OS Teaching in Psychology - the formr framework

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Open Science Meet-up: Teaching Open Science
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OS within the curriculum

Overview: Replication crisis and research practices

Introduction to and training of skills

Specialization in selected topics

form{`r}

Formr training as a part of the course "Research in Personality Psychology" (BA)

Usage in later thesis projects (BA/MA)
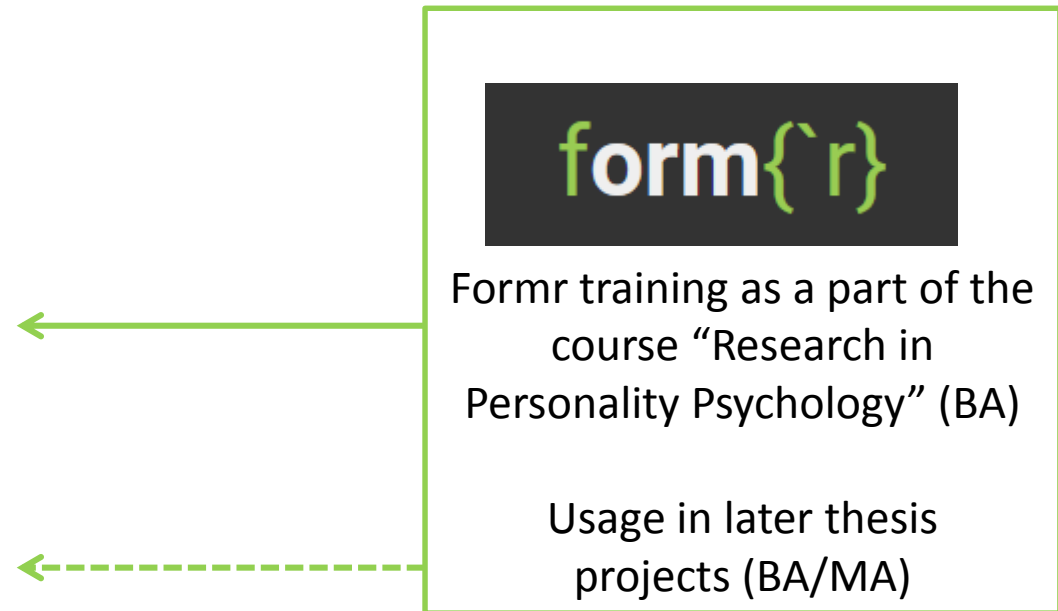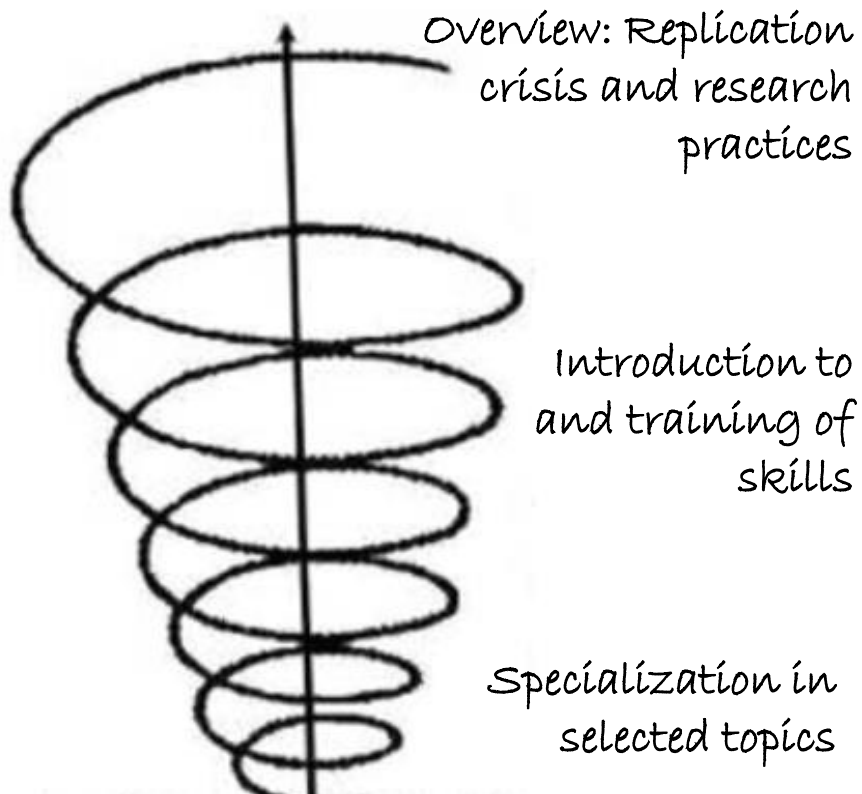
form{`r}   Teaching about formr

1. What is formr?

2. Introduction to the software's structure and components

3. Learning by doing: Implement an own study

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form{`r} What is formr?

- Open source survey software: Using R and other languages
- Modular design

- Can be used to create complex online studies:
    - Diary studies
    - Peer/partner rating studies
    - Ego-centered social networks
    - Simple surveys
    - ...

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form{`r}   What is formr?

Live Feedback

generates live and interactive feedback, including ggplot2, interactive ggvis and htmlwidgets. In our studies, this increases interest and retention. See examples.

Reminders, invitations

sends automated reminders via email or text message, you can generate custom text and feedback here too

Responsive Layout

all platforms and device sizes are supported (about 30-40% of participants fill out our surveys on a mobile device)

Share & Remix

easily share, swap and remix surveys (they're just spreadsheets) and runs (they're just JSON). Track version changes in these files with e.g. the OSF.

