Survey Methods Workshop – Prague
Five Minute Presentation

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Introduction

Although Internet research is perhaps an area with particularly low replication across studies, this is a larger challenge of communication research. It seems as though the implicit standards and explicit requirements of, for example, leading journals in the field are not comparable to those in psychology, which leads to researchers using these "degrees of freedom" (Simmons, Nelson, & Simonsohn, 2011). Usually, curricula in communications do not include scale development as in psychometrics, which has established best practices for assessing reliability and validity (Furr, 2011). The issue is likely connected to a lack of "grand theories" in communication research or Internet research that would make an agreed upon measurement of key constructs essential.

With validated instruments used across studies, certain (univariate) findings are comparable. However, there can of course still be variation in correlated variables. For example, the effect of level of education on participatory Internet use is not comparable cross-nationally even if participatory use is measured on a common scale if the coding of education differs.

A common practice to deal with large sets of variables is to conduct exploratory factor analysis, for example, on a number of usage items. Usually, this will produce useful outputs (i.e., factor solutions that are substantively meaningful), but replicability is difficult. Research questions at the level of Internet uses or second-level digital divides are no longer at the exploratory stage and could opt for a priori defined types and confirmatory analysis.

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As a side note, the basic challenges of comparability or equivalence also apply in Internet research that relies on multi-indicator latent variables and the corresponding measurement invariance in confirmatory factor analysis frameworks (Büchi, 2016; Helsper & Gerber, 2012; Steenkamp & Baumgartner, 1998).

Main methodological challenges for survey research on Internet use

1. The first approach is usually to copy questions word for word from existing, validated, high-quality surveys, but in Internet research, there is not always a clear authoritative source.

2. Deciding on the level of abstraction is a challenge. It rarely makes sense to ask about specific applications, especially for multiple-wave surveys, but finding appropriate wording for types of use can be difficult. Additionally, multiple intended uses of the data may impose constraints, i.e., theoretically driven research questions would require slightly different questions than reports for the government or the public, but asking for both can be confusing for respondents, and expensive. Still, some studies may be interested in fine-grained uses, such as Youtube channels used by kids.

3. Even if existing scales are used, their response categories may not fit into one's own survey, and when these differ, comparisons are not meaningful even if the wording of the *question* is identical. (For example, if one item block introduces a five-point scale from 1 'completely disagree' to 5 'completely agree', it is confusing for respondents if the next questions use a similar but not identical scale).

4. In related social sciences, the concepts of, for example, values, attitudes, or political knowledge are *relatively* stable, whereas the meaning of Internet use is very dynamic. To be sure, comparability across studies can be achieved through deliberate coordination and open science principles, however, comparability across time is an additional challenge.

Addendum

Some general principles that I have tried to follow in constructing survey questions:

– Simple words, short questions, do not overburden respondents.
– As concrete as possible, as broad as necessary.
– Avoid hypothetical and retrospective questions where possible.

- Avoid multidimensionality, ask about a single issue.
- Group questions on one topic and transition between topics.
- Try to make sure that every question has a theoretical function and measures a meaningful concept, avoid questions that are just "kind of interesting."
- Do not ask respondents about explanations ("Does using Facebook make you happy?"); making causal links is generally the researcher's job and part of the theoretical and statistical analytical process, not the data collection stage.