Introduction

• In a questionnaire, earlier questions may impact answers given to later questions.1
• In a moment in which the split questionnaire design (questionnaire modularization) becomes increasingly popular, the aim of this study is to contribute in the refining of these splitting strategies, in order to minimize the appearance of context effects.
• A particular question setting is studied: question batteries in which items related to

Research questions:

RQ1. What are the effects of splitting a question battery on measurements at the item level?
RQ2. To what extent are any observed effects of splitting at the item level moderated by respondent characteristics?
RQ3. To what extent do effects of splitting a battery at the item level affect multi-item scale level?

Question batteries

• The particularity of this question setting is that all items share a common rating scale. Previous items may act as anchors or reference points for the use of the rating scale.
• If of top of this the battery measures different multi-item constructs, splitting the QB could introduce measurement error on both item and scale level.

Split questionnaire design (SQD)

• The SQD consists in splitting the original questionnaire into modules, and to combine them, to create different, unique, shorter versions of the questionnaire, which are then administered to different subsamples.

Methods

Data

Data was taken from the Swiss European Values Study (EVS) 2017, which had implemented an experimental design to compare the feasibility of online surveys, both on a SQD and in full-length design.

Question battery on moral beliefs

A particular question battery was studied. Given the SQD, the question battery of moral beliefs was administered in two versions: one containing all items together (whole version) and another presenting items in two short batteries, separated thematically (split version), according to the two moral dimensions embedded in the battery, self-determination and civic morality.

Analytical approach

• The measurements produced by the two groups (whole & split) were compared.
• In a preliminary step, the sample composition of the two groups was compared, in order to control for bias.

• RQ1: Effects at the item level – comparison of the means

RQ2: Moderators of context effects - attitude strength

Generalized assumption that stronger attitudes should be associated with more chronically accessible beliefs. Thus, given that chronically accessible beliefs are context independent, stronger attitudes should be less affected by context.

Notes:

- CFI = comparative fit index; RMSEA = root mean square error of approximation; 
- CR = standardized root mean square residual.

Analysis and Conclusions

• At the item level, out of the fifteen items embedded in the battery, four presented significantly different means across the two battery versions. The biggest difference was for the item euthanasia, which was allocated away from the other items of the self-determination morality. The item of suicide seemed to be affected by the presence or absence of the item of euthanasia, suggesting the existence of a part-whole combination between those items.

• The subgroup comparison showed that the effect in the item suicide was stronger among the most religious people. Whereas the literature assumes strong attitudes as a moderator of effects of context, here the effect could be introduced precisely due to a strong attitude towards life and death.

• At the scale level, context effects did not affect scale means. The thematic split did not increased artificially constructs reliability.

• The effect of euthanasia was strong enough to undermine the reliability, as well as the scalar invariance of the self-determination morality construct.

• Thematic split of a QB does not seem to introduce important differences in the measurements, unless the thematic allocation of items is done inappropriately.

References