

# R in the University of Iceland

## R-Ísland

Anna Helga Jónsdóttir

School of Engineering and Natural Sciences

23. apríl 2014



HÁSKÓLI ÍSLANDS

# R in the University of Iceland

- R-teaching in the classroom has increased a lot the past five years
- Almost all students in the School of Engineering and Natural Sciences learn the basics of R
- Students in public health, medicine, economics, physiology,... learn some R

# Why R?

- Free!
- A variety of data structures
- Source code is available
- You can to everything!
- Active community
- ...

## Comparison to some other software

**EXCEL:** Good for various uses, but is **not** a statistical software.

See e.g.:

<http://www.pages.drexel.edu/~bdm25/excel2007.pdf>

**MATLAB:** Expensive, closed source

**SAS:** Expensive, closed source

**SPSS:** Expensive, closed source ...

R for SAS and SPSS users:

[www.et.bs.ehu.es/~etptupaf/pub/R/RforSAS&SPSSusers.pdf](http://www.et.bs.ehu.es/~etptupaf/pub/R/RforSAS&SPSSusers.pdf)

MATLAB/R Reference:

[www.math.umaine.edu/~hiebler/comp/matlabR.pdf](http://www.math.umaine.edu/~hiebler/comp/matlabR.pdf)

# What is the best way to interact with R?

- Editors included with the Windows and MacOS versions
- Some editors/systems available to interact with R
  - **RStudio** (<http://rstudio.org/>)
  - Emacs and ESS (<http://ess.r-project.org/>)
  - Tinn-R (<http://sciviews.org/Tinn-R/>)
  - RKWard (<http://rkward.sourceforge.net/>)
  - R Commander (<http://socserv.mcmaster.ca/jfox/Misc/Rcmdr/>)
  - ...

# The big experiment

- Course (LAN203/STAE209)
- Toss of a coin (head/tails)
- Height (cm)
- Weight (kg)
- Age (years)
- Gender (female/mail)
- Smokes (yes/no)
- Drinks alcohol (yes/no)
- Exercise (hours/week)
- Before pulse (beats/min)
- After pulse (beats/min)
- Run (yes/no)

Data available here: <https://notendur.hi.is/~ahj/puls.csv>

## Videos on youtube - Tölfræði HÍ

- Skráning gagna
- Fyrstu skrefin í R
- Gögn lesin inn í R
- Gögn skoðuð eftir innlestur í R
- Kóðun flokkabreyta
- Vöntun mælinga
- Ákveðin gildi valin út töflu eða vigri
- Helstu lýsisstærðir
- Helstu gröf
- Samfelldar líkindadreifingar
- Strjálar líkindadreifingar
- Úrtök og hermun
- t-próf
- Ályktanir um hlutföll og tengslatöflur
- Einfalt línulegt aðhvarf
- Einhliða fervikagreining

## Useful links

- <http://cran.r-project.org/>
- <http://statmethods.net/>
- <http://www.cookbook-r.com/>
- <http://stackoverflow.com/questions/tagged/?tagnames=r&sort=active>
- <http://www.rseek.org/>
- <http://crantastic.org/>
- <http://www.r-project.org/mail.html>
- <http://google.com/>



# Thanks

ahj@hi.is