YARD Work: Data Archiving and Publishing at Yale

Limor Peer, Joshua Dull, Themba Flowers

Yale Digital Conference June 15, 2018



Outline

Yale Institution for Social and Policy Studies

isps.yale.edu

ISPS Data Archive

Curation Tool: Yale Application for Research Data (YARD)

YARD-Drupal integration



Institution for Social and Policy Studies

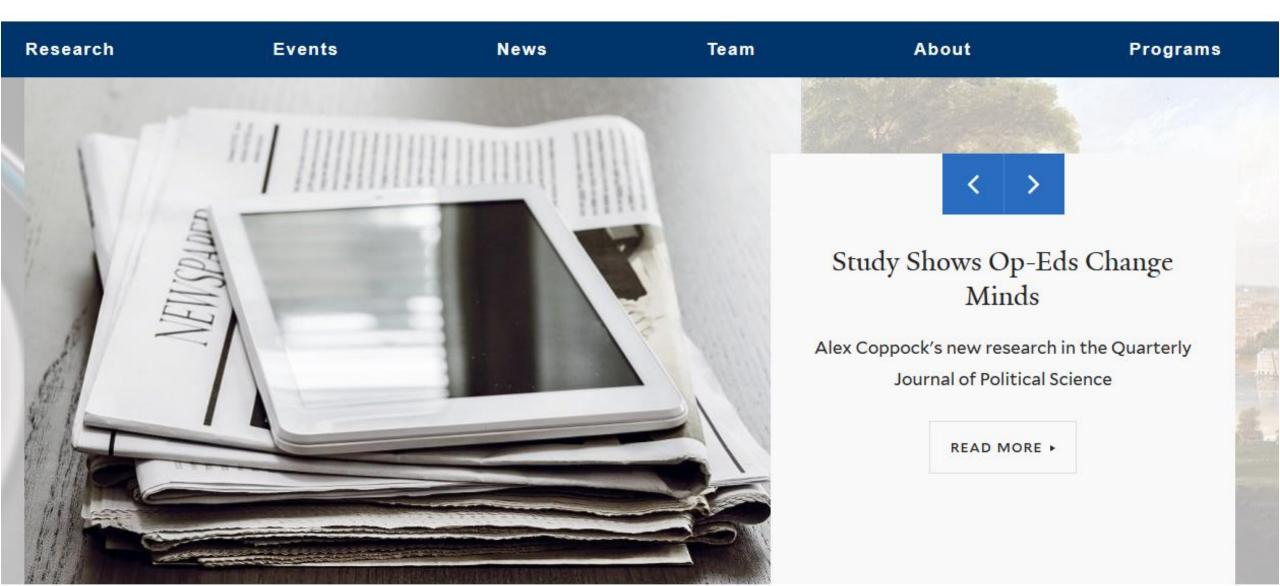
ISPS was founded in 1968 as an interdisciplinary center to support social science and public policy research at Yale University







Institution for Social and Policy Studies ADVANCING RESEARCH - SHAPING POLICY - DEVELOPING LEADERS



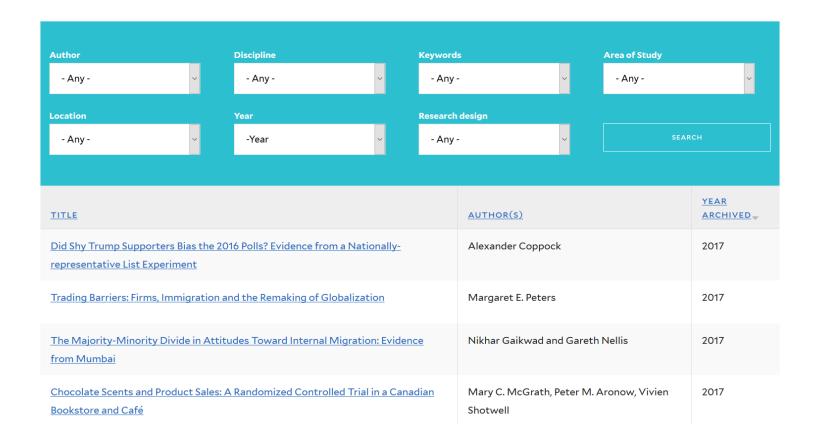
ISPS Data Archive

An open access digital collection of social science experimental data, metadata, code, and associated files produced by ISPS researchers, for the purpose of replication of research findings, further analysis, and teaching.

Peer, L., & Green, A. (2012). Building an Open Data Repository for a Specialized Research Community: Process, Challenges, and Lessons. *International Journal of Digital Curation* 7(1), 151–162. http://dx.doi.org/10.2218/ijdc.v7i1.222



ISPS Data Archive



Since 2011
Open access
Creative Commons license
Website integration

Specialized community Experimental design Quantitative data

90 studies 1,400 files 15 GB



Replication Standard

The *replication standard* holds that sufficient information exists with which to understand, evaluate, and build upon a prior work if a third party could replicate the results without any additional information from the author.

King, G. (1995). Replication, replication. PS: Political Science & Politics, 28(3), 444-452. http://doi.org/10.2307/420301



Common Replication Problems

- Insufficient documentation
- Missing variables
- Deviations in number of observations
- Unavailable software extensions
- Omitted code
- Incompatible datasets



Data Curation: Maintaining, preserving and adding value to digital research data throughout its lifecycle... [which] reduces threats to their long-term research value and mitigates the risk of digital obsolescence.

Digital Curation Center http://www.dcc.ac.uk/digital-curation/what-digital-curation

Reproducibility: Calculation of quantitative scientific results by independent scientists using the original datasets and methods.

