



(Less) Naked and (Less) Afraid: Giving Graduate Students the Clothes and Confidence for Data Success by Mandy Swygart-Hobaugh is licensed under a [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License](#).

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Kennesaw State University Library System



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This presentation draws from my chapter in the forthcoming edited volume,  
*Transforming Libraries for Graduate Students*, anticipated publication date sometime  
this year [2018].



The premise of the reality television show *Naked and Afraid* -- two people released into the wilderness, with no clothing and minimal supplies, tasked with surviving for 21 days -- is an apt analogy for the experience of greenhorn graduate students:

Dropped into an unfamiliar academic wilderness with little to no survival skills, in a fleeting two-to-five years they are expected to emerge holding graduate degrees.

GRADS are...  
**NAKED AND AFRAID**

- often have minimal to no experience collecting and analyzing data (be it quantitative or qualitative), a requisite for completing theses or dissertations.
- are crunched for time and typically lack monetary resources, thus prohibiting ambitious collections of new data and often necessitating reliance on existing data sources for their own original analysis.
- are often expected as research assistants to perform data collection, management, and analysis tasks to support faculty research on top of their own.
- are, understandably, hesitant to admit any ignorance to their faculty, with the fear of looking 'stupid' looming over them and thus hindering their academic growth.

But graduate students:

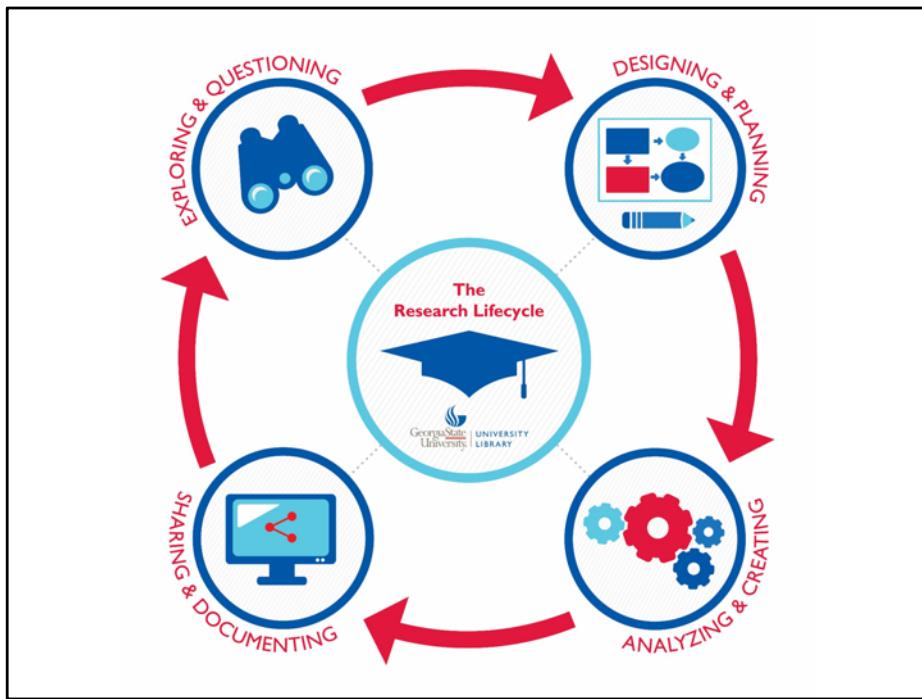
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- are often expected as research assistants to perform data collection, management, and analysis tasks to support faculty research on top of their own.
- are, understandably, hesitant to admit any ignorance to their faculty, with the fear of looking 'stupid' looming over them and thus hindering their academic growth.

As such, graduate students need targeted and expedited guidance in data discovery, collection, management, visualization, and analysis. Ideally, these needs would be primarily filled by the disciplinary faculty. However, faculty are often stretched thin in providing the comprehensive data-related support that graduate students need. Consequently, academic libraries are increasingly stepping up to support floundering graduate students in these areas.

