

The Open Science Framework for Connecting Institutional Research

Improving Openness, Integrity, and Reproducibility of Scholarly Research

<https://osf.io/ba3dy>

All slides for this panel: <https://osf.io/sy2zf/>

Matthew Spitzer
Center for Open Science
@matthewspitzer

<http://cos.io/>
@OSFramework

Funded by:



JOHN TEMPLETON FOUNDATION
SUPPORTING SCIENCE ~ INVESTING IN THE BIG QUESTIONS



Norms

Communality

Open sharing

Universalism

Evaluate research on own merit

Disinterestedness

Motivated by knowledge and discovery

Organized skepticism

Consider all new evidence, even against one's prior work

Quality

Counternorms

Secrecy

Closed

Particularism

Evaluate research by reputation

Self-interestedness

Treat science as a competition

Organized dogmatism

Invest career promoting one's own theories, findings

Quantity

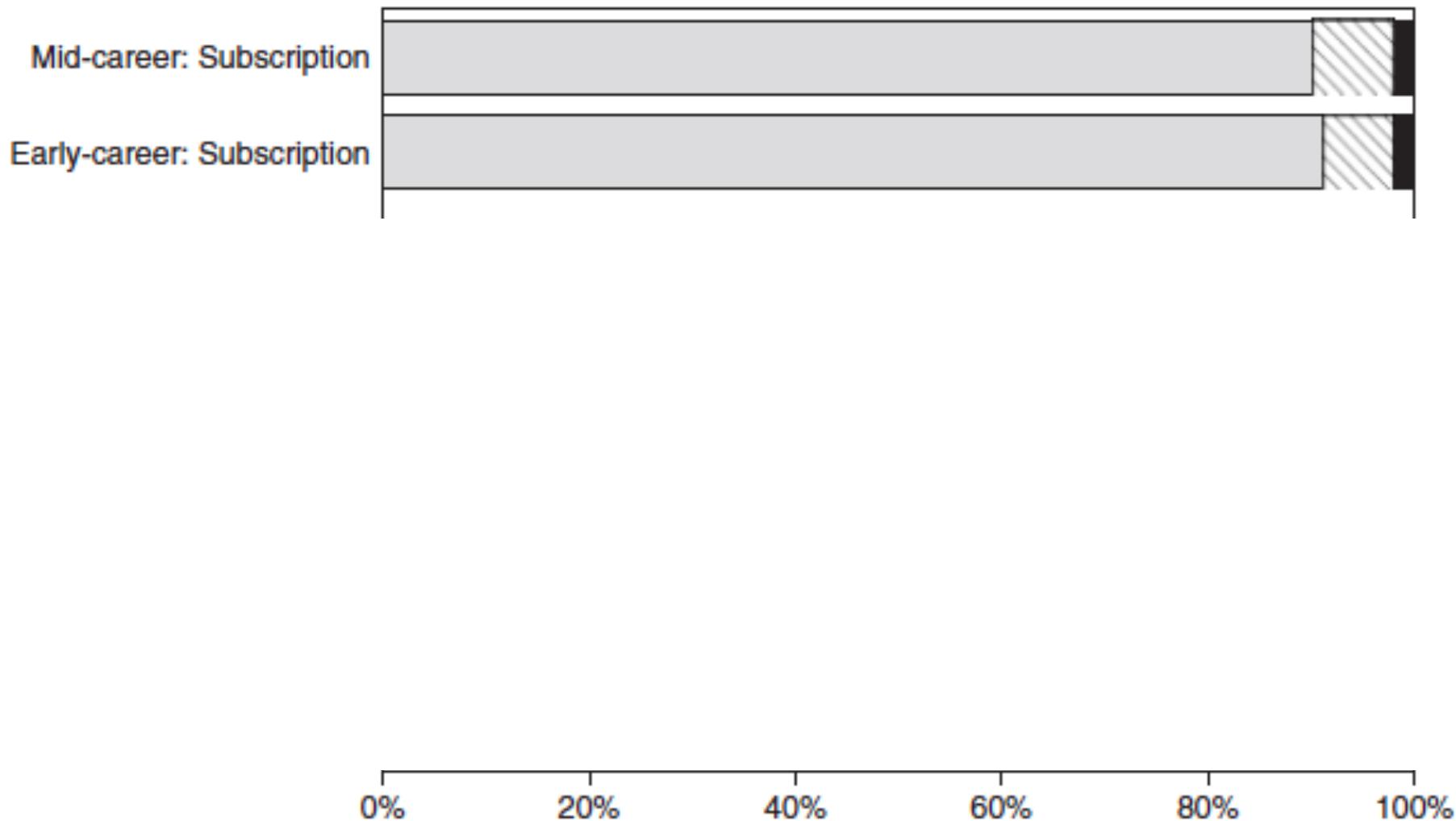


FIG. 3. Norm versus Counternorm Scores: Percent with Norm > Counternorm (dotted), Norm = Counternorm (striped), Norm < Counternorm (solid).

