Examining the structural validity of stereotype content scales – A preregistered re-analysis of published data and discussion of possible future directions

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40

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42 MTF: Conceptualization, Data curation, Formal analysis, Investigation, Methodology,
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44 PFK: Conceptualization, Formal analysis, Investigation, Methodology, Project
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48 AKCZ: Data curation, Formal analysis, Investigation, Methodology, Writing – Review &
49 editing

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Analysis of Published Data and Discussion of Possible Future Directions**

Preregistration:

English context: https://osf.io/gqmvz/?view_only=26cfcec4f651454e9b508f2bdc917a96

German context: https://osf.io/486h7/?view_only=870dbff75b004b29aefae7d27c62518

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Online Supplementary Materials: 12

Data availability statement: As the given manuscript is a re-analysis of published data, the data, materials and codebooks should be requested from the corresponding authors of the original publications. The analysis code will be made available in the OSF upon acceptance of the final manuscript version. Detailed information on all analyses conducted in this article are available in the online supplementary materials.

Abstract

The Stereotype Content Model (SCM) plays a prominent role in social perception research when comparing the evaluation of different targets on warmth and competence dimensions. However, there is scarce information on the SCM's measurement properties. Thus, in this article, we provide a comprehensive test of the SCM'S structural validity (i.e., reliability, dimensionality, cross-group comparability of measurement properties). We re-analysed published SCM data from English speaking participants (study 1: 78 datasets from 43 original publications, $N = 20,819$) and German participants (study 2: 29 datasets from 23 original publications, $N = 10,854$). We used confirmatory factor analyses to assess the scales' reliability and dimensionality as well as measurement invariance assessment to examine cross-group comparability as a precondition for meaningful and valid mean-value comparison. We found on average good reliabilities of the SCM scales. In contrast, about 35% of all 1093 examined SCM measurement models presented adequate scale dimensionality, and regarding the scales' cross-group comparability, we found (partial) scalar measurement invariance in about 11% of all cases. These findings indicate considerable validity concerns in published SCM research, as a meaningful and valid measurement of warmth and competence was not given in approximately two thirds of all cases, and mean-value comparisons were potentially biased due to lacking cross-group comparability for about eight out of nine cases. We propose future directions to improve the measurement quality and validity in SCM research and invite fellow researchers to constructively discuss these ideas.

Keywords: Stereotype Content Model, Social Perception, Confirmatory Factor Analysis, Measurement Invariance, Re-Analysis