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# COMM 160DS: Data Science in Communication

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# Week 1 P2

04/06/2023

Reproducible Research Principles

JupyterHub/Lab & Jupyter  
Notebook

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# Reproducible Research Principles

Reproducibility in the Social Sciences (Moody et al., 2022)

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# Reproducible Research Principles

## What

1. Ensuring that others can replicate and verify your research findings
2. Facilitating the sharing of data, code, and methodology

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# Reproducible Research Principles

## How

1. Transparency: Clearly describe your research design, data, and analysis
2. Version control: Track changes in your code and data, and maintain a history of updates
3. Documentation: Provide detailed explanations and annotations to help others understand your work
4. Accessibility: Share data, code, and materials to enable replication and verification

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# Benefits of Reproducible Research

## Improved Research Quality

1. Encourages thoroughness and precision in the research process
2. Reduces the likelihood of errors and false positives
3. Helps ensure consistency and validity across studies

(Leek & Peng, 2015, Ioannidis, 2005, McKiernan et al., 2016)

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# Benefits of Reproducible Research

## Enhanced Collaboration and Knowledge Building

1. Facilitates communication and collaboration among researchers
2. Promotes the reuse and extension of existing research
3. Contributes to cumulative knowledge and efficient progress in the field

(Baker, 2016, Nielsen, 2011, Nosek et al., 2015)

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# Benefits of Reproducible Research

## Increased Trust and Transparency

1. Builds trust in the research findings among peers and the public
2. Supports openness and transparency in the research process
3. Enables peer review and verification of results

(Fidler et al., 2018, Stodden et al., 2013, Goodman et al., 2016)



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# Benefits of Reproducible Research

## Career Advantages

1. Enhances researchers' professional reputation and credibility
2. Demonstrates commitment to ethical research practices
3. Opens up opportunities for interdisciplinary collaboration and funding

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# JupyterHub

A multi-user server for Jupyter Notebooks/[JupyterLab](#)

[JupyterHub](#)

[nbgitpuller](#)