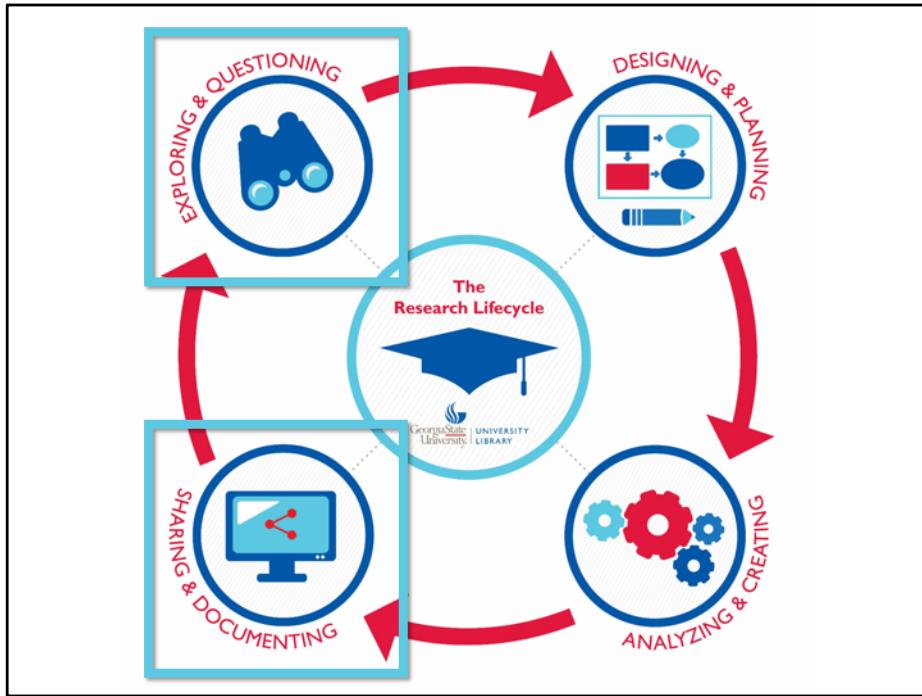


I will present

- (1) an overview of the services Georgia State University Library's Research Data Services Team offers to help graduate students (and all campus researchers) with their data needs, and
- (2) an examination of one year of data services consults with graduate students that further elucidates their pressing data needs and how my Library is endeavoring to meet those needs.

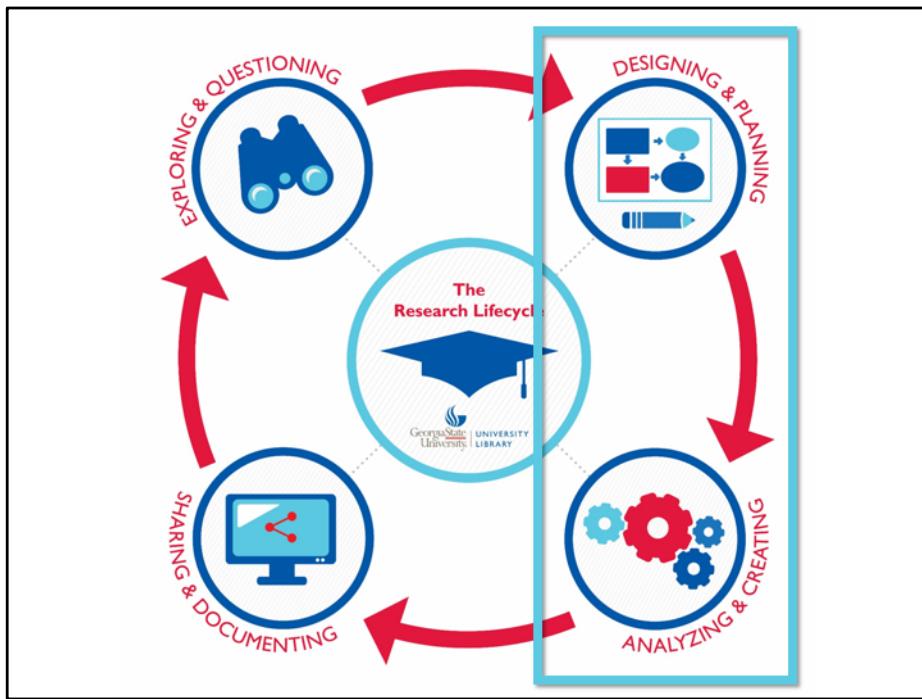


Georgia State University Library has identified as a strategic intention the development of library services for all levels of campus researchers across the entire research lifecycle. Drawing from other academic libraries' conceptualizations of the research lifecycle, the Georgia State University Library created its own rendition seen here.



Academic libraries are well known for supporting the *exploring and questioning* phase of the research lifecycle (e.g., aiding undergraduates, graduate students, and faculty in finding secondary resources for research papers/literature reviews); subject liaison librarians like myself routinely dedicate significant support to this phase.

In terms of research data services, many academic libraries (mine included) have made forays into supporting researchers in the *sharing and documenting* phase, particularly in helping faculty write and fulfill data management plans for their grant funding proposals that enable sharing their data for replication and reuse purposes.



However, the Georgia State University Library recognized an increasing need on campus for support during the middle phases of the research process.

In our model of the research lifecycle and in terms of data services support, these middle phases involve researchers *designing and planning* their original research project (e.g., finding existing or collecting original data, exploring and learning appropriate data analysis tools) and *analyzing and creating* their data and research outputs (e.g., cleaning up messy data, performing data analysis, creating data visualizations).