Use R

use R to do anything it can do (plot a graph or even use a sentiment analysis of a participant's Twitter feed to decide which questions to ask)

Secure and open source

Participants can only connect via an SSL-encrypted connection. Learn more about security on formr.

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Structure and Components

form{`r}

Surveys
- Create items from a spreadsheet

Runs
- Create and control the study elements

R package
- Work with formr data

today

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Structure and Components

form{`r}

Surveys

The spread-sheet

class	type	name	optional	showif	label	choice1	choice2	choice3	choice4	value
	note	intro			###Hello! This is a simple survey. Enjoy!					
	mc_button	ice_choice			Pick your favorite ice cream.	Vanilla	Strawberry	Chocolate	Everything	
	rating_button 1,5,1	ice_love			How much do you love ice cream?	Not at all.	Can't get enough.			
	number 0,20,1	ice_amount			In a week, how often do you eat ice cream?					
	select_one	color_select			Please select the color you like most.	White	Red	Brown	Rainbow	
	textarea 100	ice_text	*		Here you can tell us more about your relationship to ice cream.					
	submit	submit_01			End survey.					

Structure and Components

form{`r}

Runs

Exemplary scheme

Study

Run

Survey 1	Skip-Forward	Survey 2	Stop

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form{`r}

Structure and Components

Edit Run

I am panicking :-(

↑↓ Reorder | 🔓 Lock | 📋 Export | ⬆ Import

Publicness: ⏏ ◀ 🔉 🔊

Runs:

Minimal set-up

ice_survey

✏ (circle icon)

✕

10

ice_survey ▼

0 complete results, 0 begun (in ~ 0m)

View items | Upload items

Saved | Test

Survey

end of study

◻ (square icon)

✕
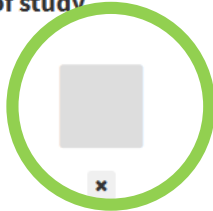
20

Feedback text:

Thank you for your participation.

Saved | Test

Stop point

✏ ↗ ✉ ⏪ ⏸ ⏩ ⏳ 🔀 ⏹

click one of the symbols above to add a module

Add to run

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Structure and Components

Runs

User's view

https://ice-run.formr.org/?code=famousGopherXXXtZeItOTbPLrwzLENMdtmR80r9oZt4RFe6PlJTlbmOxldk8Men

Hello!

This is a simple survey. Enjoy!

| Pick your favorite ice cream. | Vanilla | Strawberry | Chocolate | Everything |

How much do you love ice cream? Not at all. 1 2 3 4 5 Can't get enough.

In a week, how often do you eat ice cream? 9
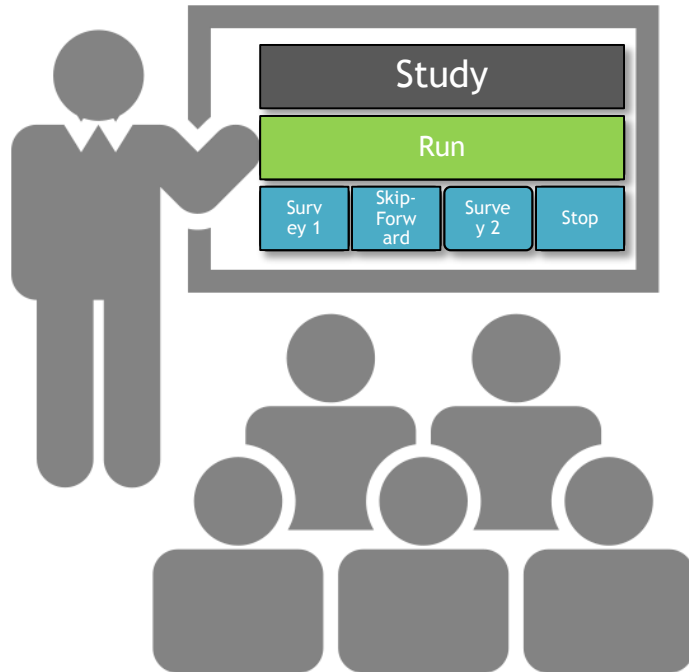
Please select the color you like most. Rainbow

Here you can tell us more about your relationship to ice cream. I started eating ice cream right after birth

End survey.

Learning by doing

form{`r}

1. Each student gets a formr account
2. Everyone receives a template for a survey spreadsheet and the task to add items
3. Each student creates a run (="study") that contains the survey
4. After (internal) data collection, the whole group has a look on how users can be managed and how results are stored in formr

form{`r} Want to try on your own?

- Get an account:
  - Sign up at https://formr.org/register
  - Write an email to the formr administrators to gain the right to create studies
- Read the documentation (https://formr.org/documentation)
- Explore different item types by cloning and uploading this spreadsheet provided by the administrators: all_widgets

References

formr study framework

Arslan, R. C., & Tata, C. (2018). formr.org: v0.17.16. doi:10.5281/zenodo.1345615

Arslan, R. C., Walther, M. P., & Tata, C. S. (2019). formr: A study framework allowing for automated feedback generation and complex longitudinal experience-sampling studies using R. *Behavior Research Methods*. https://doi.org/10.3758/s13428-019-01236-y

add-ons

Arslan, R. C. (in press). How to automatically document data with the codebook package to facilitate data re-use. *Advances in Methods and Practices in Psychological Science.* Preprint on PsyArxiv: https://psyarxiv.com/5qc6h/

Wieczorek, L. L., Tata, C. S., Penke, L. & Gerlach, T. M. (2018). Online implementation of an event history calendar with formr: a tutorial. Preprint on PsyArxiv. https://psyarxiv.com/h8cs9/

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