What is blinding?

Analysis blinding is a method to reduce bias in statistical analyses by temporarily altering data labels or values to remove crucial effects. Blinding data can be achieved, for instance, by shuffling the key outcome measure in the real data (i.e., well-being) in order to hide the effect of interest. However, the general data structure is still intact (e.g., total number of samples, variable names) as well as most relevant features needed to permit appropriate analysis (e.g., distributional properties of variables).

In this blinded dataset, we made sure that

- The relationship between well-being and all other independent variables is destroyed.
- Data on the country level are intact. This means that, for instance, the mean religiosity we measured in Germany is identical in the blinded version of the data as well as in the real data.
- All well-being scores are intact within a person.
- All religiosity scores are intact within a person.

Why do we provide blinded data?

The blinded data can help with completing all analytical decisions (such as outlier removal), and debugging the analysis script, before the results are revealed to the analysis teams. This shields analysis teams from potential biasing information and thus safeguards the confirmatory status of your analysis. In addition, constructing an analysis script based on blinded data implies that the script can most likely be executed on the real data, too, without having to invest considerable time in the analysis again.

What do you need to account for when working with blinded data?

Working with blinded data has a few implications. First, keep in mind that the results you get from the blinded dataset might not correspond to the results you might get when executing the same analysis on the real data. This means that any relationships you detect might be purely based on chance. This is especially important if you base your analytical choices on assumption checks. Even if the blinded data might meet particular assumptions, there is a possibility that the real data does not meet them. Please account for these possibilities in your analysis script. For further questions about the blinded data, feel free to contact us at: manyanalysts.religionhealth@gmail.com

Further reading

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MacCoun, R., & Perlmutter, S. (2015). Blind analysis: Hide results to seek the truth. *Nature*, *526*, 187-189.

MacCoun, R., & Perlmutter, S. (2017). Blind analysis as a correction for confirmatory bias in physics and in psychology. *Psychological science under scrutiny: Recent challenges and proposed solutions*, 297-322.