There has been a gap in support in these phases at Georgia State University, and the Library developed our articulated research data services and our dedicated Research Data Services Team in July 2016 to fill this gap.

Moreover, our strategic intentions to cultivate data fluency among all students and to “develop a cutting-edge approach to academic library support of graduate students” intersect in our research data services targeted at and heavily used by graduate students.

## RDS@GSU Lib – The Team

### RESEARCH DATA SERVICES TEAM



Joel Glogowski  
Drop-In Hours



Joe Hurley  
Drop-In Hours



Mandy Swygart-Hobaugh  
Drop-In Hours



Shourya Paranjape  
Drop-In Hours



Kelsey Jordan  
Drop-In Hours



Raeda Anderson  
Drop-In Hours



Jennifer Jones



Spencer Roberts



Laura Carscadden

[research.library.gsu.edu/dataservices](http://research.library.gsu.edu/dataservices)

Over our first two years, the RDS Team has been comprised of 3-4 dedicated librarians (including myself) plus 3-4 affiliate librarians volunteering their time to offer specific services, and 1-3 graduate research assistants.

## RDS@GSU Lib – Our Services

**FINDING DATA**

**FINDING DATA**

- U.S. Census data 
- Social science data (ICPSR, qualitative data, & more) 
- Business data, consumer and marketing data, and international trade data 
- Bloomberg Terminal for real-time financial market data  

**DATA ANALYSIS TOOLS**

**DATA ANALYSIS TOOLS**

- Excel   
- R  
- SPSS 
- NVivo 
- Python programming language 
- Voyant for text analysis 
- Topic modeling and text mining 

[research.library.gsu.edu/dataservices](http://research.library.gsu.edu/dataservices)

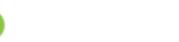
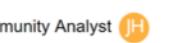
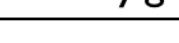
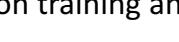
Our website details our five areas of support (accompanied by initials bubbles indicating the librarian(s) to contact for specific services). We offer assistance in:

- Finding existing data & statistics
- Training and support for various Data Analysis Tools

# RDS@GSU Lib – Our Services

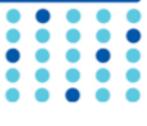
**MAPPING & DATA VISUALIZATION**

MAPPING & DATA VISUALIZATION

- ArcGIS & ArcGIS Online 
- Social Explorer & SimplyAnalytics  
- Geocoding services 
- Esri Story Maps  
- PolicyMap 
- Business Analyst & Community Analyst 
- Tableau data visualization    
- Data Visualization assistance 

**SURVEY DESIGN**

**SURVEY DESIGN**

- Qualtrics survey tool 
- Finding existing surveys and measurement scales for data collection 

**DATA MANAGEMENT**

**DATA MANAGEMENT**

- Assistance with writing data management plans for research funding grant proposals & managing data throughout the research lifecycle 

[research.library.gsu.edu/dataservices](http://research.library.gsu.edu/dataservices)

- Mapping & Data Visualization training and support
- Survey Design support, and
- Data Management assistance

## RDS@GSU Lib – Our Services

The calendar shows the following events:

- Monday 4/2:** 10am - 11am: JOE's drop-in assistance hours (orange box)
- Tuesday 4/3:** 12pm - 1pm: MANDY's drop-in assistance hours (pink box)
- Wednesday 4/4:** 1pm - 1pm: SHOURYA's drop-in assistance hours (red box)
- Wednesday 4/4:** 1pm - 2:30pm: SPSS 2: Analyzing Data (light blue box)
- Thursday 4/5:** 11am - 12pm: JOEL's drop-in assistance hours (green box)
- Thursday 4/5:** 12pm - 1pm: MANDY's drop-in assistance hours (pink box)
- Thursday 4/5:** 1pm - 2pm: JOE's drop-in assistance hours (orange box)
- Friday 4/6:** 10:30am - 12:30pm: R Programming 2: Data Analysis (light blue box)
- Friday 4/6:** 1pm - 2:30pm: NVivo 2 for Windows: Exploring Your Data (light blue box)

[research.library.gsu.edu/dataservices](http://research.library.gsu.edu/dataservices)

Our website also includes a calendar of our drop-in consultation hours and workshop offerings, and we've embedded a smaller calendar widget on several subject-specific LibGuides as well.