Stodden, V. (Ed.), Leisch, F. (Ed.), Peng, R.D. (Ed.). (2014). *Implementing Reproducible Research*. New York: Chapman and Hall/CRC.















- Assign persistent identifier
- Create study citation and study-level metadata record
- Record file size details
- Check for presence of all files
- Verify content of files matches expected format
- Create non-proprietary versions of files
- Implement migration strategy for file formats





- Confirm presence of comprehensive descriptive information necessary for informed reuse
 - Data definitions
 - Variable construction
 - Methodology
 - Sampling information
 - Original data source citation
 - Analysis software version
- ✓ Link to related research products





- Check for undocumented variable and value information
- Examine data for inconsistencies and errors
 - Discrepancies in number of observations
 - Out-of-range or wild codes
 - Undefined null values
- Review data for confidentiality issues





- Convert absolute file paths to relative file paths
- Check code for presence of non-executable comments that document analysis processes
- ✓ Identify packages required to execute code
- Execute code to ensure code is error-free
- Compare code output to findings presented in article



Typical ISPS processing steps

- 1. Assign staff to study and files
- 2. Move original files to Archive space
- 3. Make copies of processed files and move to collaborative space
- 4. Identify related publications and projects
- 5. Rename all copied files for public dissemination according to ISPS Data Archive naming conventions
- 6. Check and complete variable-level metadata for each data file
- 7. Compare variable information, check for additional variables and recoded variables, check variable/value labels
- 8. Check all files for confidential and other sensitive information
- 9. Run the statistical code and check against published results
- 10.Re-write statistical code in R and check replication
- 11.Communicate with PI as needed
- 12.Create new DDI-XML file with variable-level information
- 13.Create additional files by converting to readable formats (e.g., ASCII, PDF)
- 14.Update study- and file-level metadata record
- 15.Update tracking documents: process record / general study database / status document ... and now share the data!















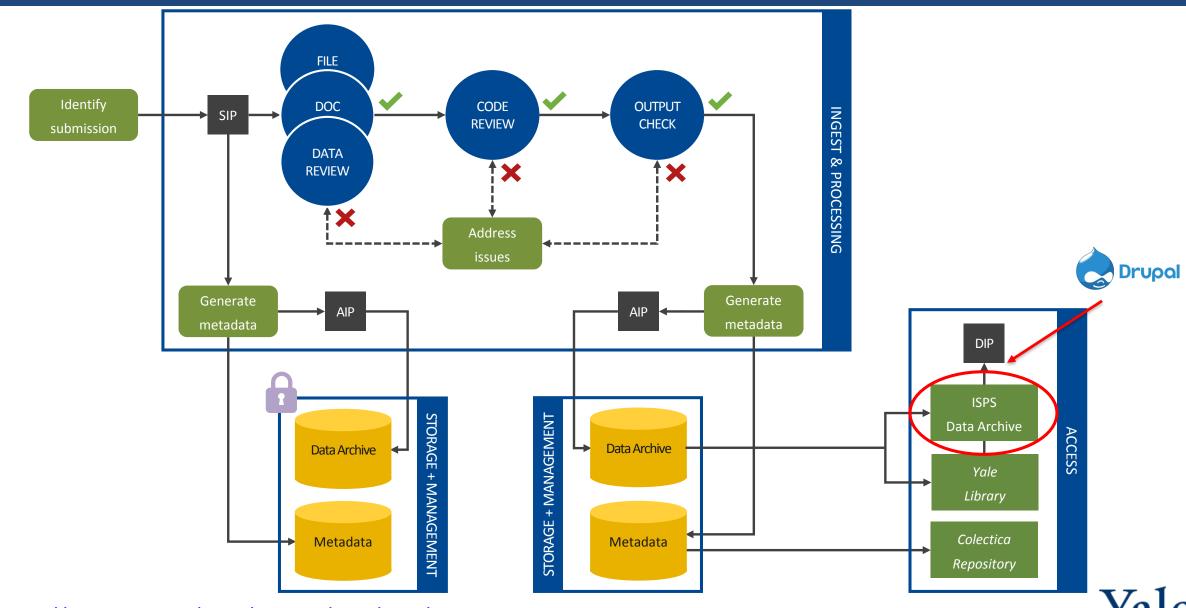








Curating for Reproducibility at ISPS



YARD: Yale Application for Research Data

A new workflow tool that allows Depositors, Curators, and Administrators to submit, review, process, and publish data within one system.

The software structures the curation and review workflow and all actions are recorded in the system.

The tool integrates and captures DDI metadata production with data and code review and cleaning.

Processed data packages are directed to pre-specified destinations.









Yale Application for Research Data

Log in				
Yale ∠ ISPS				
Log in to the ISPS Data Curation Tool with your username and password.				
Don't have a ISPS Data Curation Tool account? Create an account.				
Email				
Password				
Remember me				
Log in				
Forgot your password?				