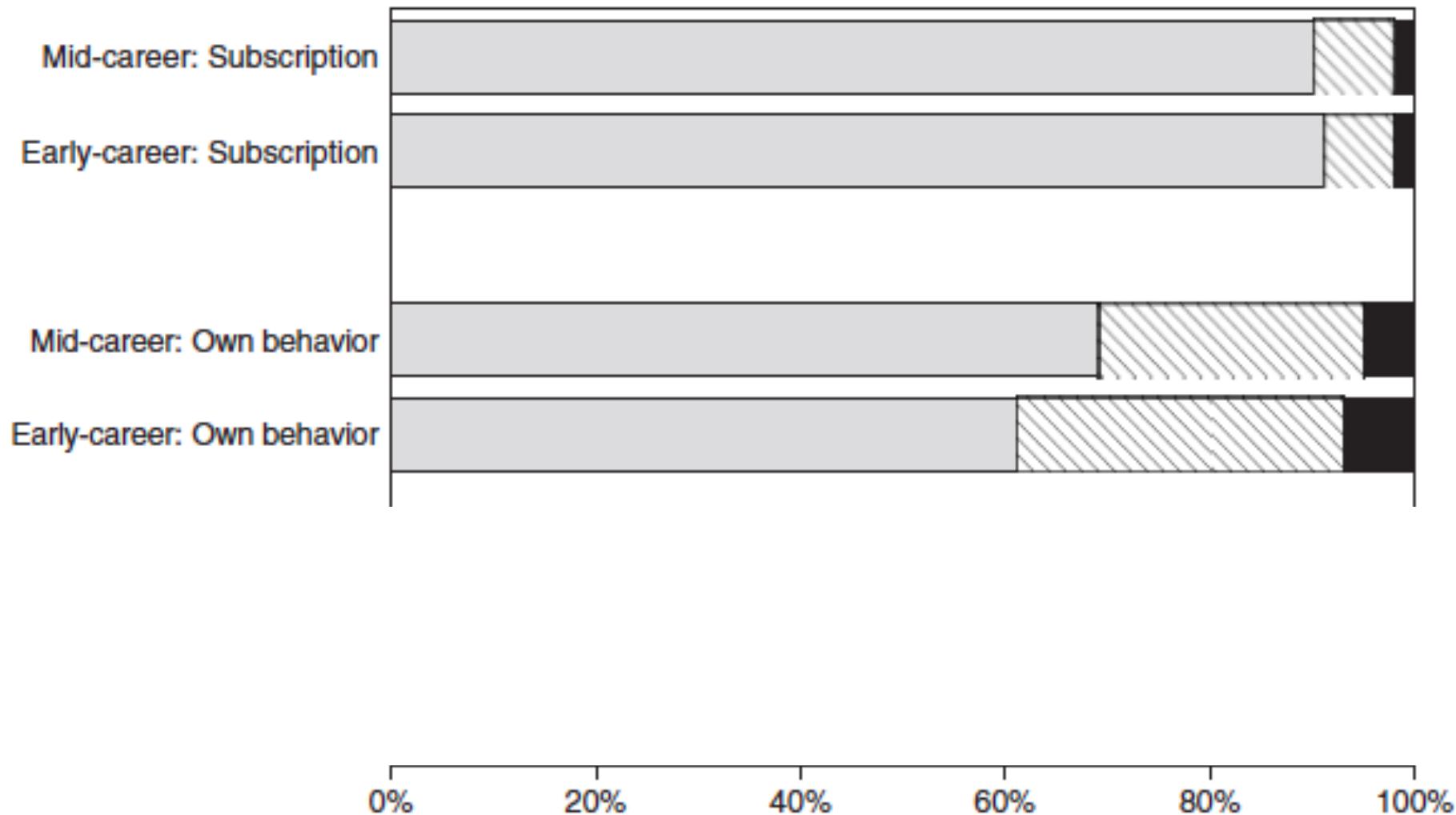


FIG. 3. Norm versus Counternorm Scores: Percent with Norm > Counternorm (dotted), Norm = Counternorm (striped), Norm < Counternorm (solid).

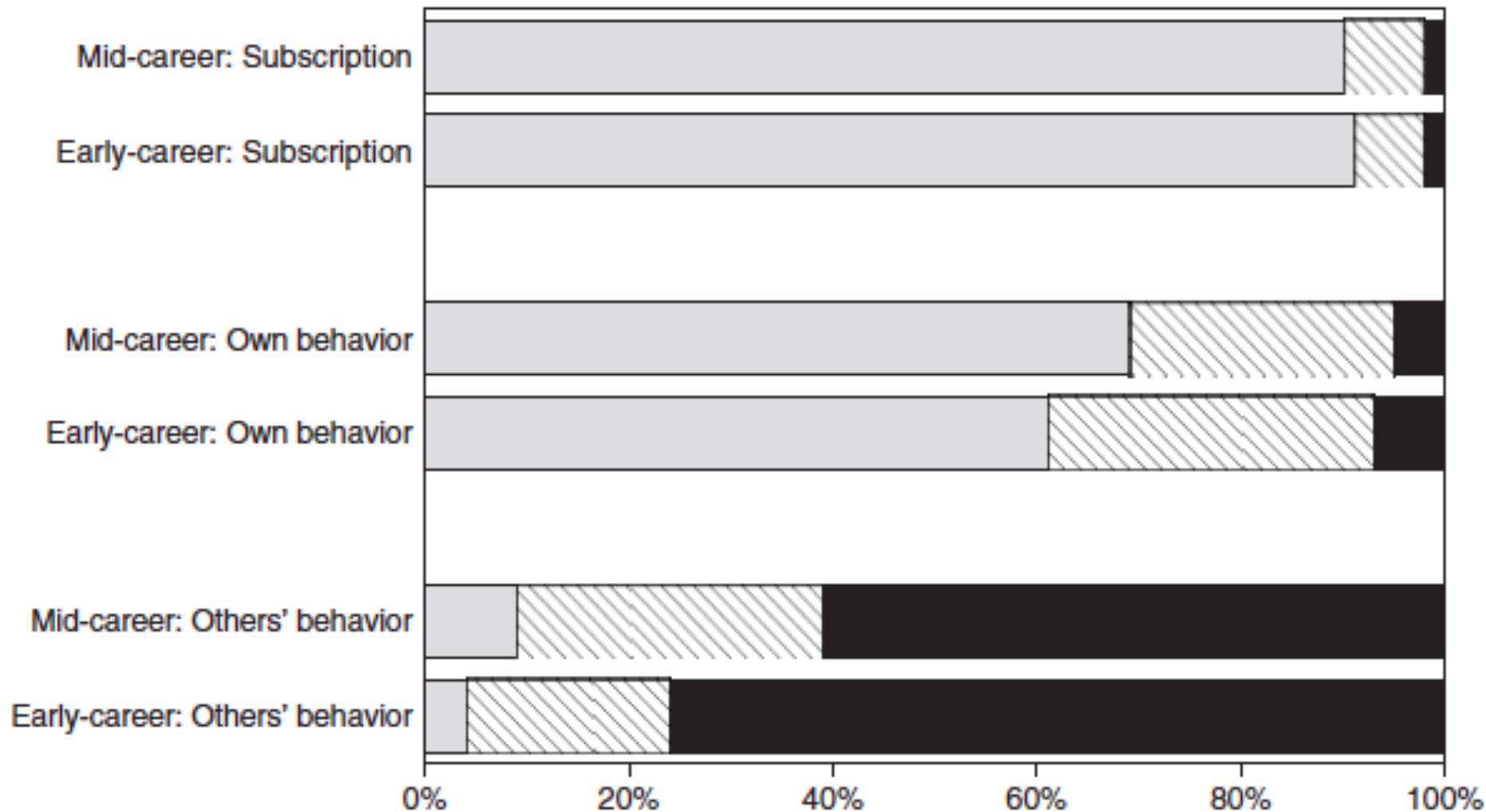


FIG. 3. Norm versus Counternorm Scores: Percent with Norm > Counternorm (dotted), Norm = Counternorm (striped), Norm < Counternorm (solid).

Incentives for
individual success
are focused on
getting it published,
not getting it right

Problems

Flexibility in analysis

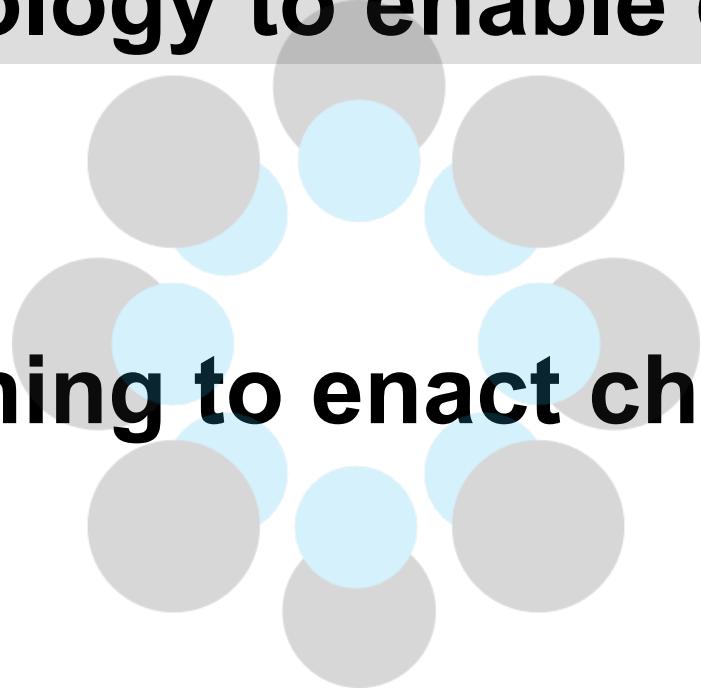
Selective reporting

Ignoring nulls

Lack of replication

Busy...(You, Me, 2017)

Technology to enable change



Training to enact change

Incentives to embrace change

What's wrong with this?