## RDS@GSU Lib – Our Guides

### RDS GUIDES

- |   |  |
|---|--|
| <p>➤ Guides for finding existing stats/data sources, including (1) finding social science quantitative and qualitative data; (2) assistance with identifying datasets in ICPSR; (3) finding international trade, consumer, and marketing data; and (4) assistance with using Bloomberg Terminals for real-time financial market data.</p> | <p>➤ Support for SPSS and NVivo<br/>➤ Data viz and GIS tools/support<br/>➤ Guide for Qualtrics survey tool help, links to specific IRB webpages for human-subjects research assistance, and tools for identifying existing surveys/measurement scales<br/>➤ Research Data Management tools/support</p> |
|---|--|

[research.library.gsu.edu/dataservices](http://research.library.gsu.edu/dataservices)

We have several tailored RDS guides linked from our primary website, including:

- guides for finding existing statistical/data sources, including (1) finding social science quantitative and qualitative data; (2) assistance with identifying datasets in ICPSR; (3) finding international trade, consumer, and marketing data; and (4) assistance with using Bloomberg Terminals for real-time financial market data;
- guides for SPSS statistical and NVivo qualitative analysis software support;
- guides for data visualization tools/resources generally and GIS tools/resources specifically;
- a guide with resources for Qualtrics survey tool assistance, links to specific institutional review board (IRB) webpages for human-subjects research assistance, and tools for identifying existing surveys/measurement scales;
- and a guide for data management tools/support.

## RDS@GSU Lib – Our Workshops

### WORKSHOPS – 98 from July '16 to April '18

#### FINDING DATA

- Finding International Economics and Business Data
- Market Analysis Resources for Small Businesses and Entrepreneurs
- Finding Datasets with ICPSR

#### SURVEY DESIGN

- Qualtrics Essentials: Getting Started
- Qualtrics Surveys: Branch and Flow

We offer open workshops for all Georgia State University constituents.

This slide and the next two list the open workshops given since the RDS Team's inception in July 2016, mapped to the corresponding RDS areas of support. We've given 98 workshops in total thus far.

## RDS@GSU Lib – Our Workshops

### **MAPPING & DATA VIZ**

- Tools for Exploring and Visualizing US Demographic Change
- Creating Web Maps Using ArcGIS Online and Esri's Story Maps
- Geocoding Small or Very Large Sets of Addresses
- Tableau Data Visualization: Getting Started

### **DATA MANAGEMENT**

- OpenRefine for Cleaning and Organizing Data

## RDS@GSU Lib – Our Workshops

### **DATA ANALYSIS TOOLS**

#### **QUANTitative Data**

- SPSS Series (2 workshops)
- SAS Series (3 workshops)
- R Series (2 workshops)
- Stata: Getting Started
- Stats in the Real World [Excel]

#### **QUALitative Data**

- NVivo Series (2 workshops)
- The Logics and Logistics of Qualitative Research
- Text Analysis: Mind vs. Machine [NVivo and Voyant]

The workshops focused on data analysis and visualization tools (e.g., SPSS, Tableau, NVivo, R) generally are more heavily attended.

Although in our inaugural year we did not collect official data about attendee status, drawing from information informally gathered by workshop leaders, it is fair to say that the majority of attendees were and continue to be graduate students.

## RDS@GSU Lib – Custom Sessions

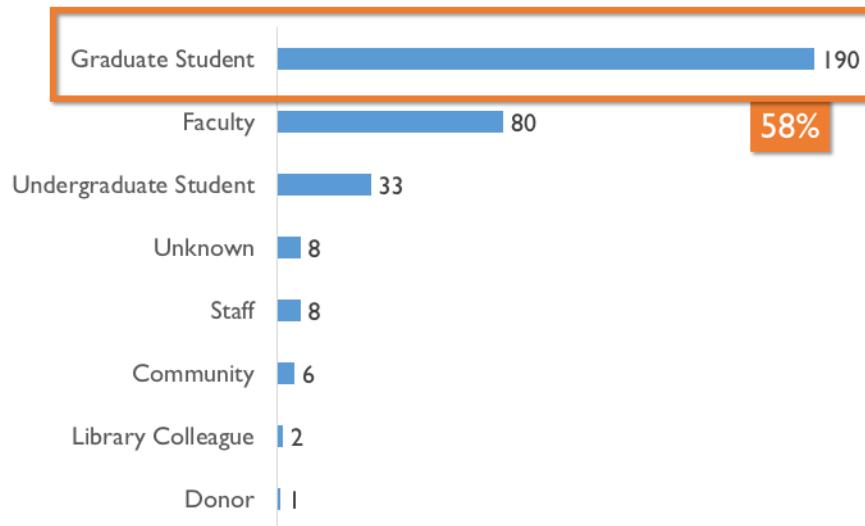
### CUSTOM SESSIONS for GRADS

- |  |  |
|--|--|
| <ul style="list-style-type: none"><li>➤ <b>NVivo</b> in qual methods classes for African-American Studies, Anthropology, Applied Linguistics &amp; ESL, Communications, Political Science, Public Health, and Sociology.</li><li>➤ <b>NVivo</b> group sessions and one-on-one consults with research assistants supporting faculty research projects in School of Nursing, School of Public Health, Global Studies Institute, and Gerontology Institute.</li></ul> | <ul style="list-style-type: none"><li>➤ <b>Social Explorer</b> for School of Social Work class.</li><li>➤ <b>Tableau</b> data viz software for School of Education grads.</li><li>➤ <b>SPSS</b> for Nursing PhD students.</li><li>➤ <b>ICPSR</b> for the Sociology multivariate data analysis class.</li><li>➤ <b>OpenRefine</b> for College of Business class on business intelligence.</li></ul> |
|--|--|

