonds & Kennedy, 2010).

Example Research Designs

Quantitative	Qualitative
Correlational - Explanatory design - Predictive design	Grounded theory - Systematic design - Emerging design
Survey - Cross-sectional design	Ethnographic - Case study design
Between-subjects - pre- and posttest design	Narrative

- How to write the “how-to” section of the study
- Example:
- “Initially, students were asked to complete the informed consent forms. Questionnaires were then distributed and completed in English classes during the middle of the term. The PSS scale was administered to all students at the end of each period. The WRAT-III scale was then administered at the beginning of each period. Students were given as much time as needed to complete each assessment. In average, answering to each scale took approximately 30 minutes”.

4.4. Data Analysis

- These data analyses should be based on the research questions and the research design selected for the study. Specify the procedures for reducing and coding the data.

For quantitative studies, subsequent data analyses (Results) should include summary descriptive statistics and inferential statistical tests. For qualitative studies, the procedures to be followed for the analyses must also be addressed.

Example 1: Quantitative

Descriptive statistical analyses were performed on the sample groups to obtain a clear understanding of the population. Measures of central tendency (means, medians, and other percentiles) and dispersion (standard deviations, ranges) were computed. Bivariate correlational analysis were conducted in order to assess the strength of direction of the relationship between stress and achievement.

Phenomenographic research

Example 2: Qualitative

https://www.slideshare.net/sheilawebber/an-introduction-to-phenomenographic-research

- You need to define

a) Strategies of Inquiry

à Indentify the specific strategy of inquiry (i.e., design) to be used (e.g., narrative, grounded theory, ethnographic).

à Provide some background information about the strategy (i.e., discipline origin, applications).

à Identify how the use of this strategy will shape the type of questions asked, the form of data collection, the steps and data analysis, and the final narrative.

b) Data collection

A discussion about participants and the site including - The setting, The actors (who will be interviewed), The events (what will the actors will be observed or interviewed doing), The process (the evolving nature of events undertaken by the actors within the setting) à Indicate the type or types of data to be collected (e.g., observational, interviews, documents, audio and visual material).

c) Data Recording. This section should include a brief description and framework for the data recoding protocol that will be used to answer the research questions. If an established instrument will be utilized then this section will detail each data-collection instrument. The relevant information pertaining to each instrument should include the source or developers of the instrument and any other salient information.

Example 2: Qualitative

- “The third-person voice was used, because this is a realist design, no personal ideas were included in the report; rather, the facts are presented through the actual words of the participants. Objective data from the interviews and observations were sequentially coded and objectively reported (including the use of personal quotes)”. “Ordinary details of each teacher’s work experience were included, and standard categories for cultural descriptions were used. The final interpretive report was then reviewed which allowed the researcher to provide subjective explanations of the data representing the nature of teacher retention”.

4.4 Limitations

à in quantitative study you presentthese when introducing sample, instruments (e.g. reliability) and analysis of data (...due to

A) Sufficient access to the site for data collection

Sufficient time for data collection

Limit initial collection to one or two observations or interviews

Time is needed to establish a substantial database

B) Observational role

C) Building rapport with participants

D) Obtaining permission to use documents and audiovisual materials

E) Ethical issues à Anonymity of participants

à Convey true purpose of study without deception

Results Section

The most concrete / efficient way to answer to your study questions in your Results chapter is to form subheadings according to your study question (without interrogative)

Results Section

quantitative

Opening

- The results section is where you tell the reader the basic descriptive information about the scales you used (report the mean and standard deviation for each scale).
- If you have more than 3 or 4 variables in your paper, you might want to put this descriptive information in a table to keep the text from being too “numberess”
- In the results section, you also tell the reader what statistics you conducted to test your hypothesis (-ses) and what the results indicated. “In this paper, I conducted bivariate correlation(s) to test my hypothesis”.

Results
(this order in your results section):

Give the descriptive statistics for the relevant variables (mean, standard deviation).
Provide a brief rephrasing of your hypothesis(es) (avoid exact restatement).
Then tell the reader what statistical test you used to test your hypothesis and what you found.
Explain which correlations were in the predicted direction, and which were not (if any).
Were differences statistically significant (i.e., $p < .05$ or below)?
Don't merely give the statistics without any explanation.
Whenever you make a claim that there is (or is not) a significant correlation between X and Y,
the reader has to be able to verify it by looking at the appropriate test statistic. For example
do not report The correlation between private self-consciousness and college adjustment was r = - .
However, don't try to interpret why you got the results you did.
Leave that to the Discussion.
Note: Be sure to underline all abbreviations of test statistics (e.g., M for mean and SD for standard d

Examples:

à For each correlation, you need to report the following information either in the text of your paper or in a table:

à correlation coefficient, significance level (p value).