- **Academic researchers** are only in peripheral association with their institutions
- **Workflows** are idiosyncratic at best, and increasingly interdisciplinary
- **Institutional stakeholders** may also be interested in curation and archiving
- **Will future-you** (2+ years) remember how you got from a to b?
- **Does your grant** perpetually fund the hardware and tools you are using?
- **How long** will your data be correct, usable, and complete?
- **How will anyone else extend your work?**

Open Workflow



Connecting the research workflow and archiving activities, changes, outputs
Tools to facilitate collaboration, sharing, and ease of access



GitHub



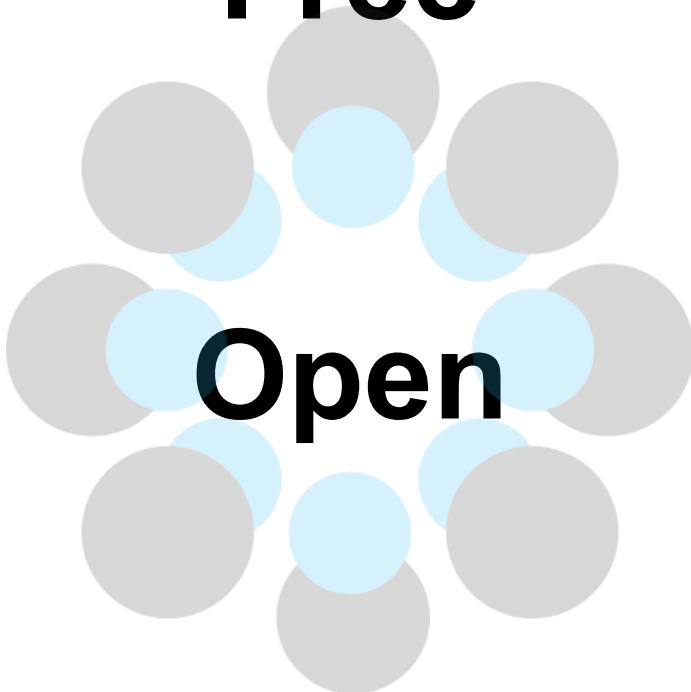
OpenSesame

Many outputs + many views are needed into the research lifecycle

Open Workflows

- Increase **process transparency**
- Increase **accountability**
- Facilitate **reproducibility**
- Facilitate **metascience**
- Foster **collaboration**
- Foster **inclusivity**
- Foster **innovation**
- Protect against lock-in
 - **Open + Accessible**





Free
Open
Inclusive

Project collaboration, organization, and sharing

Open Science Framework

Dashboard My Projects Browse ▾  Matthew Spitzer ▾

Understanding and Using the Brief Impl...

Files Wiki Analytics Registrations Forks

 Public  0 Share



Understanding and Using the Brief Implicit Association Test: Recommended Scoring Procedures

Contributors: Brian A. Nosek, Yoav Bar-Anan, Sriram Natarajan, Jordan Axt, Anthony G. Greenwald

Affiliated institutions: University of Virginia

Date created: 2013-01-01 01:40 PM | Last Updated: 2016-12-27 12:13 PM

Category: Project 

Description: A brief version of the Implicit Association Test (BIAT) has been introduced. The present research identified analytical best practices for overall psychometric performance of the BIAT. In 7 studies and multiple replications, we investigated analytic practices with several evaluation criteria: sensitivity to detecting known effects and group differences, internal consistency, relations with implicit measures of the same topic, relations with explicit measures of the same topic and other criterion variables, and resistance to an extraneous influence of average response time. The data transformation algorithms D outperformed other approaches. This replicates and extends the strong prior performance of D compared to conventional analytic techniques. We conclude with recommended analytic practices for standard use of the BIAT.

License: CC0 1.0 Universal 

This project represents a preprint. [Learn more](#) about how to work with preprint files.

[View preprint](#)

Wiki

Materials and data for investigation of scoring procedures for the Brief Implicit Association Test. Article was published in [PLOS ONE](#).

Files include the main tables and supplementary tables for the article evaluating BIAT scoring procedures.

Also, the supplement pdf presents evidence that the ABAB block design for the BIAT avoids a confounding influence of block order across all three domains te...

[Read More](#)