We also offer custom sessions for credit-bearing courses and for research teams, the latter often involving graduate students attending in their capacity as research assistants supporting faculty research projects.

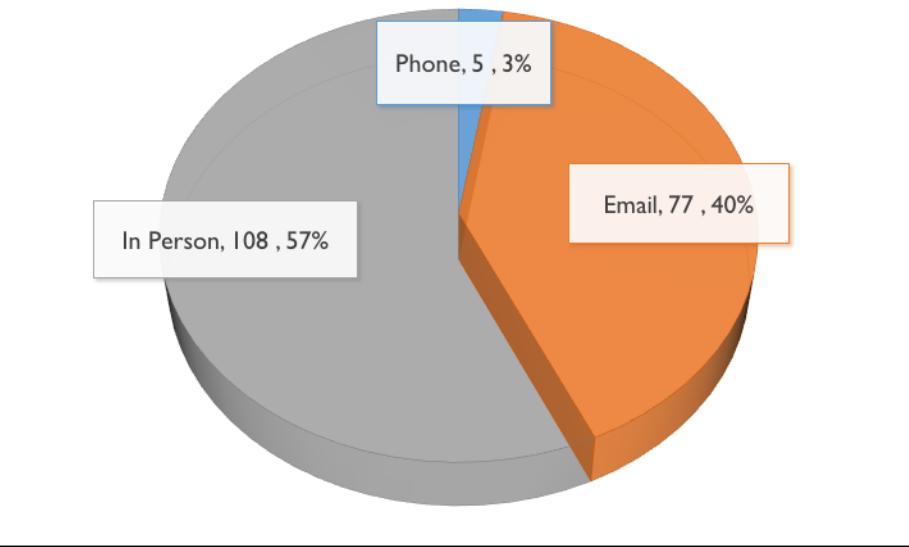
Here are examples of custom sessions given specifically to graduate students.

## RDS@GSU Lib – All Consults FY17



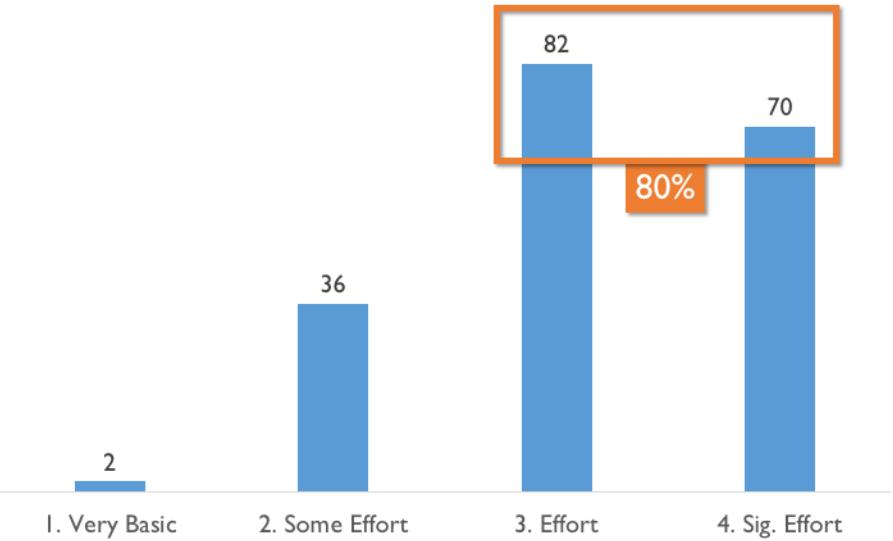
The RDS Team offers drop-in and scheduled consults, which we log using Springshare's LibInsights. For our inaugural year (July 1, 2016 to June 30, 2017), we logged a total of 328 data services consults, 190 (58%) of which were with graduate students – making them our most-served patron population in terms of data services consults our inaugural year.

