Response styles in rating scales:

Potential causes, correlates, and detrimental effects on measurement

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Questionnaires using rating scales are a widely used measurement tool for the description and prediction of human behavior in various areas of psychology, especially personality psychology and assessment, and in other social sciences as well. However, these rating scales do not exclusively capture variance associated with the construct to be measured but also capture systematic variance irrelevant to the target construct. Thus, mean and covariance structures may be biased threatening the internal and external validity of conclusions drawn from research data. The systematic but irrelevant variance may be due to the way rating scales are used by study participants, i.e., due to response styles. Different response styles have been identified in prior research, e.g. the tendency to prefer middle or extreme categories of ratings scales (midpoint responding, MRS; extreme response style, ERS) or the tendency for acquiescent responding (ARS).

This symposium is dedicated to contribute to research on response styles that are frequently observed in self-report measurements by addressing potential causes or correlates and detrimental effects on measurement and data quality. The first two papers focus on the description of persons preferring either middle or extreme response categories by reporting predictors of interindividual differences in MRS and ERS. Danay does so from a personality perspective whereas Becker and Kemper chose a cross-cultural approach. The detrimental effects of response styles on measurement and data quality will be demonstrated by Heine, Tarnai, and Hartmann in the case of MRS and ERS, and by Rammstedt, Kemper, and Borg in the case of ARS.

The use of response sets: Who prefers extremes and who likes the middle?

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There is a lot of empirical evidence documenting the existence of specific response sets. Especially preferences when using rating scales have been reported. One such response set is the preference for either middle categories (middle crosser) or extreme categories (extreme crosser). Little is known, however, with regard to characteristics of middle and extreme crossers. The current study aimed at elucidating individual differences between middle and extreme crossers. To this end, an online study with $N = 1524$ participants was conducted. The test battery consisted of the NEO-FFI with a 5-point-Likert scale used to identify middle and extreme crossers by applying item response theory methods (mixed Rasch model). Moreover, the same questionnaire was administered with a dichotomous response format as well. These scores were used as predictors in a linear regression with type of response set as dependent variable. Results demonstrated an independent contribution of all Big 5 domains as well as gender. Theoretical and practical implications will be discussed.

Extreme Response Style among Immigrants and Natives in Germany

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Extreme response style (ERS) threatens the validity of results from empirical studies. This potential bias has especially attracted attention in cross-cultural research because the tendency for ERS not only depends on individual socio-demographic characteristics of respondents but also differs between cultures. Thus, observed cross-cultural differences in responses to survey questions may be due to mere measurement artefacts. Although this problem is well recognized in international cross-cultural studies, migration studies usually take little notice of it. However, observed differences between immigrants and natives in a country may as well be affected by differences in the propensity to use ERS.

Differences between immigrants and natives with regard to ERS can be expected because these groups usually differ in their distribution of socio-demographic characteristics (e.g., educational level) as well as with regard to attitudes and values (e.g., traditionalism) that are associated with ERS. This paper analyses differences in ERS between immigrants and natives in Germany using item response theory (mixed Rasch model). In addition, also differences between several migrant groups from different countries of origin are examined. Preliminary results show that, on average, the propensity to use ERS is different for immigrants and natives in Germany. However, there is also a remarkable variability in ERS between different immigrant groups. Although some individual socio-demographic characteristics are associated with ERS, attitudes and values seem to play a more important role. These attitudes typically vary between different migrant groups leading to different response behaviour. Implications of the results for migration and cross-cultural studies will be discussed.

Analysis of Extreme Response Style in Vocational Interests

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Individual response styles in polytomous response scales are a frequently observed phenomenon. One type of response style is a distortion in terms of a tendency towards middle (MRS) or extreme (ERS) response categories. There is evidence from research that this distortion is independent of the content of the measured construct and the offered items.

In the present study, the six scales of the General Interest Structure Test (AIST-R, Bergmann & Eder, 2005), which is based on the hexagonal model (RIASEC) of Holland (1997), are tested for their scalability using Rasch and mixed-Rasch models. It is examined, whether for the six sub-scales different, content-independent response sets could be found (ERS vs. MRS). The calculations were performed with the R-package mixRasch using jML estimation and the windows program WINMIRA 2001 using cML estimation. Data basis for this study is a sample of University students ($N = 734$).

The findings of this study suggest that three of the six scales are Rasch-scalable, in terms of item and person homogeneity. A two-class solution has proven best for the other three sub-scales. In each of the two classes different item category difficulties are observed, which can be considered as an indication of different response styles, in terms of a tendency to medium (MRS) or extreme (ERS) response categories. Both methods for model estimation (jML vs. cML) returned similar results. The findings are discussed in the context of the hexagonal model of interests (Holland, 1997).

The Big Five, acquiescence, and education: A cross-cultural replication

of the educational bias in responses to Big Five measures

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Previous research findings suggest that the Big Five factor structure may not be measurement equivalent at all educational levels. Recent studies (Rammstedt, Goldberg, & Borg, 2010; Rammstedt & Kemper, 2011) indicated that these educational differences in the Big Five Factor structure are caused by differences in the tendency for acquiescent responding: Lower educated respondents showed a significantly higher tendency for acquiescence than higher educated respondents. Controlling for acquiescence diminished the initially found differences and the Big Five turned out in textbook-like clarity. Unfortunately both previous studies were based on German data. This raises the question whether the effect is also replicable in other, Western and non-Western countries. Thus the present study draws on representative data from different countries around the world. Results are in good agreement with those found for Germany in the previous studies. Conclusions will be drawn with regard to the generalizability of the educational bias in acquiescence and its effect on the Big Five.

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