Files

 Filter



Name ▲ ▼

Modified ▲ ▼

Citation

[osf.io/7a2n8](#) ▾

Components

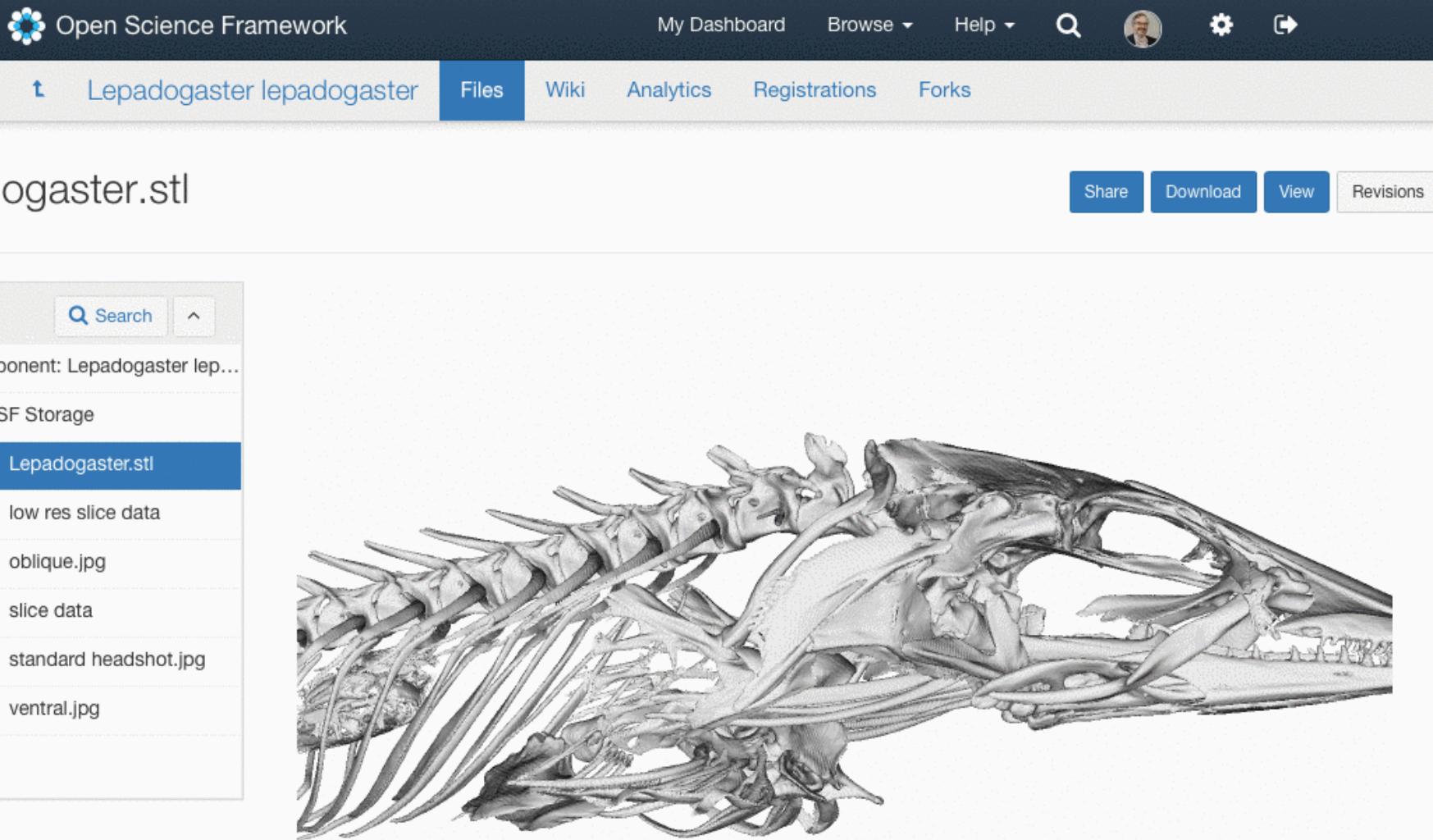
Data sets

Bar-Anan, Nosek & Axt
12 contributions

Tags

IAT Implicit Association Test Brief IAT BIAT scoring procedures

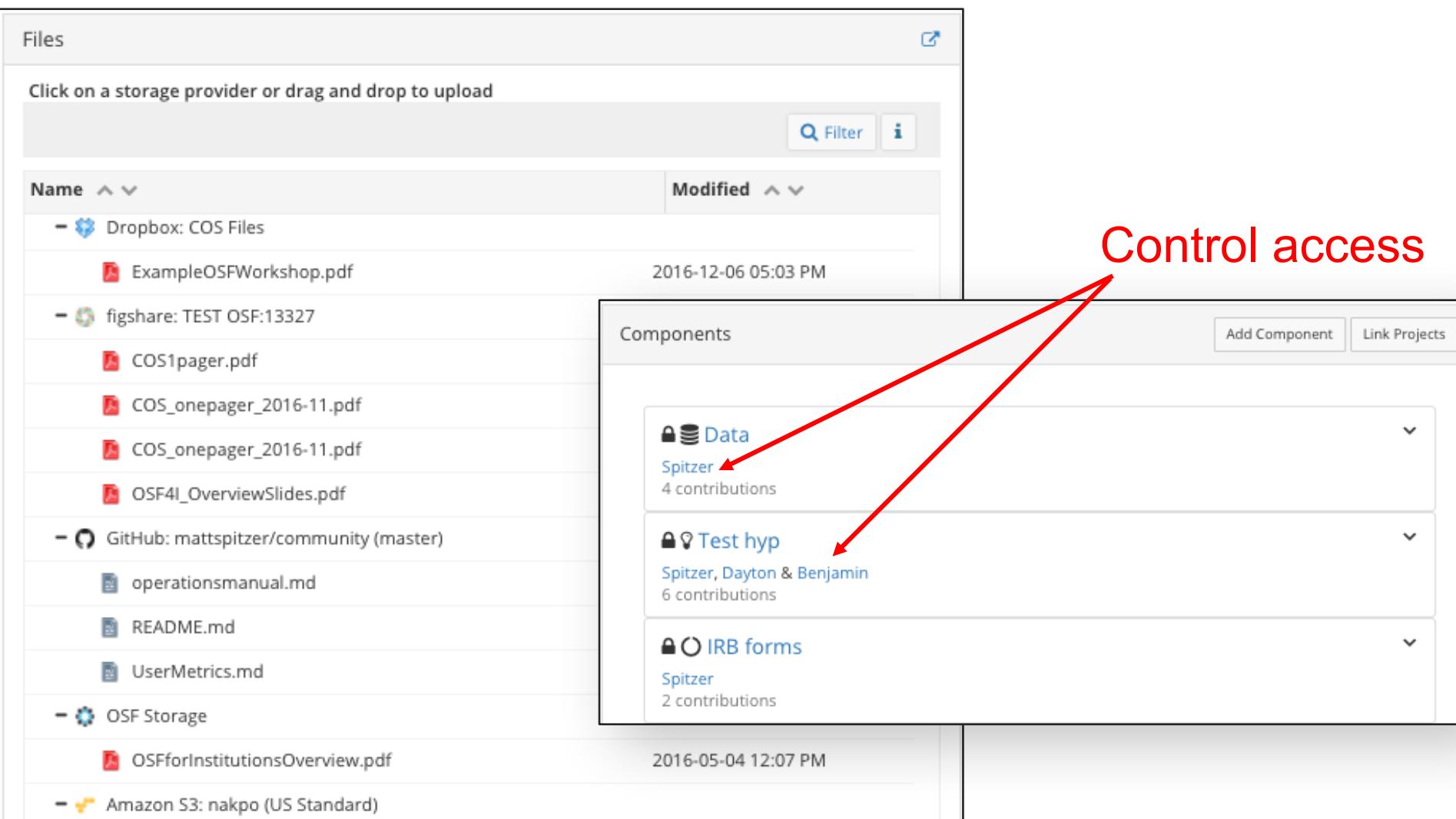
Put data, materials, and code on the OSF



The screenshot shows the Open Science Framework (OSF) interface. At the top, there's a navigation bar with links for "My Dashboard", "Browse", "Help", a search icon, and user profile icons. Below the navigation bar, the page title is "Lepadogaster lepadogaster". The main content area displays a detailed 3D model of a fish skeleton, specifically a Lepadogaster. To the left of the 3D model is a sidebar containing a search bar and a file tree. The file tree shows a component named "Component: Lepadogaster lep..." and an "OSF Storage" folder. Inside the "OSF Storage" folder are files: "Lepadogaster.stl" (selected and highlighted in blue), "low res slice data", "oblique.jpg", "slice data", "standard headshot.jpg", and "ventral.jpg".

Check out “Fish Guy’s” Story: <http://www.wired.com/2016/01/print-an-army-of-giant-articulated-fish-from-this-3-d-database/>

Put data, materials, and code on the OSF



The screenshot illustrates the Open Science Framework (OSF) interface for managing research data and components.

File Storage: On the left, a sidebar lists various storage providers:

- Dropbox: COS Files (ExampleOSFWorkshop.pdf)
- figshare: TEST OSF:13327 (COS1pager.pdf, COS_onepager_2016-11.pdf, COS_onepager_2016-11.pdf, OSF4I_OverviewSlides.pdf)
- GitHub: mattspitzer/community (master) (operationsmanual.md, README.md, UserMetrics.md)
- OSF Storage (OSForInstitutionsOverview.pdf)
- Amazon S3: nakpo (US Standard)

A red arrow points from the "Control access" text to the "Components" section on the right.