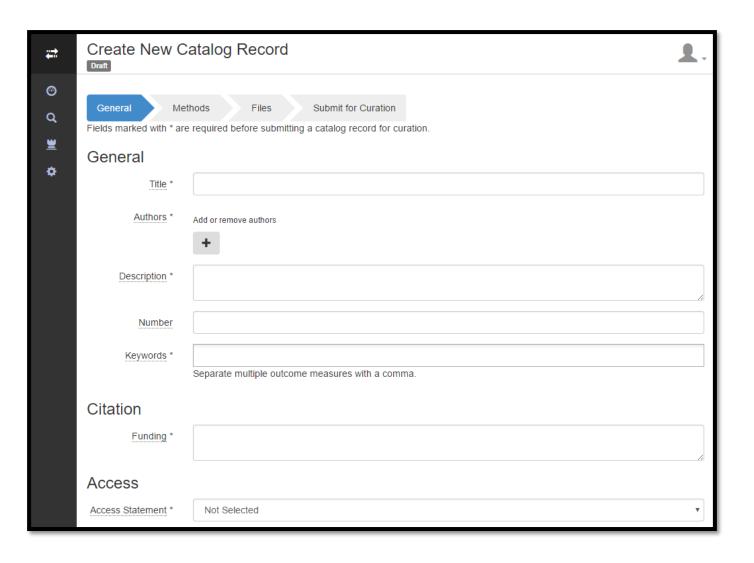
Documentation: https://docs.colectica.com/curation/

Three roles:

- Depositor: Any User
- Curator: Trained Archive Staff
- Administrator/Approver: Archive Manager



