Analysis of themes

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Tools

- Open and reproducible neuroimaging: From study inception to publication
  - study inception, planning, and ethics: OSF preregistration, clinicaltrials.gov, aspredicted
  - data processing and analysis: git, github, gitlab, etc
  - many others
- Collaborative open science as a way to reproducibility and new insights in primate cognition research
  - Used mailing list to share information, then slack for discussions
  - Use Google docs for writing and documentation
  - Github for code and data
  - Data analysis plans pre-registered at OSF
  - Have a website - good for newcomers and sharing info
- Open and reproducible practices in developmental psychology research: The workflow of the WomCogDev lab as an example
  - Resources: lab meetings, slack, trello, OSF repository
- Accelerating addiction research via Open Science and Team Science
  - recommend sharing on OSF
  - synthpop package in R creates a synthetic dataset with same statistical properties
- Ten strategies to foster open science in psychology and beyond
  - can get started by writing in markdown/quarto, using github
- Lessons Learned: A Neuroimaging Research Center's Transition to Open and Reproducible Science
  - use OSF for registering protocols
  - focus on open software like R and Python, git and github

Organization

- Open and reproducible neuroimaging: From study inception to publication
  - publishing Code of Conduct for collaborative projects is one practice that helps ensure a more welcoming and inclusive space for everyone regardless of background or identity
- Ten simple rules for helping newcomers become contributors to open projects
  - be welcoming
  - make governance explicit
  - develop forms of legitimate peripheral participation
  - make it easy for newcomers to get started

- Collaborative open science as a way to reproducibility and new insights in primate cognition research
  - topic for research selected through voting
  - also discuss challenges. Main one was how to make decisions
  - leadership team preferable
  - also have author guidelines.
- Promoting FAIR Data Through Community-driven Agile Design: the Open Data Commons for Spinal Cord Injury (odc-sci.org)
  - key events for the collaboration to be possible: - introduction of FAIR principles, update from funders, funding given to specific projects
  - moreover, participants pointed out the need for improving self-explanatory tutorials and help materials that would facilitate the learning experience for those who could not attend the workshop
  - registered users can request to become ODC-SCI Community members with further approval by the Leadership team.
- Eleven Strategies for Making Reproducible Research and Open Science Training the Norm at Research Institutions
  - perform replication or meta-research studies as course projects: Carefully define the scope of the project, Ensure that you have adequate support
  - build communities: Foster accessible discussions (Consider running "beginner" and "advanced" community meetings)
  - build communities: Organize regular meetings
- Collaboration and Open Science Initiatives in Primate Research
  - Agreeing on project selection, study design, stimuli, analysis plan, and findings' interpretation is not easy in big groups. (…) research questions are selected democratically - proposals for projects are submitted and members vote to select which projects will be carried out.
  - Large-scale projects also have to develop authorship guidelines, which specify the minimal conditions that one person has to fulfill to qualify for authorship
  - task forces within the project prepared different materials they then uploaded to github and preregister
  - Low entry barriers and the various ways in which a scientist can be involved in a large-scale collaboration (design, data collection, analysis, manuscript writing) offer a multitude of possibilities for researchers in different stages of their careers
- Accelerating addiction research via Open Science and Team Science
  - As part of this process, we made several decisions as a group (via an anonymous poll), such as which smallest effect size of interest to preregister and to which journal to submit the paper
- Ten strategies to foster open science in psychology and beyond
  - Participating in these large-scale projects is not easy and calls on researchers to develop specific standards and guidelines that ensure effective communication among collaborators and enable projects to develop coherently and cohesively

Workflow

- Open and reproducible practices in developmental psychology research: The workflow of the WomCogDev lab as an example
  - They setup a clear structure for how to conduct the research - how a project is supposed to work
- Lessons Learned: A Neuroimaging Research Center's Transition to Open and Reproducible Science
  - also nice figure of workflow including open science practices in the workflow

Training

- UKRN Open Research Training Resources and Priorities Working Paper
  - research cycle: planning, conducting, analysing, disseminating
  - planning: team science guides, research co-production

    - most resources focus on the planning and analysing stage
    - very few resources for open collaboration, none were open and they were valued poorly compared to other practices
- Eleven Strategies for Making Reproducible Research and Open Science Training the Norm at Research Institutions
    - perform replication or meta-research studies as course projects: As the class collaborates on one project, participants also build skills for collaborative team science and gain experience leading small teams

Barriers/limitations for implementation

- Accelerating addiction research via Open Science and Team Science
    - Barriers: within our current scientific culture, there are few incentives to work in large teams, all large-scale collaborations need leadership

Levels of collaboration

multi-center

- Collaboration and Open Science Initiatives in Primate Research

center

- Lessons Learned: A Neuroimaging Research Center's Transition to Open and Reproducible Science

lab

- Open and reproducible practices in developmental psychology research: The workflow of the WomCogDev lab as an example

individual

- Ten strategies to foster open science in psychology and beyond

Bibliography