Components: On the right, a list of components is shown:

- Data** (Spitzer, 4 contributions)
- Test hyp** (Spitzer, Dayton & Benjamin, 6 contributions)
- IRB forms** (Spitzer, 2 contributions)

Control access (Red annotation text)

Automated versioning

Open Science Framework My Dashboard Browse Help Andrew Sallans Settings

Badges to Acknowledge Open Practices Files Wiki Analytics Registrations Forks Contributors Settings

BadgesDisclosureTemplate.docx

Delete Check out Share Download View Revisions

Revisions					
Version ID	Date	User	Download	MD5	SHA2
2	2015-02-18 08:55 AM	Andrew Sallans		5449614541941c1964	c5b9946df2a8728a44:
1	2015-01-26 02:40 PM	Sara Bowman		ddef6d58cd6a9b53ee:	b4b6e30e7140c76f58:

Project: Badges to Acknowledge Open Pr...
OSF Storage
badges.Article-Variation1.pdf
badges.Article-Variation2.pdf
badges.Article-Variation3.pdf
badges.Article-Variation4.pdf
BadgesDisclosureTemplate.docx
data_large_color.png
data_large_color.tif
data_large_gray.png
data_large_gray.tif
data_small_color.png
data_small_color.tif
data_small_gray.png

Persistent identifiers and citation

Open Science Framework

My Dashboard

Browse ▾

Help ▾



Andrew Sallans



Badges to Acknowledge Open Practices

Files

Wiki

Analytics

Registrations

Forks

Contributors

Settings

Make Private

Public



Badges to Acknowledge Open Practices

Contributors: Ben B. Blohowiak, Johanna Cohoon, Lee de-Wit, Eric Eich, Frank J. Farach, Fred Hasselman, Alex O. Holcombe, Macartan Humphreys, Melissa Lewis, Brian A. Nosek, Jonathan Peirce, Jeffrey R. Spies, Chris Seto, Sara Bowman, Don Green, Gustav Nilsonne, Jon Grahe, Stephanie Wykstra, Alicia Hofelich Mohr, Andrew Sallans, Roger Giner-Sorolla, Timothy H. Parker, Wolfgang Forstmeier, Shinichi Nakagawa

Date created: 2013-02-19 12:19 PM | Last Updated: 2015-10-22 10:56 AM

Category: Project

Description: The aim is to specify a standard by which we can say that a scientific study has been conducted in accordance with open-science principles and provide visual icons to allow advertising of such good behaviours.

License: No license

Wiki

Openness is a core value of scientific practice. There is no central authority determining the validity of scientific claims. Accumulation of scientific knowledge proceeds via open communication with the community. Sharing evidence for scientific claims facilitates critique, extension, and application. Despite the importance of open communication for scientific progress, present norms do not provide strong incentives for individual researchers to share data, material...

<https://osf.io/tvyxz/>

Citation

osf.io/tvyxz ^

APA

Blohowiak, B. B., Cohoon, J., de-Wit, L., Eich, E., Farach, F. J., Hasselman, F., ... Nakagawa, S. (2015, October 22). Badges to Acknowledge Open Practices. Retrieved from osf.io/tvyxz

MLA

Blohowiak, Benjamin B et al. "Badges to Acknowledge Open Practices." Open Science Framework, 22 Oct. 2015. Web.

Chicago

Blohowiak, Benjamin B, Johanna Cohoon, Lee de-Wit, Eric Eich, Frank J Farach, Fred Hasselman, Alex O Holcombe, et al. 2015. "Badges to Acknowledge Open Practices." Open Science Framework. October 22. osf.io/tvyxz.

More

Citation Style (e.g. "APA")

Easy Collaboration control and granular permissions

Contributors [+ Add](#)

Drag and drop contributors to change listing order.

Name	Permissions	Bibliographic Contributor
 Ben B. Blohowiak	<input type="button" value="Read + Write"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>
 Johanna Cohoon	<input type="button" value="Administrator"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>
 Lee de-Wit	<input type="button" value="Read + Write"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>
 Eric Eich	<input type="button" value="Read + Write"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>
 Frank J. Farach	<input type="button" value="Read + Write"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>
 Fred Hasselman	<input type="button" value="Read + Write"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>
 Alex O. Holcombe	<input type="button" value="Read + Write"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>
 Macartan Humphreys	<input type="button" value="Read + Write"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>

A large red circle highlights the "Permissions" column for all contributors.