Data Deposit

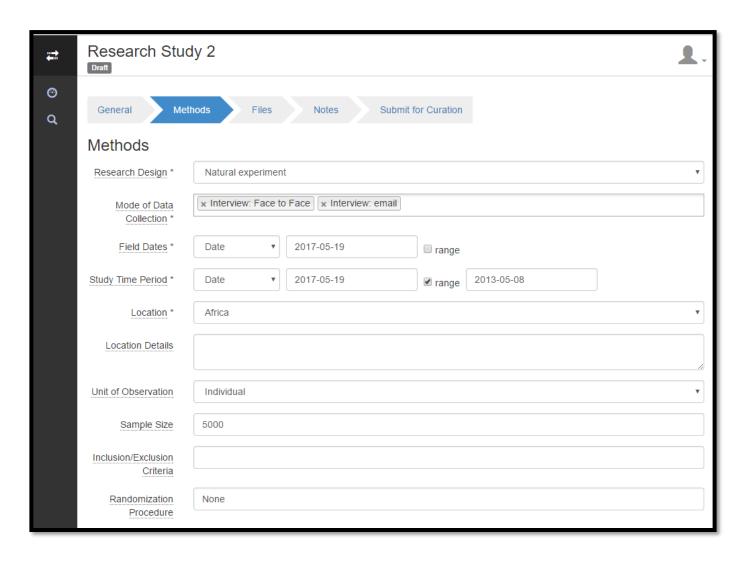


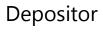


Curator Approver



Data Deposit

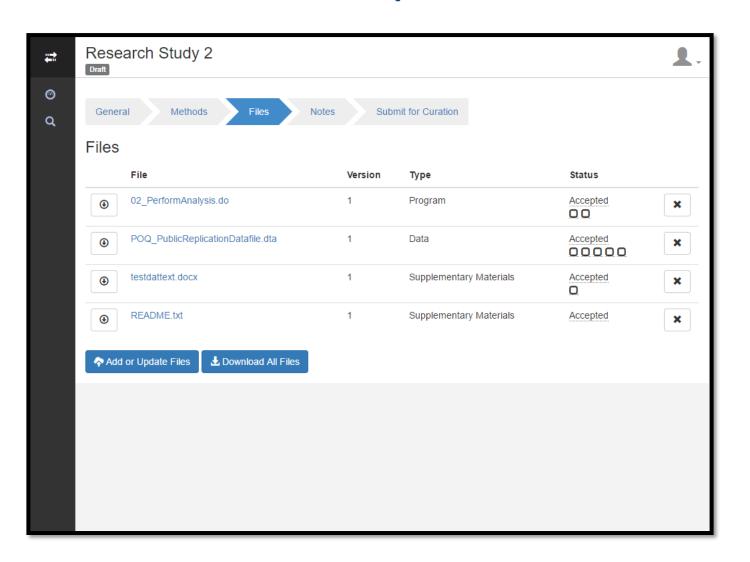




Curator Approver



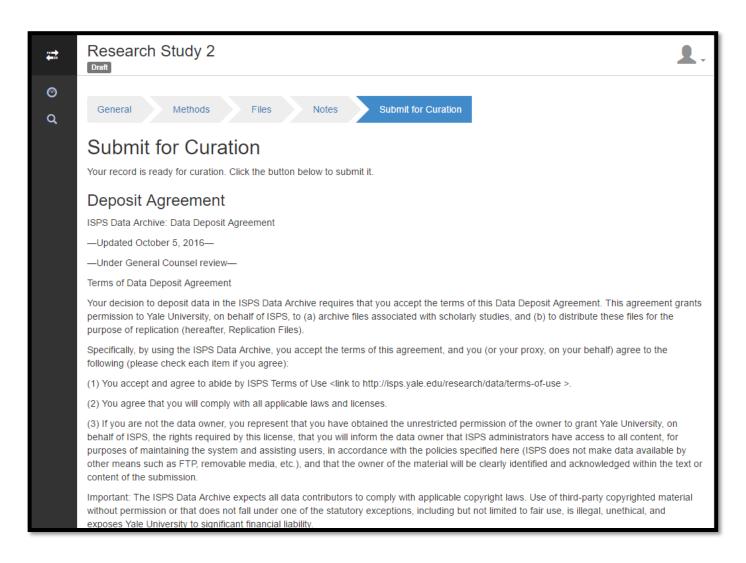
Data Deposit







Data Deposit

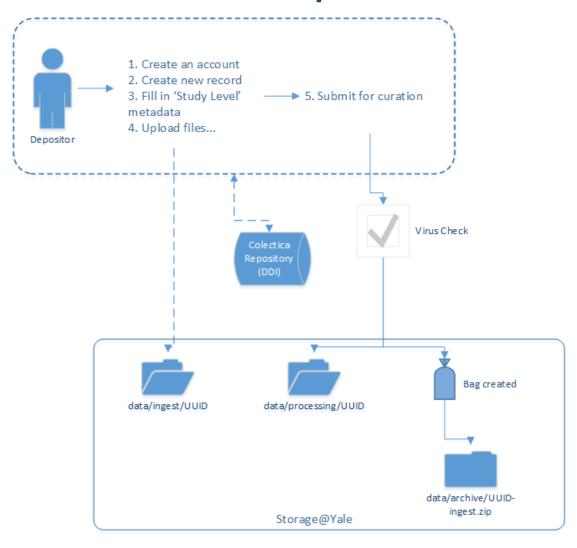




Curator

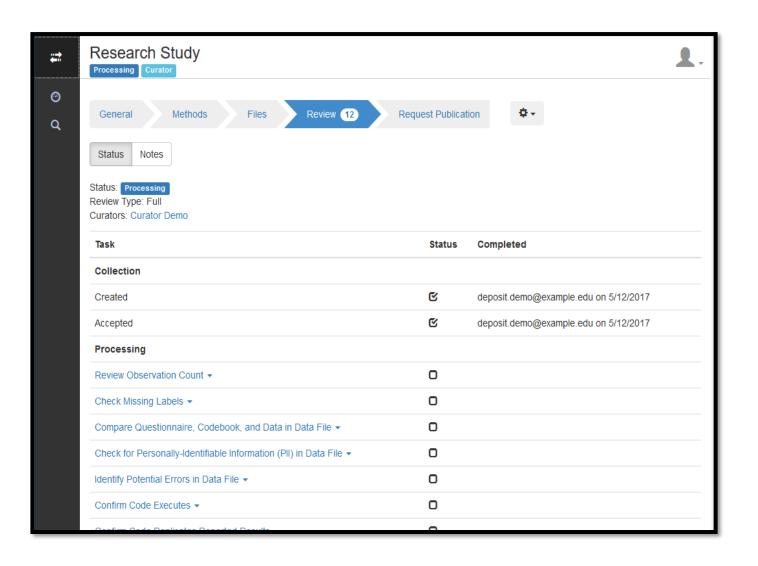


Data Deposit





Data Curation

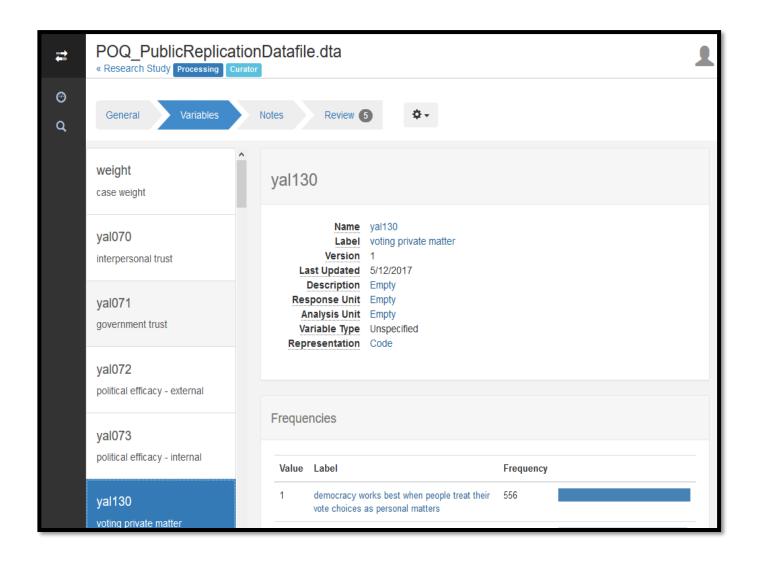


Depositor

Curator



Data Curation

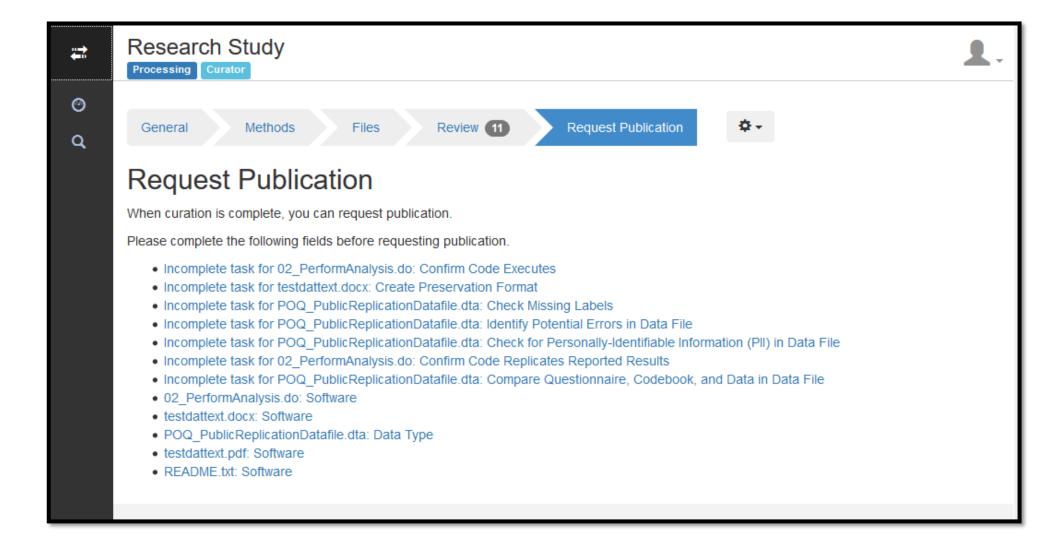


Depositor

Curator



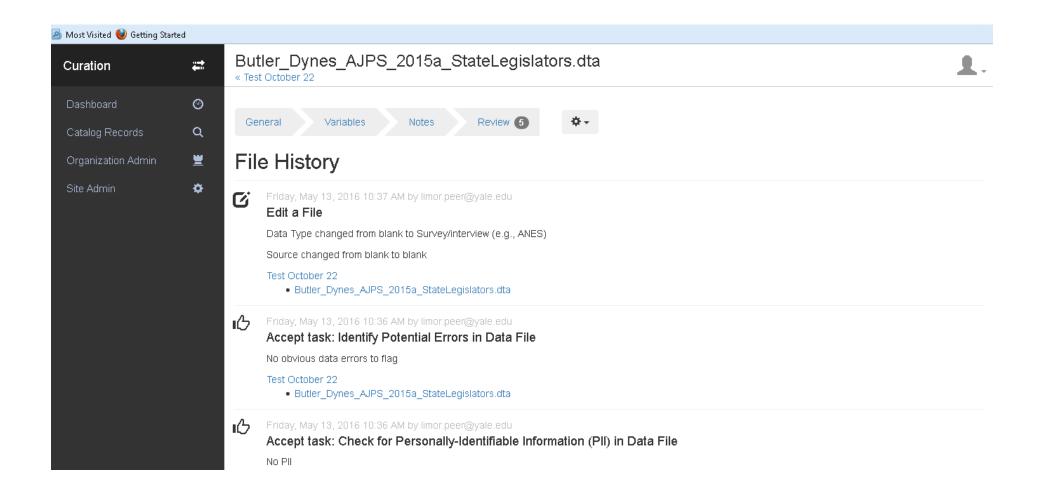
Data Curation



Depositor Curator



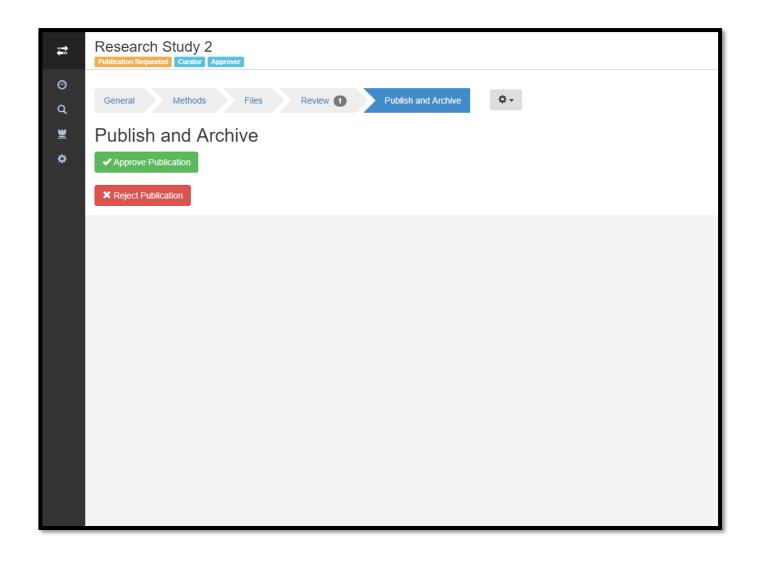
Data Publication



Depositor Curator Approver



Data Publication

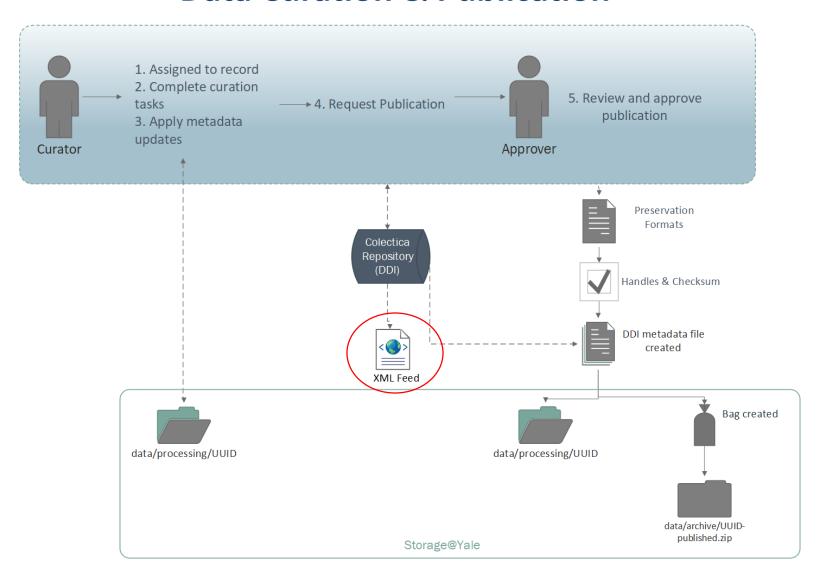


Depositor Curator

Approver

Yale

Data Curation & Publication





XML Feed

```
▼<publishedCatalogRecords>
 ▼ < Record>
     <Guid>a5e1a0ef-b84e-446c-bd5d-1a8541333123</Guid>
      Did Shy Trump Supporters Bias the 2016 Polls? Evidence from a Nationally-representative List Experiment
    </Title>
     <Author>Alexander Coppock</Author>
     <Owner/>
    ▼<Description>
       Explanations for the failure to predict Donald Trump's win in the 2016 Presidential election sometimes include the "Shy Trump Supporter" hypothesis, according to which some
      Trump supporters succumb to social desirability bias and hide their vote preference from pollsters. I evaluate this hypothesis by comparing direct question and list
       experimental estimates of Trump support in a nationally representative survey of 5,290 American adults fielded from September 2 to September 13, 2016. Of these, 32.5% report
       supporting Trump's candidacy. A list experiment conducted on the same respondents yields an estimate 29.6%, suggesting that Trump's poll numbers were not artificially
       deflated by social desirability bias as the list experiment estimate is actually lower than direct question estimate. I further investigate differences across measurement
       modes for relevant demographic and political subgroups and find no evidence in support of the "Shy Trump Supporter" hypothesis.
     </Description>
     <StudyID>D149</StudyID>