## RDS@GSU Lib – Grad Consults FY17



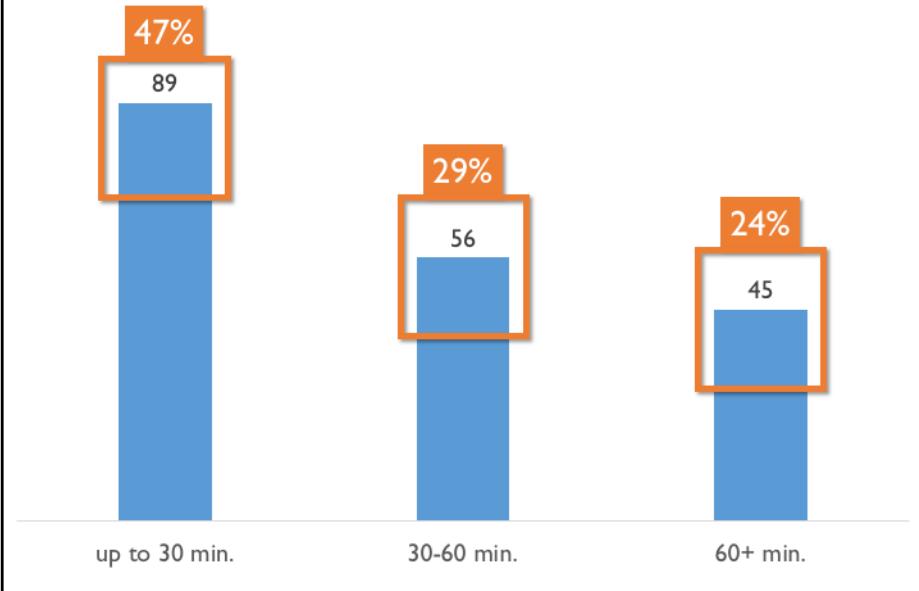
108 (57%) of the 190 graduate student data services consults were conducted in person, 77 (40%) were conducted via email, and a negligible 5 (3%) via phone.

## RDS@GSU Lib – Grad Consults FY17



We expended significant effort during our graduate student data services consults, with a combined 152 (80%) recorded as requiring “Level 3. Effort” and “Level 4. Significant effort” to conduct.

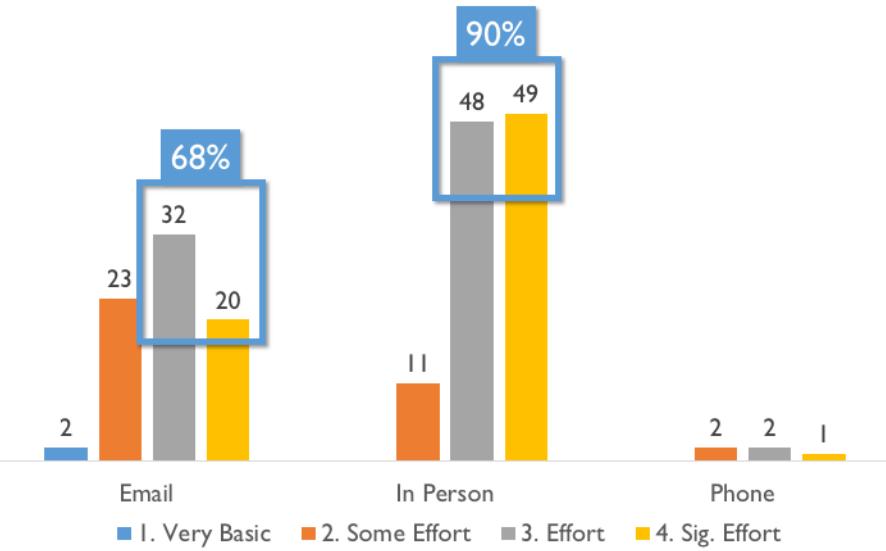
## RDS@GSU Lib – Grad Consults FY17



89 (47%) of our consults took 30 minutes or less to conduct, with 56 (29%) taking up to 60 minutes and 45 (24%) taking more than 60 minutes.

And, I can personally attest that for consults on analysis software such as NVivo or SPSS, it is not unusual for “60+ minute” consults to last upwards of two hours.

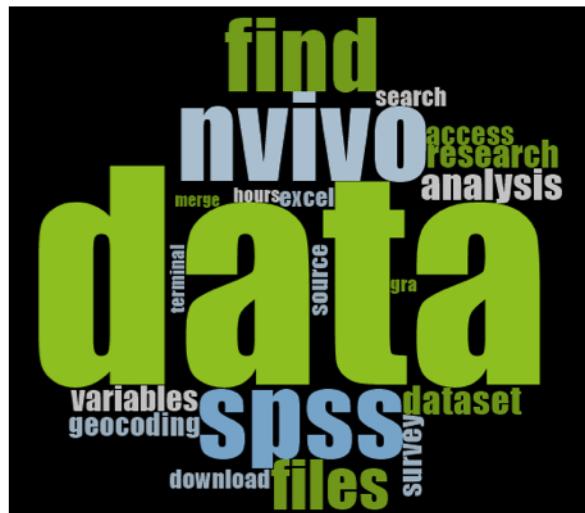
## RDS@GSU Lib – Grad Consults FY17



A combined 97 (90%) of our in-person consults were recorded as requiring “Level 3. Effort” and “Level 4. Significant effort” to conduct, which may come as no surprise.