Share your work easily

Open Science Framework

My Dashboard

Browse ▾

Help ▾



Andrew Sallans



Badges to Acknowledge Open Practices

Files

Wiki

Analytics

Registrations

Forks

Contributors

Settings

Make Private

Public



Badges to Acknowledge Open Practices

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Citation

osf.io/tvyxz

Components

Add Component

Add Links

Materials from Endorsers

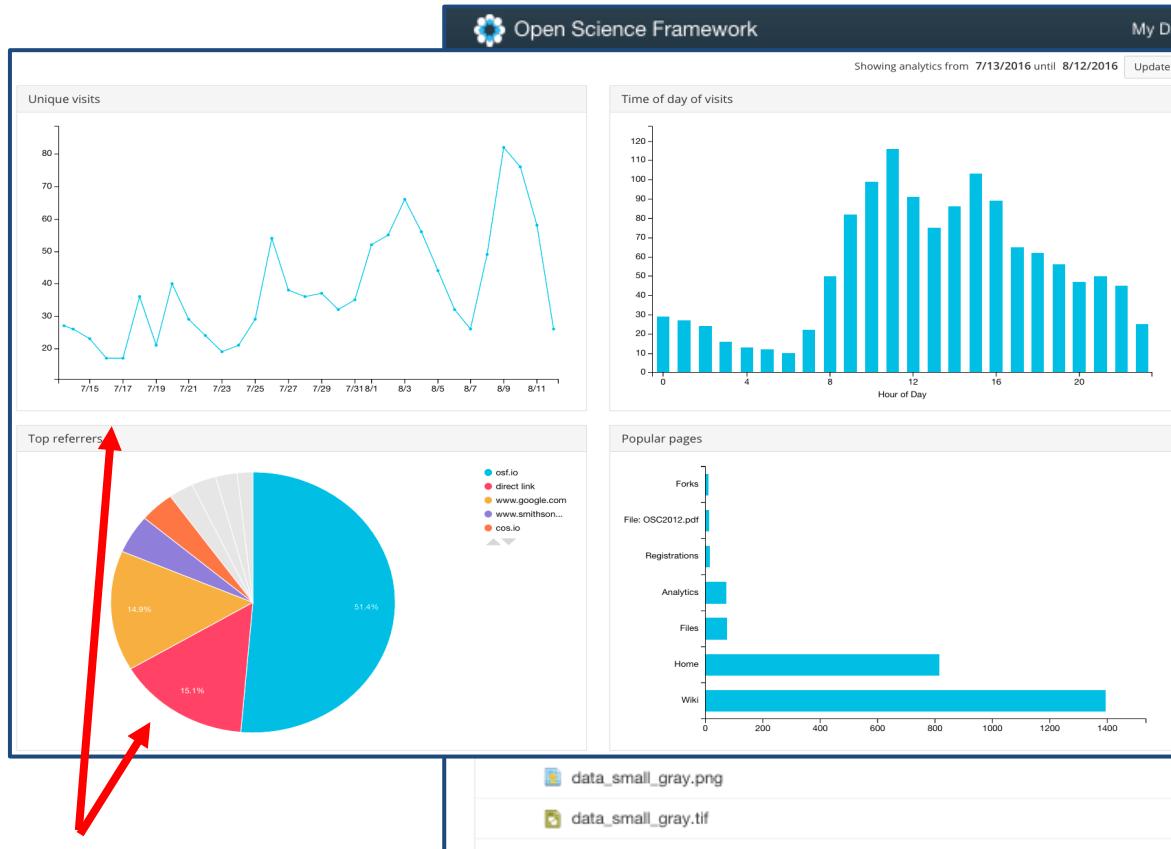
Cohoon & Sallans

12 contributions

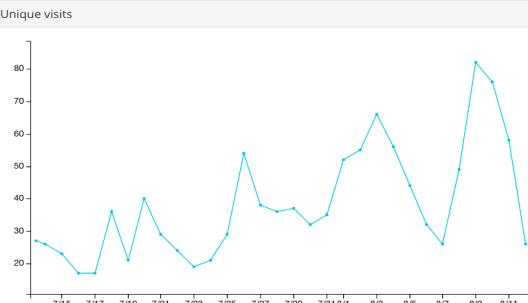
Tags

See the impact beyond just citation

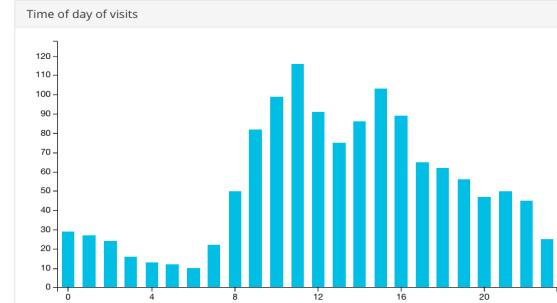
Visits & Referral Sources



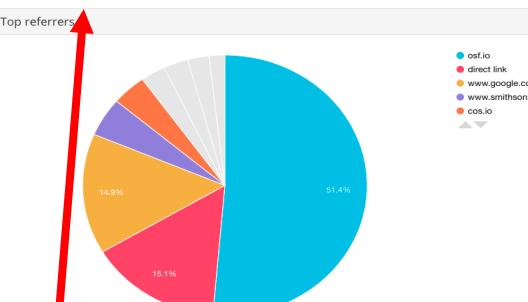
Unique visits



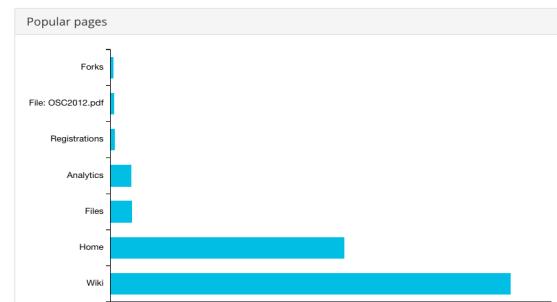
Time of day of visits



Top referrers



Popular pages



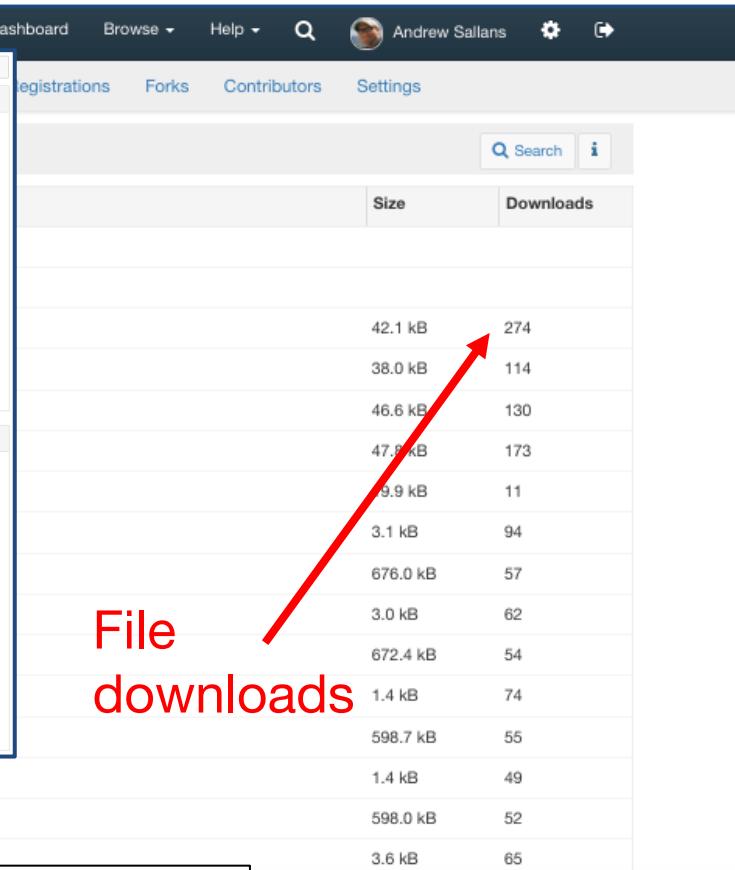
Links To This Project: 1

Templated From: 4

Forks: 17

View Links **Copy Project Structure** **Fork this Project** **View Forks**

File downloads



Size	Downloads
42.1 kB	274
38.0 kB	114
46.6 kB	130
47.9 kB	173
59.9 kB	11
3.1 kB	94
676.0 kB	57
3.0 kB	62
672.4 kB	54
1.4 kB	74
598.7 kB	55
1.4 kB	49
598.0 kB	52
3.6 kB	65

Forks

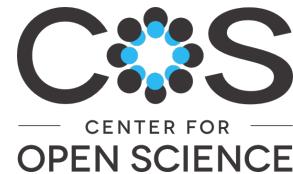


Andrew Sallans

Registrations Forks Contributors Settings

Search

Other OSF Features



Managing Projects

- Creating a Project
- Creating Components
- Adding Contributors
- Uploading files
- Logs
- Using the project organizer
- Bookmarks

Sharing Projects

- Privacy controls
- View-only links
- Applying a license
- Citations with persistent IDs
- Metrics
- Tags - files and projects

Collaborating

- Wikis
- Notifications
- Commenting
- Forking and Linking projects
- User profile data
- Forums (Coming Soon)

Connecting Add-ons

- Enabling Add-ons
- Box
- Dropbox
- OwnCloud
- Github
- Mendeley
- Zotero
- figshare
- Dataverse
- 19 more coming soon including DMP, Fedora, Endnote, etc

Files and Version Control

- Drag and drop interface
- Revisions and versions
- Folders
- Download Counts
- File checkout