à If you are reporting a *single* correlation for the whole results section,

report it in the text of the paper as follows: r =.26, p < .01 *or* r = -.11, n.s.

Table 1

Example Table (n = 129).

Variable	1	2	3
1. GPA	---	.56**	-.29*
2. Academic self-concept		---	.44*
3. Test-taking time			--

You need to report the statistics in some way in your result section, but regardless of whether you use a table or type the statistics in the text, you should also state the correlation for the reader à say exactly what that means:

E.g. As expected, GPA was positively correlated with the academic self-concept (see Table 1).
E.g. As shown in Table 1, some of my predictions were supported. There was a
significant positive correlation between GPA and academic self-concept. However, life test-taking time
was not significantly related to GPA.

However, interpretatios ”how” and ”why” needs to presented in Discussion.

Results

qualitative

- No rules on how to present qualitative findings. As with any paper, you want the reader to take away a few key messages from the paper.

à think about how to organize the presentation of findings

to help the reader get these take-away messages.

Introduction: Points out gaps that findings will fill

Methods: Reports only methods that were used to manipulate your sample / materials

How organize results section

a) According to study questions and then…

b) Present themes with supportive quotes

c) Use a theoretical framework to organize the presentation of results

d) Organize findings according to chronology or alternatively by steps of your decision making process

e) Organize findings according to sub groups that were interviewed

à Use diagrams / charts to display the relationships of certain themes

How organize results section

- Qualitative study involves “always” some level of quantification
- Anytime we take raw data and put it into categories and look for patterns it implies a numbered nature of these patterns.

à In some cases we can attach a label (a few, some, most) however these terms are ambiguous and open to wide interpretation.

à Instead we could use numbers, “3 of the 12 informants said X3 X”

à Or we could define up front what the terms mean (i.e. common means mentioned by more than 50% of participants)

à Percentages à referring to a larger population.

Use of quotes

- In qualitative research, the text (words of our informants) is our data, and thus we usually end up presenting some direct quotations.
- The challenge is how to identify what are illustrative quotes to present à authors end up including too many quotes.
- There needs to be some synthesis/ interpretation of quotes in addition to the raw data.
- Readers lose sight of the main point, when there are too many quotes.
- Choose the quote that most concisely represents the theme or idea you are trying to express à no extreme outliers, only if they add something important to your findings.

- Sometimes the data were collected to explore specific theoretical associations, thus it may make sense to present findings using the theoretical framework.

Discussion

In your discussion section, relate the results back to your initial question / hypotheses.
Do they support or disconfirm them? à Results do not *prove* hypotheses right or wrong, they *support* them or *fail to provide support* for them.

It would beneficial if writer can combine:

à the most important parts of the *introduction* and then the *results* sections.
- à you should relate the results to the theories you introduced in the Introduction.
- à resist the tendency to make your results the final story about the phenomenon or theory of interest.
- à make interpretation about your findings à integrate the results and try to make sense of the findings.

- In the case of a correlational project, be careful to not use causal language to discuss your results (exception of time series, background variables à smoking).
- If your findings did not support your hypotheses, speculate why that might be so.
- You might also consider whether the relationship you hypothesized might only show up in certain populations of people or under certain conditions (e.g., only girls, only SEN students).
- Where possible, support your speculation with references.

- Talk about any qualifications important to your findings (all studies have weaknesses/qualifications). This includes alternative explanations for the results. For example, you might speculate about an unexamined third variable that was not present in you study.
- However, speculations should be specific: what they are and how they would affect your findings.

- Speculate about future directions that research could take to further investigate your question. This might relate back to any weaknesses you have mentioned above (or reasons why the results didn't turn out as expected).
- Future directions may also include interesting next steps in the research.
- A discussion section is about what we have learned so far; and where we should go next;
- Conclusion: Your final conclusion should talk briefly about the broader significance of your findings.
- What do they imply about human nature or some aspect of it? Leave the reader feeling like this is an important topic... you will likely refer back to your opening paragraph of the introduction here and have partial answers responses to the questions you posed.

Specifics for qualitative research

à argues a point or points; opening of the discussion must set up your argument

- Suggests the unique contribution of your work—how this paper fills the gaps in earlier research
- Try to offer the theoretical framework through which results are interpreted
- Present and discuss the your main findings (3-4 key points),

  in the context of larger issues
- Move from you found, to what others have found, and/or vice versa

Some comments