    <StudyIDLower>d149</StudyIDLower>
    ▼<RelatedPublication>
      Did Shy Trump Supporters Bias the 2016 Polls? Evidence from a Nationally-representative List Experiment
    </RelatedPublication>
    <RelatedProject>none</RelatedProject>
    <RelatedDatabase>none</RelatedDatabase>
    <keywords>List Experiment,Election Polling</keywords>
     <CreateDate>2017-06-30T14:36:30.247</CreateDate>
     <ResearchDesign>Survey experiment</ResearchDesign>
     <DataType>Survey/interview (e.g., ANES)
     <DataSource>Author</DataSource>
     <DataSourceInformation>isps(at)yale(dot)edu</DataSourceInformation>
    <CatalogRecordDataType>Survey/interview (e.g., ANES)</CatalogRecordDataType>
     <CatalogRecordDataSource>Author</CatalogRecordDataSource>
     <CatalogRecordDataSourceInformation/>
    <PersistentId/>
    <FieldDates>2016-09</FieldDates>
    <Location>United States/Location>
    <LocationDetails>United States/LocationDetails>
    <UnitOfObservation>Individual</UnitOfObservation>
    <SampleSize>5290</SampleSize>
    <InclusionExclusionCriteria>18+</InclusionExclusionCriteria>
    <RandomizedProcedure>Simple random assignment</RandomizedProcedure>
     <Treatment>treatment and control list</Treatment>
     <TreatmentAdministration>Web delivered</TreatmentAdministration>
     <OutcomeMeasures>Number of things a respondent "would do"</OutcomeMeasures>
     <ArchiveDate>2017-12-13T00:00:00
```



Study Level

```
▼<publishedCatalogRecords>
 ▼ <Record>
    <Guid>a5e1a0ef-b84e-446c-bd5d-1a8541333123</Guid>
   ▼<Title>
      Did Shy Trump Supporters Bias the 2016 Polls? Evidence from a Nationally-representative List
      Experiment
    </Title>
    <Author>Alexander Coppock</Author>
    <Owner/>
   ▼<Description>
      Explanations for the failure to predict Donald Trump's win in the 2016 Presidential election
      sometimes include the "Shy Trump Supporter" hypothesis, according to which some Trump
      supporters succumb to social desirability bias and hide their vote preference from pollsters.
      I evaluate this hypothesis by comparing direct question and list experimental estimates of
      Trump support in a nationally representative survey of 5,290 American adults fielded from