However, that a combined 52 (68%) of our email consults required these upper levels of effort is interesting, as it indicates that data services consults via email can require intense troubleshooting, significant preparation, deep levels of knowledge, and detailed instruction – i.e., an email consult does not by default equate to less effort.

## Top 20 Words in Notes for Grad Consults FY17

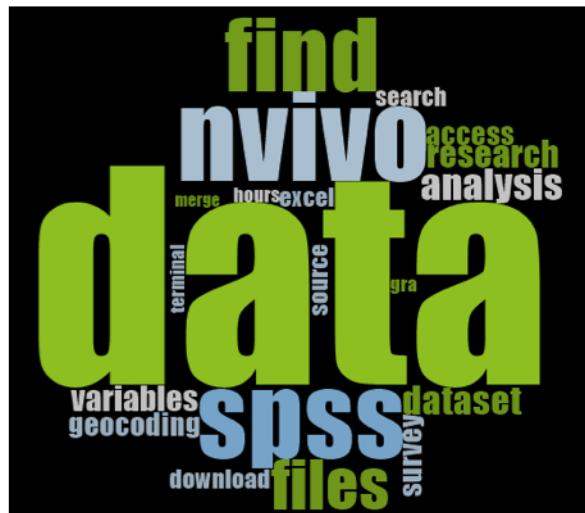


Word	Count
data	112
nvivo	49
spss	46
find	42
files	30
analysis	21
dataset	20
research	19
variables	18
survey	17
geocoding	17
access	17
excel	15
download	15
source	15
search	15
gra	13
hours	13
terminal	13
merge	12

The RDS Team records brief descriptions of consult topics in the notes field of our logged data services consults.

Using NVivo's word frequency query feature, I generated this list and word cloud of the top 20 substantive words that appeared in the notes field of the graduate student consults.

## Top 20 Words in Notes for Grad Consults FY17

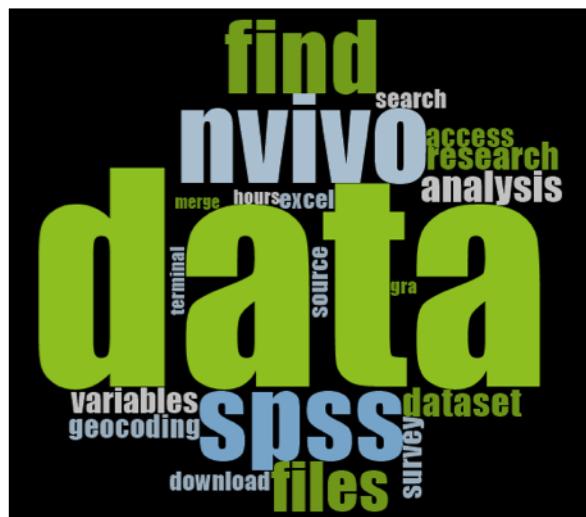


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While it is not surprising that ‘data’ occurred most frequently, that ‘NVivo’ and ‘SPSS’ were second and third in the ranking is revealing: it alludes to the predominance of graduate student consults involving data analysis software support.

Frequently-appearing words such as ‘files’, ‘analysis’, ‘variables’, ‘download’, and ‘merge’ when looked at in context also reveal that software support pervaded our consults with graduate students.

## Top 20 Words in Notes for Grad Consults FY17



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data	112
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search	15
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hours	13
terminal	13
merge	12

That 'find' appears fourth in the ranking, along with 'access' and 'search' appearing among the top 20 words, suggested that assisting graduate students with finding existing statistics and data sources was also common.

## RDS@GSU Lib – Grad Consults FY17

CATEGORY	# of CONSULTS	CATEGORY	# of CONSULTS
Find & Access Data (FD)	63	Analyze & Visualize Data (AD)	131
FD – GIS	4	AD – analysis help	8
FD – Qualitative	4	AD – Software	123
FD – Statistics	8	AD – OpenRefine	1
FD – Census Data	10	AD – Tableau	1
FD – Quant. Datasets	15	AD – Data Viz Tools	3
FD – Business	22	AD – SAS	4
		AD – Excel	7
		AD – Qualtrics	11
		AD – GIS	19
		AD – SPSS	34
		AD – NVivo	43

To approach manually coding/tagging the consults for data support services categories and subcategories, I read the topic notes field, initially coding the content to the five general areas of support discussed earlier. I then collapsed these into two broader categories – *Find & Access Data* and *Analyze & Visualize Data* – and maintained appropriate subcategories within them as warranted.

