Improving efficiency and accuracy in data management for naturalistic driving studies

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Overview

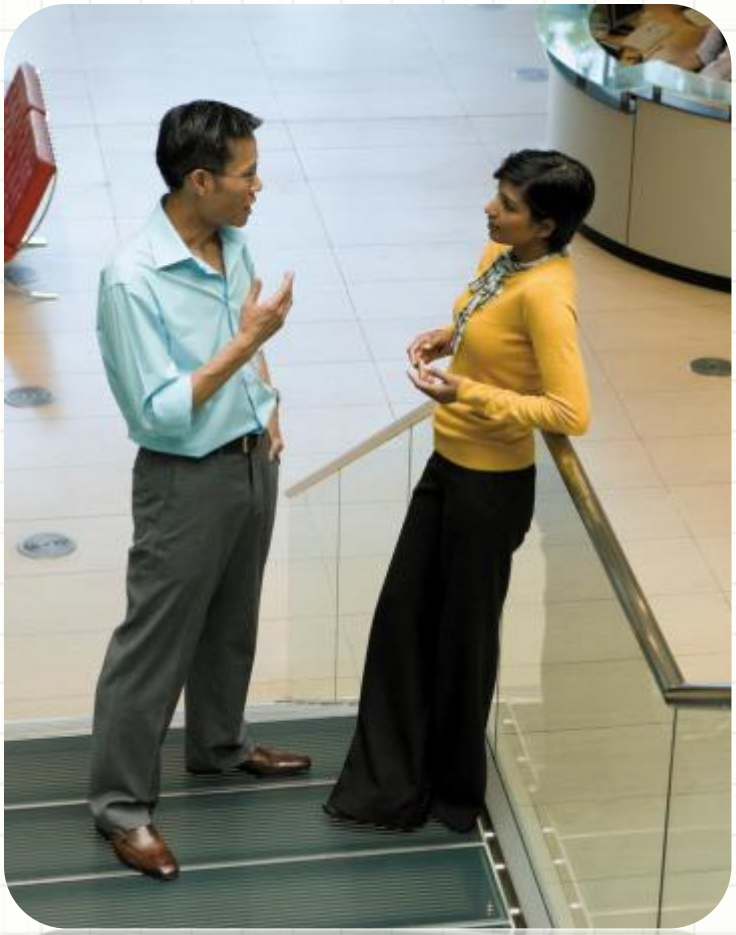
1. Naturalistic driving studies involve complicated, dynamic datasets
2. Efficient data management is essential for the analysis results being replicable
3. Based on my experience working on the 40-car Naturalistic Driving Study

Sound familiar?

- *You have multiple versions for the same file and don't know which is which.*
- *You cannot find an important file and think you may have deleted it.*
- *There are two versions of the 'latest' draft for a paper, with the same name 'final.doc'*

Efficient workflow requires proper

- Organizing
- Documenting
- Automating
- Archiving



Organizing

- \Work and \Post directories are critical
- Once a file is posted, it is never changed!

Example:

C:\40Car

\ADS

\Work

\Post

40carAnalysis.doc

Organizing folders

- \Post
  - \2009
  - \012710 survey questionnaire analysis
  - \013110 personality related to risky driving
  - \031110 predicting C/NC from g-force
  - \032710 SAS Glimmix
  - \033010 risky friends interaction
  - \052110 speeding analysis
  - \052410 perception of risk as mediators
  - \060610 high vs low risky drivers

Documenting

It is always better to document today than tomorrow

What to document?

- *Date*
- *Purpose*
- *Data sources*
- *How to form new composite scores*
- *Steps of analysis*
- *Where to save the results*
- *To whom you sent the results*

Automating

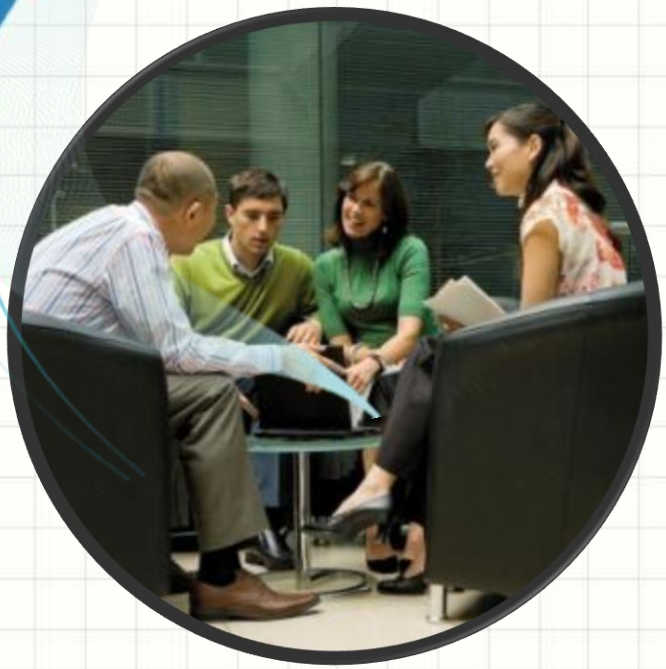
- ***Data management involves doing the same task multiple times.***
- ***Automating these tasks can save time and prevent errors***

What to automate? (using macros and loops)

- *To update, merge, and subset datasets*
- *to create and label new variables*
- *To check outliers*
- *To define and report missing values*
- *To fit a sequence of similar models*
- *To save analysis results*

Archiving: to protect your files

short-term	mid-term	long-term
mirror	backup	archive



Thank you!

Reference

- Long, JS (2009) The workflow of data analysis using Stata. Stata Press, TX: College Station