

Multilevel Models for Applied Social Research

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0930-1500hrs, 18/Jun/2025

Github resources:
<https://github.com/paul-lambert/SGSSS-2025/>

0930-1100	Talk 1: Classical perspectives on multilevel modelling
	Talk 2: Realistic complexity
1115-1230	Lab 1: Implementing selected popular multilevel models
	Talk 3: Case study on effect scores from random effects residuals
1330-1500	Talk 4: MLMs meet econometrics
	Lab 2: Responding to complex data and to complex analytical options

Multilevel Models for Applied Social Research – course overview

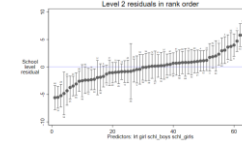
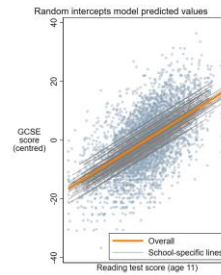
Workshop abstract: In this session we introduce and reflect upon the role of multilevel models in applied social research, and provide practical training materials which demonstrate ways of running multilevel models in survey data analysis scenarios.

Multilevel models are popular in the social sciences as statistical analytical devices which can be useful in a variety of scenarios where data has a complex or 'clustered' structure. The most popular formats for running multilevel models are outlined in session materials and illustrated in multiple software environments (using Stata, SPSS and R). There remain plenty of situations, however, when the added value of using a multilevel model is ambiguous, and there are different views on the best strategies to use activities such as specifying, estimating, and interpreting suitable models. As well as giving introductory accounts, lecture and workshop materials also provide critical reflections on the place of multilevel models as statistical analytical procedures in applied social research, and describe and explore enduring debates about these methods.

Lectures will introduce and reflect upon multilevel models in social research, with opportunities for questions and answers and discussion. Workshops will involve computer-based exercises which open existing datasets and run multilevel models on them, guided by software example files that are provided to participants.

The session ought to be helpful for participants who have only a little statistical background, as it will use an introductory style to describe the features of multilevel models, and improve participants' confidence in this approach. The session should also be useful to people who already have a more extensive statistical methodology background, as materials also provide critical reflections on strengths and limitations of the approach and explore selected advanced issues.

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Multilevel Models for Applied Social Research – course overview

<p><i>Talk 1: Classical perspectives on multilevel modelling</i></p> <ul style="list-style-type: none">• (1a) Responding to multilevel and complex data• (1b) Statistical models can help us understand societies• (1c) Multilevel models are easy & popular ways to adapt statistical models to common features of social research data• (1d) It's never been easier to use multilevel models in applied social research, though they are not without complexities	<p><i>Talk 2: Realistic complexity</i></p> <ul style="list-style-type: none">• (2a) Parameters for random slopes and intercepts• (2b) Higher level residuals• (2c) Multilevel models with more than two levels• (2d) Multilevel models with non-linear outcome variables• (2e) Realistic complexity in software tools
<p><i>Talk 3: Case study on effect scores from random effects residuals</i></p> <ul style="list-style-type: none">• (3a) Recap: The standard random effects multilevel model• (3b) Things we could do with categorical data...• (3c) Example: Education scores..• (3d) Example: Using ESRES in CAMSIS scaling• (3e) Summary: When might 'effect scores from random effects residuals' (ESRES's) be useful?	<p><i>Talk 4: MLMs meet econometrics</i></p> <ul style="list-style-type: none">• (4a) Do you just mean it's a random effects model?• (4b) Why not just use robust standard errors?• (4c) Why not just use the fixed effects model?• (4d) What if I want to do something that's not a GLM?
<p>Lab 1: Implementing selected popular multilevel models</p>	<p>Lab 2: Responding to complex data and to complex analytical options</p>