Registering Projects

- What are registrations
- Explanation of Registration Templates
- Embargoes
- DOIs/ARKs
- Retractions

Security and Privacy

- 2-factor authentication
- Backup scheme
- Security information (FAQs)



a central **hub** of institutionally affiliated research projects

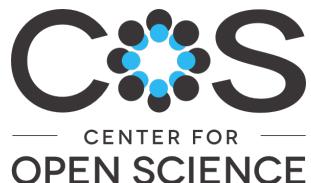
- Provide **visibility** for ongoing and unpublished research
- **Insight** and data on research collaboration
- Serve as a **commons** for interdisciplinary research
- Access point to **public and private research workflows**
- Evaluate **impact** of research investment beyond citations
- Connect services and eliminate silos

A screenshot of the OSF INSTITUTIONS interface, which displays three separate institutional profiles side-by-side. Each profile includes the institution's logo, name, and a brief description of the service. The profiles are:

- VCU**: Features the VCU Commonwealth Seal and the text "VIRGINIA COMMONWEALTH UNIVERSITY". It includes a note about data ownership and a link to the Research Data Management Program.
- Virginia Tech**: Features the Virginia Tech seal and the tagline "Invent the Future®". It includes a note about using the Virginia Tech login for OSF and a link to Research Access and Discovery.
- University of Virginia**: Features the UVA seal and the text "UNIVERSITY OF VIRGINIA". It includes a note about UVA resources for research and a link to the Open Science Framework.

The interface also shows a sidebar with navigation links like "All Projects", "Collections", and "Contributors" for each institution.

<https://cos.io/our-products/osf-institutions/>



OSF INSTITUTIONS



UC San Diego

W

UNIVERSITY *of* WASHINGTON



MIND & LIFE
INSTITUTE



UNIVERSITY OF
Cincinnati



UCLA



And interest from 50+ research universities and organizations



Connecting local services, like HPC and IRs



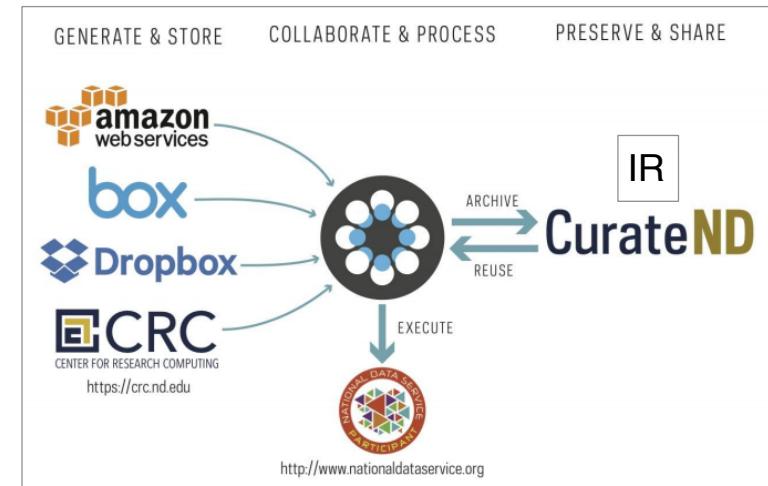
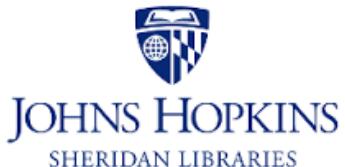
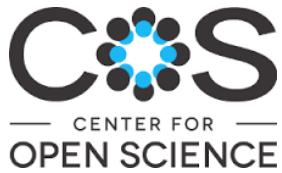
Center for Research Computing

Pilot: *NDS OSF Dashboard integration*

<https://osf.io/s5e2b/>

Preserving code and access to computational services

Pilot: *Weaving Together Preservation and Active Research*



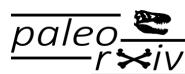
source: <http://sched.co/8xID>

Interfaces & Community Services

OSF PREPRINTS



AgriXiv



OSF INSTITUTIONS



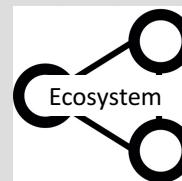
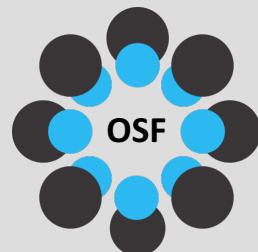
UC San Diego



OSF COLLECTIONS



OSF MEETINGS





OSF Preprints

- **Aggregated Search** Powered by SHARE (share.osf.io), OSF Preprints aggregates search across preprint services. Over 2MM research preprints from multiple sources
- **Branded services** available for any community, society or organization looking to launch their own preprint service
- **Set up yours** at <https://cos.io/our-products/osf-preprints/>

AgriXiv



MindRxiv



<https://osf.io/preprints>

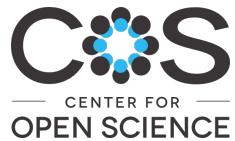


SportRxiv





a central **hub** of organization affiliated research projects



A screenshot of the Open Science Framework (OSFGOV) website. At the top, there's a navigation bar with links for "Dashboard", "My Projects", "Browse", a search icon, and a user profile for "Matthew Spitzer". The main content area features the logo for "THE lab@★★★ DC" in red and white. Below the logo, a sub-header reads: "The Lab @ DC is an entity of the Executive Office of the Mayor of the District of Columbia Government. We work in the Office of the City Administrator and in partnership with a network of universities and research centers to apply the scientific method into day-to-day governance." There are buttons for "All Projects" and "Collections", and a "Filter displayed projects" dropdown. A small "X" icon is in the top right corner of the filter box.

- A new scientific team in the **Executive Office of the Mayor of Washington, DC**
- Hiring **psychological scientists, data scientists**, and others
- The Lab @ DC will be **researching important topics** related to city governance that are connected to government policies and programs; many of these projects will aim to apply principles of psychological science and other behavioral sciences to improving government functioning.

"The OSF allows us to be honest and open about the research we are conducting and we hope that it will shift critiques of applied research from the source of the research to the quality of the method and the transparency of the process. As an example, the lab has posted a pre-analysis plan for its evaluation of the Metropolitan Police Department's Body-Worn Camera (BWC) program. Beyond just posting the plan, the lab is conducting multiple public meetings to discuss the pre-analysis plan, before the data have even been analyzed."