      September 2 to September 13, 2016. Of these, 32.5% report supporting Trump's candidacy. A
      list experiment conducted on the same respondents yields an estimate 29.6%, suggesting that
      Trump's poll numbers were not artificially deflated by social desirability bias as the list
      experiment estimate is actually lower than direct question estimate. I further investigate
      differences across measurement modes for relevant demographic and political subgroups and
      find no evidence in support of the "Shy Trump Supporter" hypothesis.
     </Description>
    <StudyID>D149</StudyID>
    <StudyIDLower>d149</StudyIDLower>
   ▼<RelatedPublication>
      Did Shy Trump Supporters Bias the 2016 Polls? Evidence from a Nationally-representative List
      Experiment
    </RelatedPublication>
    <RelatedProject>none</RelatedProject>
    <RelatedDatabase>none</RelatedDatabase>
    <keywords>List Experiment,Election Polling</keywords>
    <CreateDate>2017-06-30T14:36:30.247</CreateDate>
     <ResearchDesign>Survey experiment</ResearchDesign>
    <DataType>Survey/interview (e.g., ANES)
     <DataSource>Author</DataSource>
    <DataSourceInformation>isps(at)yale(dot)edu </DataSourceInformation>
     <CatalogRecordDataType>Survey/interview (e.g., ANES)</CatalogRecordDataType>
    <CatalogRecordDataSource>Author</CatalogRecordDataSource>
    <CatalogRecordDataSourceInformation/>
    <PersistentId/>
    <FieldDates>2016-09</FieldDates>
    <Location>United States</Location>
    <LocationDetails>United States/LocationDetails>
```

HOME > RESEARCH > DATA

Did Shy Trump Supporters Bias the 2016 Polls? Evidence from a Nationally-representative List Experiment

ISPS Data Archive: Terms of Use

By using, contributing, and/or downloading files associated with scholarly studies available on the ISPS Data Archive, you agree to these terms and conditions.

Please read the ISPS Data Archive Terms of Use.

Author(s): Alexander Coppock

Suggested citation:

Alexander Coppock (2017). replication materials for, 'Did Shy Trump Supporters Bias the 2016 Polls? Evidence from a Nationally-representative List Experiment.'

http://hdl.handle.net/10079/zw3r2f9. ISPS Data Archive.

