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Mixture Multigroup Structural Equation Modeling: An empirical application revealing cross-national patterns in how human values predict climate policy support

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The increasing accessibility of large-scale international surveys has provided new opportunities for social scientists to conduct comparative research. Such studies frequently examine relations between latent constructs (e.g., how perceived economic threat affects political ideology) and compare them across groups (e.g., countries) to reveal cultural variations in value priorities, attitudes and behavioral patterns. Structural Equation Modeling (SEM) is the state-of-art method for analyzing and comparing these complex relations. While these relations often differ across groups, similarities may emerge among certain groups, leading to the formation of clusters, especially in the case of many groups.

Latent constructs are measured indirectly by multiple questionnaire items. To enable valid comparisons of their relations across groups, the measurement of latent constructs should be invariant. However, when dealing with multiple groups, there are often some differences (or non-invariances) in the measurement models (MM). It is important to capture them in the SEM model to avoid biased estimations of the structural relations. Mixture Multigroup Structural Equation Modeling (MMG-SEM) has recently been proposed as a novel method for identifying clusters of groups with equivalent structural relations, while accounting for measurement non-invariances through group-specific measurement parameters. To demonstrate its application in empirical research, we apply MMG-SEM to European Social Survey Round 8 (ESS8) data, uncovering cross-national differences and similarities in the relations between human values, climate change belief, and support for climate change policies across 23 countries.

Primary authors: VERMUNT, Jeroen (Tilburg University); DE ROOVER, Kim (KU Leuven); YAO, Meijun (KU Leuven)

Presenters: VERMUNT, Jeroen (Tilburg University); DE ROOVER, Kim (KU Leuven); YAO, Meijun (KU Leuven)

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