

# Using *Mplus* to fit and test measurement and structural equation models

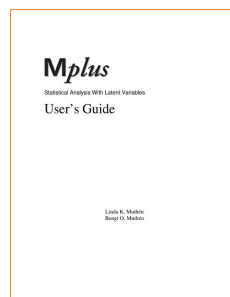
Video 2

*A brief introduction to Mplus*

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## References and Sources

*Mplus* User's Guide – available for free download from  
[statmodel.com](http://statmodel.com)



## What does *Mplus* do?

- Strength is that it deals with large variety of SEMs with both categorical and numeric outcome variables – have a browse through the manual
- It provides comprehensive tests – an example is the testing of individual mediation paths
- It deals with multilevel models
- It both generates and can use multiple imputed datasets
- It has useful convenience commands e.g., for LGMs
- It has very useful *montecarlo* facilities for power calculations
- It has good graphic facilities for showing results and models
- It is under continuous development
- It provides very good support via the Statmodel web page and the Mplus Discussion forum (accessible via [www.statmodel.com](http://www.statmodel.com))
- The use of syntax, which may initially be seen as a drawback, may soon be seen as a strength



## Disclaimer

These videos do not aim to provide a comprehensive introduction to *Mplus*

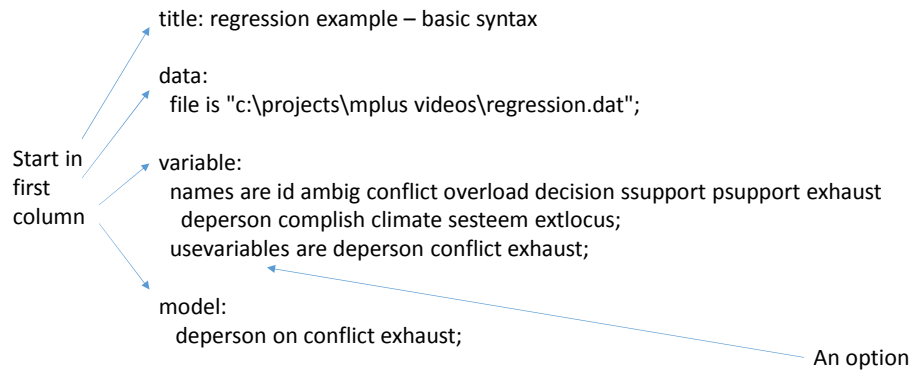
The methods used to run and use *Mplus* are those which I've arrived at in my use of the program. I don't offer them as the only or the best way of doing things.

My aim is to ease your way into using *Mplus*

Having said that, I'd welcome information on any mistakes I make and also (a bit less fervently) suggestions on different ways of doing things.

## Mplus commands

A basic syntax file



## Mplus commands 2

**Other commands** (see Byrne, p. 24-26)

define: – transform or create new variables

analysis: – details of specific non-default analyses

output: – request output beyond that provided by default

savedata: - save data with computed variables (e.g., factor scores) and matrices

plot: - graphs of observed data and analytic results

montecarlo: - carry out simulations

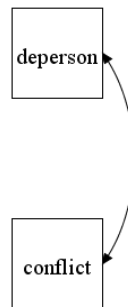
## *on, by and with*

model:  
deperson on conflict;



*deperson (y) is regressed ON conflict (x)*

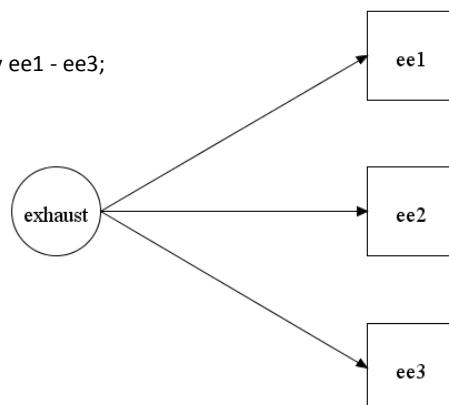
model:  
deperson with conflict;



*deperson covaries (correlates)  
WITH conflict*

## *on, by and with 2*

model:  
exhaust by ee1 - ee3;



*exhaust (latent variable) is  
measured ('indicated')  
BY ee1, ee2 and ee3*

## Resources for Mplus

www.statmodel.com

The screenshot shows the Mplus website homepage. At the top right is the Mplus logo. Below it is a navigation bar with links: HOME, ORDER, CONTACT US, LOGIN, MPLUS DISCUSSION. The main content area features a large purple banner with the text "Mplus Version 7.3 Available Now!". To the left is a sidebar menu with categories: Mplus, Mplus Demo Version, TRAINING, DOCUMENTATION, ANALYSES/RESEARCH, SPECIAL MPLUS TOPICS, and How-To. The main content area includes a "Latest News" section with a bullet point about Version 7.3, a "Recent Postings" section with a link to "Recent papers", and several other sections: "Mplus Papers Using Special Mplus Features", "Mplus Demo Version", "Student Pricing for Mplus Version 7.3", "Mplus Version 7 User's Guide and Examples", "Mplus Web Training and Handouts", and "Papers Using Special Mplus Features".

## Resources for Mplus 2

**DOCUMENTATION**

Mplus User's Guide  
 Mplus Diagrammer  
 Technical Appendices  
 Mplus Web Notes  
 User's Guide Examples

**ANALYSES / RESEARCH**

Mplus Examples  
 Papers  
 References

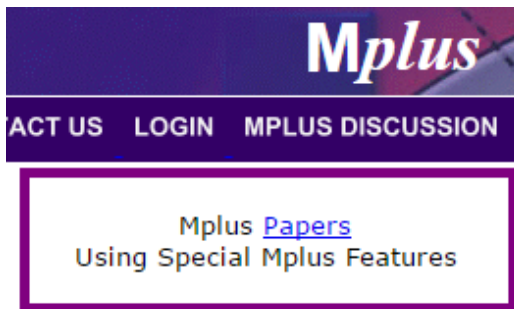
**SPECIAL MPLUS TOPICS**

Alignment (MG CFA)  
 BSEM (Bayesian SEM)  
 Complex Survey Data  
 ESEM (Exploratory SEM)  
 Genetics  
 IRT  
 Mediation  
 Missing Data  
 Randomized Trials

**How-To**

Using Mplus via R  
 Mplus plotting using R  
 Chi-Square Difference  
 Test for MLM and MLR  
 Power Calculation  
 Monte Carlo Utility

## Resources for Mplus 3



### Recent Postings

- [Recent papers](#)
- [Recent web notes](#)
- [Recent presentations](#)
- [Recent books](#)
- [Recent FAQs](#)

The next video shows how to get data into

# Mplus