

Structural Equation Modeling in R with *OpenMx* and *umx*

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The latest *umx* from github

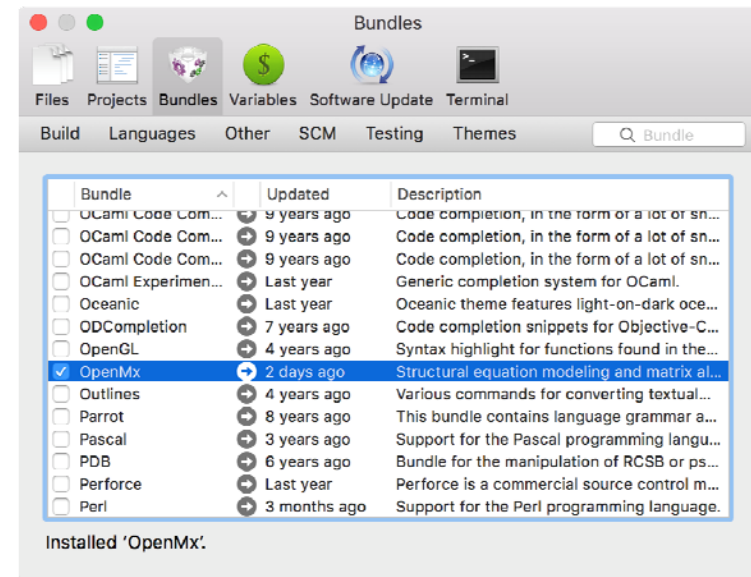
- Workshop laptops have \geq *umx* 1.1.5
 - If using your own laptop, **get the latest version** with:

```
# if you have not already
install.packages("devtools")
devtools::install_github("tbates/umx")
```

Whenever you update a package, pays to restart R

TextMate bundle

- Scripting and analysis are greatly enhanced by working in a great environment.
- My favorite is [TextMate](#)
 - It has bundles supporting **R** and for **OpenMx**
 - (maintained by us)



Wouldn't it be great to get output plots!

- <http://www.graphviz.org/Download..php>

Executable Packages from AT&T

Linux

Stable and development rpms for Redhat Enterprise, or Centos systems

Stable and development rpms for Fedora systems

Stable and development debs for Ubuntu systems

Solaris

Stable and development pkgs for Solaris systems

Windows

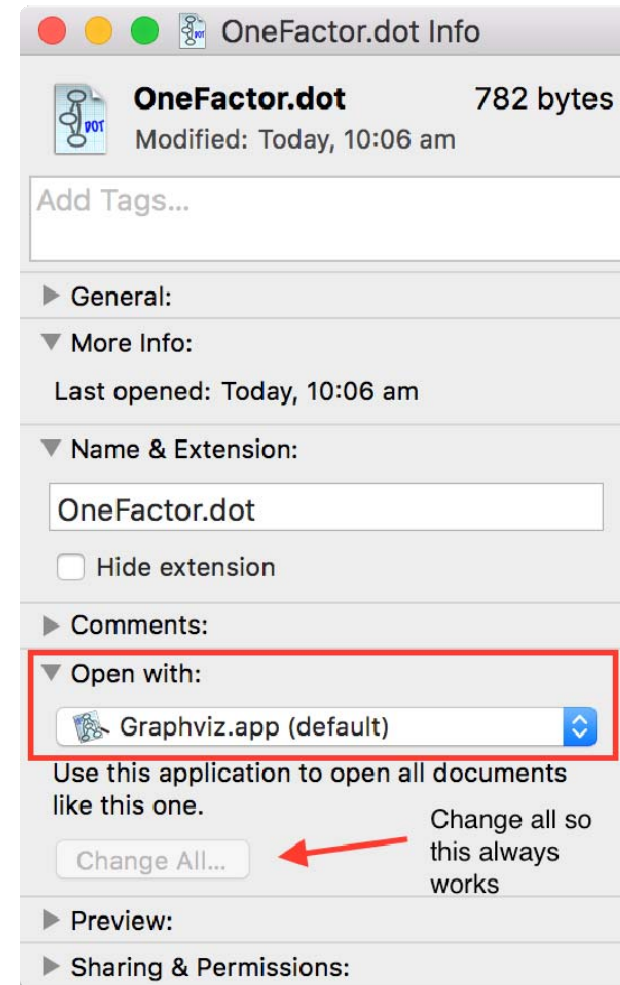
Stable and development Windows Install packages

Mac

Stable and development Mac OS Install packages

plot(model)

- Need to install an app that can open .dot “graphviz” files.
- Then...
 - On Windows and Unix, plot() will make a pdf, and open it in your default pdf viewer (VISIO can import .dot)
 - On OS X, will output .dot file, and try and open it
 - Need to associate “.dot” filetype with graphviz for automatic plotting to work.
 - [Omnigraffle](#) to edit plots for publication.



Let's run an ACE analysis

- Get the script file “umxACE examples.R” from “timb/2016/”
- umxACE()
 - Read the help ?umxACE
- [Copy available on dropbox also](#)

We can do much more...

- ADE model
 - What's the difference for ACE and ADE?
 - `umxACE` with $DZr = .25$?
- Common Pathway
 - `umxCP()`
- Compare models
 - `umxCompare(m1, m2)`
- Path-based SEM
 - `umxRAM` and `umxPath`