

IMMERSE Pre-Training Day 2

May 24, 2023



UC SANTA BARBARA

Housekeeping

- If you haven't done so already, please respond to Day 1 prompt about your research questions
- Ongoing office hours-- feel free go for any data related support

Overview

PART 1: Introduction to Mplus

- Run basic descriptives in Mplus

PART 2: Introduction to `MplusAutomation` in RStudio

- Run identical analysis using `MplusAutomation`

PART 3: Data Cleaning & Screening

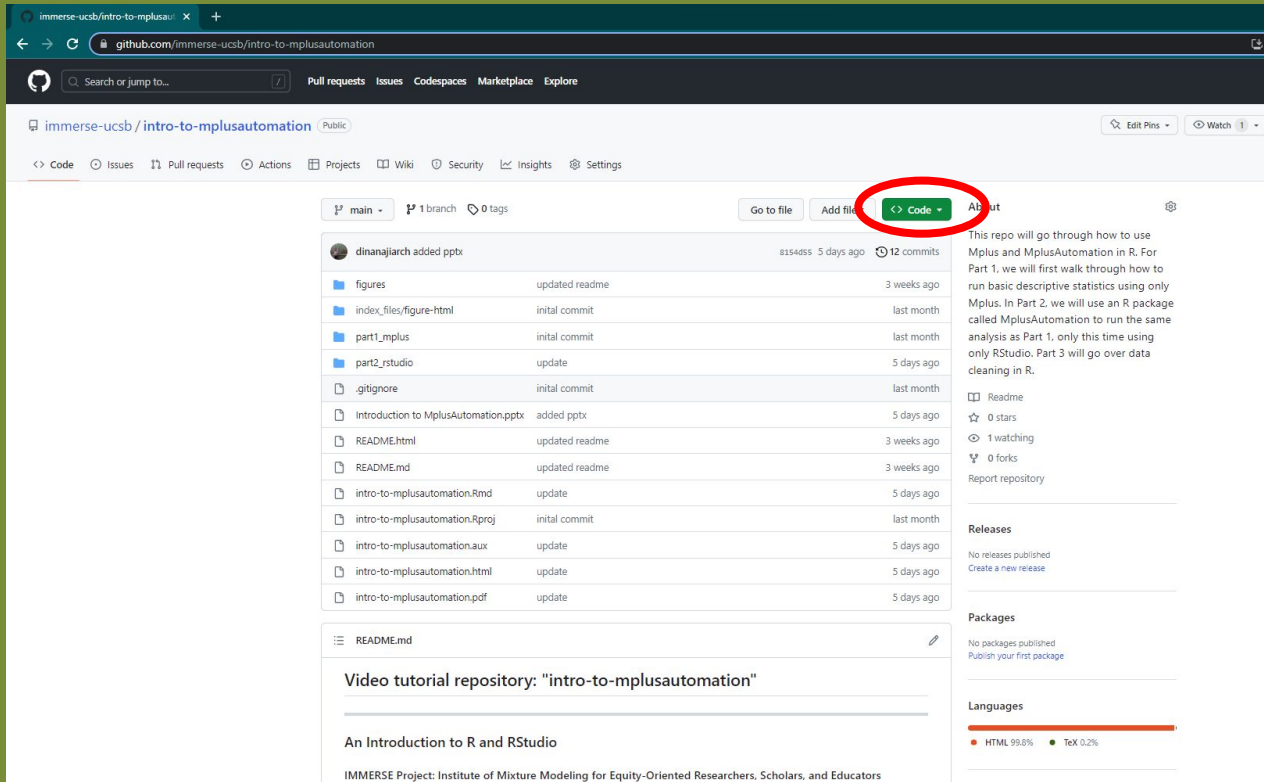
- Missing values
- Recoding variables to factors
- Normality and distributions

ICE BREAKER

Find one thing you have in common with in your breakout room group.

PART 1: Introduction to Mplus

Preparation: Download Github Repository



The screenshot shows the GitHub interface for the repository 'immerse-ucsb/intro-to-mplusautomation'. The 'Code' button is circled in red. The repository contains the following files and folders:

File/Folder	Commit	Time
figures	updated readme	3 weeks ago
index_files/figure-html	initial commit	last month
part1_mplus	initial commit	last month
part2_rstudio	update	5 days ago
.gitignore	initial commit	last month
Introduction to MplusAutomation.pptx	added pptx	5 days ago
README.html	updated readme	3 weeks ago
README.md	updated readme	3 weeks ago
intro-to-mplusautomation.Rmd	update	5 days ago
intro-to-mplusautomation.Rproj	initial commit	last month
intro-to-mplusautomation.aux	update	5 days ago
intro-to-mplusautomation.html	update	5 days ago
intro-to-mplusautomation.pdf	update	5 days ago

The README.md content is as follows:

Video tutorial repository: "intro-to-mplusautomation"

An Introduction to R and RStudio

IMMERSE Project: Institute of Mixture Modeling for Equity-Oriented Researchers, Scholars, and Educators

1. Go to the [repository](#)
2. Click "Code"
3. Click "Download Zip"
4. Extract the folder to your desktop (or a dedicated IMMERSE folder)

BREAK (5 minutes)

PART 2: Introduction to `MplusAutomation` in RStudio

WHAT is MplusAutomation & WHY should we use it?

WHAT?

- MplusAutomation is an R package
- It “wraps around” the Mplus program
- Requires both R & Mplus software
- Requires learning some basics of 2 programming languages
- Car metaphor: R/Rstudio is the steering wheel or dashboard & Mplus is the engine

WHY?

- MplusAutomation can provide clearly organized work procedures in which every research decision can be documented in a single place
- Increase reproducibility, organization, efficiency, and transparency

HOW?

- The interface for MplusAutomation is entirely within R-Studio. You do not need to open Mplus
- The code presented will be very repetitive by design

PART 3: Data Cleaning & Screening

Learning Outcomes

1. Using Mplus software, fellows will learn the basic skeleton of an Mplus input (.inp) syntax, run basic descriptive statistics, and evaluate output (.out)
2. Using the MplusAutomation package, fellows will be able to run descriptive statistics in R.
3. This workshop will cover the creation of R-projects and R markdowns and discuss the benefits of organization of the R workflow.
4. Fellows will have the opportunity to learn how to enhance and customize their R markdowns by applying themes to their documents

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All pre-training information is housed below. For some pre-training days, there are things to do ahead of time.

<https://immerse-ucsb.github.io/pre-training>

Day 3 Preparation:

- Work through the [Intro to R and R Studio](#) tutorial if not already done, including installing R and R Studio.
- Read [“Why don’t we share data and code? Perceived barriers and benefits to public archiving practices” \(Gomes et al. 2022\)](#) and reflect on your coding and sharing practices and challenges, in preparation for a brief discussion in the synchronous session.

Asynchronous Activity 1: Complete Part 3 of “Introduction to MplusAutomation”: Descriptive Statistics

Asynchronous Activity 2: How to make your R Markdown Pretty!

Your quick, anonymous feedback is appreciated.
[Here is a link](#)



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