ISPS ID: D149

Related publications:

<u>Did Shy Trump Supporters Bias the 2016 Polls? Evidence from a Nationally-</u>

representative List Experiment

Keyword(s): List experiment

Election Polling

Research design: <u>Survey experiment</u>

Data type: Survey/interview (e.g., ANES)



```
▼<FileElement>
 ▼<File>
    <id>35c2543f-124b-4410-942a-5c2c48a02360</id>
    <FileSize>519</FileSize>
    <FileUrl http://hdl.handle.net/10079/z34tn2k/FileUrl>
    <FileNumber>D149F01</FileNumber
    <FileDescription>ReadMe file</FileDescription>
    <FileFormat>.txt</FileFormat>
    <PublicFile>1</PublicFile>
    <CatalogRecordId>D149</CatalogRecordId>
  </File>
 ▼<File>
    <id>3ac6bb4f-8c10-4d2b-aa20-993cb38396fc</id>
    <FileSize>26771</FileSize>
    <FileUrl>http://hdl.handle.net/10079/jsxkt0z</FileUrl>
    <FileNumber>D149F04</FileNumber>
    <FileDescription>Metadata (DDI 3.2)/FileDescription>
    <FileFormat>.xml</FileFormat>
    <PublicFile>1</PublicFile>
    <CatalogRecordId>D149</CatalogRecordId>
   </File>
 ▼<File>
    <id>02e67b9a-9383-4653-a6e9-c1d8fd6bef4a</id>
    <FileSize>481797</FileSize>
    <FileUrl>http://hdl.handle.net/10079/tb2rc20</FileUrl>
    <FileNumber>D149F02</FileNumber>
    <FileDescription>Data file/FileDescription>
    <FileFormat>.csv</FileFormat>
    <PublicFile>1</PublicFile>
    <CatalogRecordId>D149</CatalogRecordId>
  </File>
 ▼<File>
    <id>e4aca988-2b09-4288-8a5a-dfa6cddfdbcb</id>
    <FileSize>11384</FileSize>
    <FileUrl>http://hdl.handle.net/10079/pk0p31f</FileUrl>
    <FileNumber>D149F03</FileNumber>
    <FileDescription>Program file</FileDescription>
    <FileFormat>.r</FileFormat>
    <PublicFile>1</PublicFile>
    <CatalogRecordId>D149</CatalogRecordId>
   </File>
 </FileFlement>
```

File Level

DATA FILE NUMBER	DESCRIPTION	FILE FORMAT	SIZE	FILE URL
D149F01	ReadMe file	.txt	519	Download file
D149F02	Data file	.csv	481797	<u>Download</u> <u>file</u>
D149F03	Program file	.r	11384	<u>Download</u> <u>file</u>
D149F04	Metadata (DDI 3.2)	.xml	26771	<u>Download</u> <u>file</u>



Required Modules

₫	Field Collection Feeds	7.x-1.0- alpha4	Provides feeds integration for field collection. Requires: Field collection (enabled), Entity API (enabled), Feeds (enabled), Chaos tools (enabled), Job Scheduler (enabled) Required by: Drupal (Feeds is currently using this module for one or more importers)
₽	Field Validation	7.x-2.6	Add validation rules to fields. Requires: Field (enabled), Field SQL storage (enabled), Token (enabled), Chaos tools (enabled) Required by: Field validation extras (disabled), Field Validation UI (enabled)
	Field validation extras	7.x-2.6	Extra validators for Field validation 7.x-2.x. Requires: Field Validation (enabled), Field (enabled), Field SQL storage (enabled), Token (enabled), Chaos tools (enabled)
•	Field Validation UI	7.x-2.6	UI for Field Validation. Requires: Field Validation (enabled), Field (enabled), Field SQL storage (enabled), Token (enabled), Chaos tools (enabled)
			Provides a mechanism for modules to automatically generate aliases for the content they manage

Requires: Path (enabled), Token (enabled)

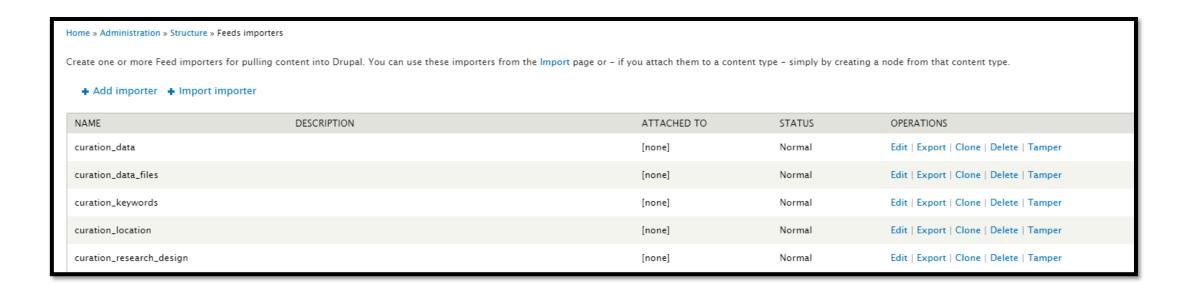
projects (enabled)

Required by: Cultura (disabled), Easy Breadcrumb (disabled), ELTI General (disabled), Yale Common (enabled),