- Sam Quinney, Applied Research Analyst

First project to be released in ~2 weeks:

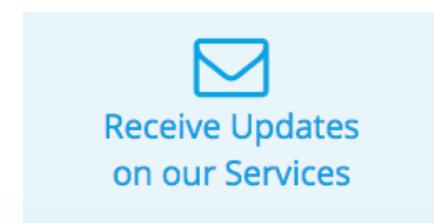
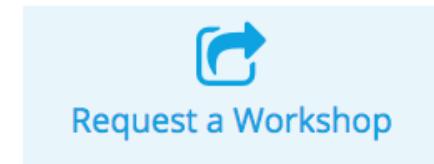
<http://thelab.dc.gov/>

Statistical & Methodological Consulting

Scientists can improve the replicability of their own work through careful documentation, adherence to standards, and the use of open tools. We answer questions and provide training on open and reproducible tools, methodologies, and workflows. Some examples:

- ✓ Using R
- ✓ Learning Github
- ✓ Conducting power analyses
- ✓ Conducting meta-analyses
- ✓ Using the OSF
- ✓ Preregistering analysis plans

This service is provided in partnership with the [Berkeley Initiative for Transparency in the Social Sciences \(BITSS\)](#)



Free training on how to make
research more reproducible
http://cos.io/stats_consulting



Transparency & Openness Promotion Guidelines

<https://cos.io/top>

- Data citation
- Design transparency
- Research materials transparency
- Data transparency
- Analytic methods (code) transparency
- Preregistration of studies
- Preregistration of analysis plans
- Replication

I DISCLOSE	II REQUIRE	III VERIFY
Researchers disclose actions such as data sharing or preregistration	Researchers must act transparent as ethics permit	Transparent actions are checked prior to publication

- Signatories
 - 3000+ Journals
 - 60+ Organizations

Science
AAAS

BioMed Central
The Open Access Publisher

SPRINGER NATURE

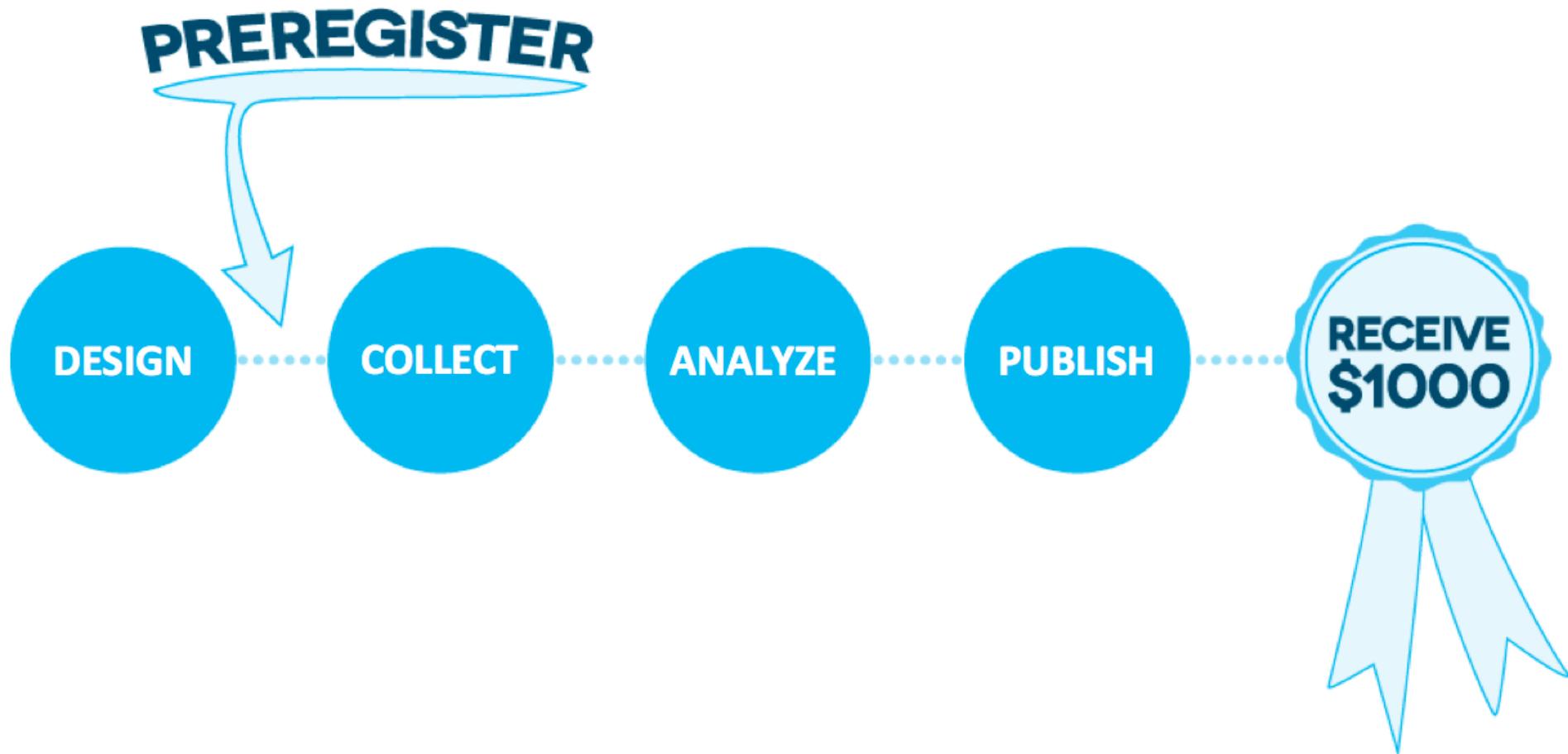
Open Practices Badges

Making Behaviors Visible Promotes Adoption (<https://osf.io/khbv/>)



<https://cos.io/our-services/open-science-badges/>

Preregistration Challenge

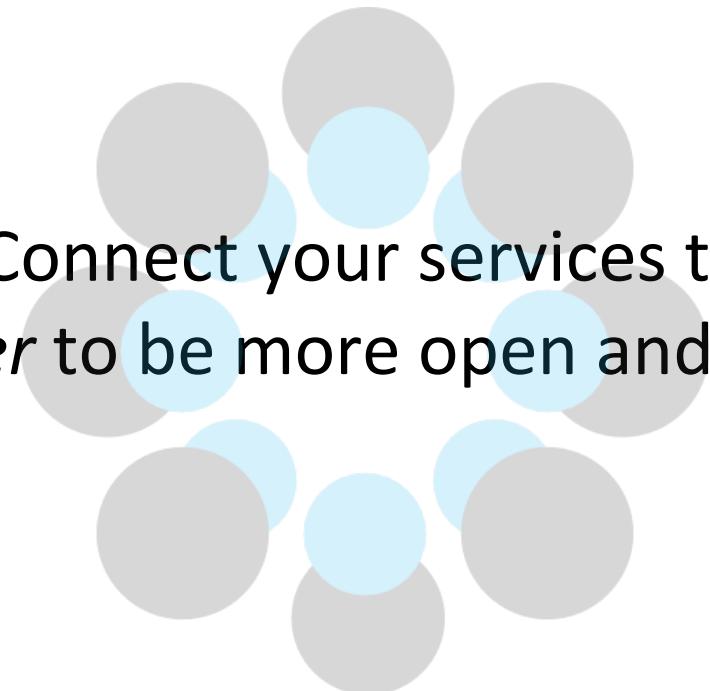


<https://cos.io/prereg>

What can you do?

- 
1. Suggest the [OSF](#) to research teams that need solutions for research collaboration and sharing
 2. Explore using [OSF Institutions](#) to improve visibility, preservation, and curation
 3. Schedule Reproducible Research Workshops for your organization https://cos.io/stats_consulting/

Find these slides here: <https://osf.io/sy2zf/>
matt.spitzer@cos.io



Connect your services to
make it *easier* to be more open and reproducible