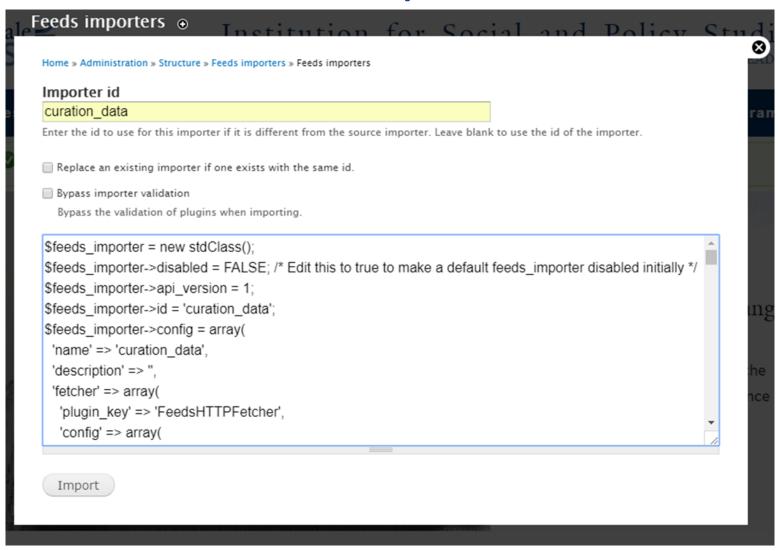
Pathauto

Feeds Importers





Feeds Importers





```
'processor' => array(
  'plugin_key' => 'FeedsNodeProcessor',
  'config' => array(
    'expire' => '-1',
    'author' => 0,
    'authorize' => 1,
    'mappings' => array(
      0 => arrav(
        'source' => 'xpathparser:0',
        'target' => 'title',
        'unique' => FALSE,
        'language' => 'und',
      1 => arrav(
        'source' => 'xpathparser:28',
        'target' => 'field_data_isps_id',
        'unique' => 1.
        'language' => 'und',
      2 \Rightarrow array(
        'source' => 'xpathparser:1',
        'target' => 'field_data_keywords',
        'unique' => FALSE,
        'language' => 'und',
```

Mapping to Drupal

Home » Administration » Structure » Feeds importers » curation_data

Settings

Change

Basic settings

Processor

Attached to: [none]
Periodic import: every 1
day
Import on submission

Fetcher Change

HTTP Fetcher	Settings
Download content from a	_
URL.	

Parser Change

XPath XML parser Settings

XPath XML parser Settings
Parse XML using XPath.

Node processor Settings
Create and update Mapping
nodes.

Mapping for Node processor

Define which elements of a single item of a feed (= *Sources*) map to which content pieces in Drupal (= *Targets*). target can only occur once. E. g. only one item with the URL http://example.com/content/1 can exist.

SOURCE	TARGET
‡ xpathparser:0	Title (title)
+ xpathparser:28	ISPS ID (field_data_isps_id)
** xpathparser:1	Keyword(s) (field_data_keywords)
+ xpathparser:29	Author(s) (field_data_authors)
‡ xpathparser:30	Owner (field_data_owner)
* xpathparser:2	Location (field_data_location)
+ xpathparser:5	Research design (field_data_research_design)

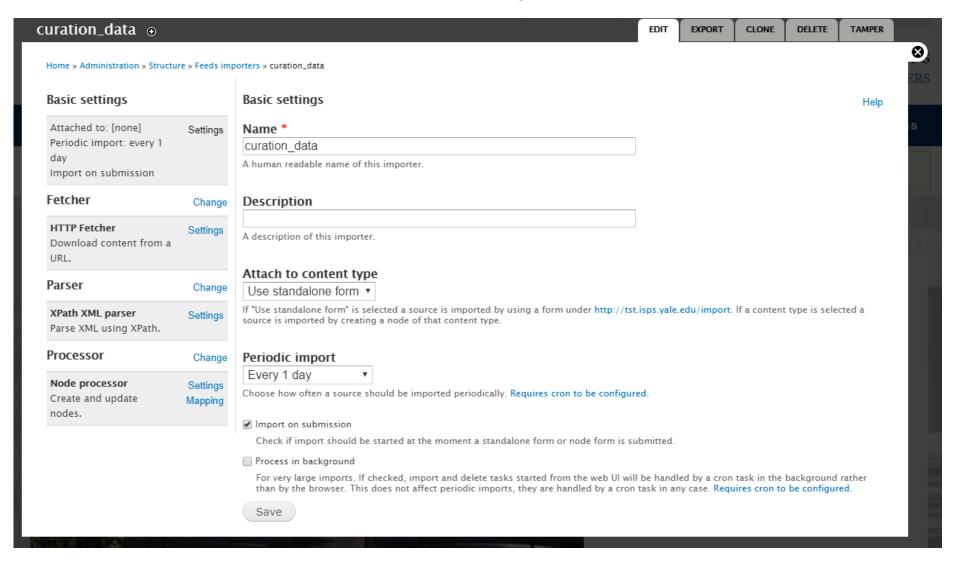


Mapping Issues

RELATED DATABASE FIELD SETTINGS		
These settings apply to the <i>Related database</i> field everywhere it is used. Because the field alre		
Number of values 1 Maximum number of values users can enter for this field.		
'Unlimited' will provide an 'Add more' button so the users can add as many values as they like.	FIELD DATE FIELD SETTINGS	
Maximum length * 255 The maximum length of the field in characters. Save settings	These settings apply to the <i>Field date</i> field everywhere it is used. Because the field already has data, some settings can no longer be changed. Number of values v	
	Cache dates Date objects can be created and cached as date fields are loaded, rather than when they are dis	played, to improve performance.



Schedule Importers





YARD Work: Data Archiving and Publishing at Yale

Limor Peer
Joshua Dull
Themba Flowers

<u>limor.peer@yale.edu</u>

joshua.dull@yale.edu

themba.flowers@yale.edu



Technical Components & Support at Yale

Yale ITS

- Hardware Windows Server (VM), 32GB RAM minimum (8 Cores), 100GB local disk for OS, applications and swap files
- Software Colectica repository, statistical software, integrated APIs
- Storage storage@yale start at 500GB read, write, no-execute access to one or more directories
- Application hosting WCF application and ASP.NET MVC web application on IIS, plus a SQL Server database (10GB), a Windows Service
- Security Federated identification

Yale Library

- Persistent links handle service
- Long-term preservation Fedora Commons / Hydra*
- Discovery Blacklight*