Note that the total number of consults reported here (194) exceeds the actual count (190) due to some consults being coded to multiple categories (e.g., a single consult might involve both finding and analyzing data).

## RDS@GSU Lib – Grad Consults FY17

CATEGORY	# of CONSULTS	CATEGORY	# of CONSULTS
Find & Access Data (FD)	63	33% (of 190) Data	131
FD – GIS	4	AD – analysis help	8
FD – Qualitative	4	AD – Software	123
FD – Statistics	8	AD – OpenRefine	1
FD – Census Data	10	AD – Tableau	1
FD – Quant. Datasets	15	AD – Data Viz Tools	3
FD – Business	22	AD – SAS	4
		AD – Excel	7
		AD – Qualtrics	11
		AD – GIS	19
		AD – SPSS	34
		AD – NVivo	43

The current literature notes that data services librarians commonly assist researchers in finding existing statistics and raw data sources for analysis and visualization purposes. Our logged consults confirm that we have played that role for graduate students, with 63 (33%) of our total 190 consults falling into the category of *Find & Access Data*.

Within this category, helping graduate researchers find business/market/financial data occurred the most frequently, with finding quantitative datasets and US Census data following close behind.

While the majority of consults within this category were students seeking existing data for their own research, a handful were graduate research assistants tasked with finding data or statistics for faculty research projects.

## RDS@GSU Lib – Grad Consults FY17

CATEGORY	# of CONSULTS	CATEGORY	# of CONSULTS
Find & Access Data (FD)	69% (of 190)	Analyze & Visualize Data (AD)	131
FD – GIS	4	AD – SPSS	34
FD – Qualitative	94% (of 131)	AD – NVivo	43
FD – Statistics	8	AD – OpenRefine	1
FD – Census Data	10	AD – Tableau	1
FD – Quant. Datasets	15	AD – Data Viz Tools	3
FD – Business	22	AD – SAS	4
		AD – Excel	7
		AD – Qualtrics	11
		AD – GIS	19
	63% (of 123)		

A noteworthy amount of our graduate student consults fit the category of *Analyze & Visualize Data*: 131 (69%) of the total 190. This category was almost exclusively comprised of software/tool assistance consults: 123 (94%) of the total 131 in this category. And, as was hinted by the word frequency query results, consults on using NVivo qualitative software and SPSS quantitative software predominated the *Analyze & Visualize Data* software subcategory.

I am the sole librarian giving NVivo consults, and I also gave many of the SPSS consults. As such, I can speak to the breadth of topics such consults can span: managing, organizing, and preparing both quantitative and qualitative data sources for analysis; capitalizing on the software features to perform analyses; advising on proper statistical tests to run; interpreting results of analyses; and visualizing the data for analysis and presentation purposes.

## RDS@GSU Lib – Grad Consults FY17

CATEGORY	# of CONSULTS	CATEGORY	# of CONSULTS
Find & Access Data (FD)	63	Analyze & Visualize Data (AD)	131
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		AD – Qualtrics	11
		AD – GIS	19
		AD – SPSS	34
		AD – NVivo	43

Similarly, the remaining eight consults in the *analysis help* subcategory of the *Analyze & Visualize Data* category involved questions about running particular statistical procedures or requests for resources to learn more about how to perform data analysis.

## What's Next?

GRADS are “enthusiastic data computing services consumers” (p. 290).



CATEGORY	# of CONSULTS
Analyze & Visualize Data (AD)	131
AD – analysis help	8
AD – Software	123
AD – OpenRefine	1
AD – Tableau	1
AD – Data Viz Tools	3
AD – SAS	4
AD – Excel	7
AD – Qualtrics	11
AD – GIS	19
AD – SPSS	34
AD – NVivo	43

Wang, Minglu. "Supporting the Research Process through Expanded Library Data Services." *Program: Electronic Library & Information Systems* 47, no. 3 (2013): 282–303.

Traditionally it is relatively uncommon for academic libraries to offer statistical consulting and analysis software/data computing services, so our making forays into this area is somewhat unprecedented. However, other data librarians have begun to advocate for expanding librarians’ roles in this direction – particularly when no other campus entity is meeting the demand, as is the case at Georgia State University – so we are not alone in pushing our boundaries. Moreover, and as Rutgers Libraries data librarians also experienced, graduate students at Georgia State University are definitely “enthusiastic data computing services consumers,” gauging from the amount of analysis software consults and from their attendance at workshops and custom sessions focused in this area. We have learned that a basic at minimum and, ideally, an advanced awareness of quantitative and qualitative analysis methods and procedures is necessary to expand library data services into analysis software support. I have a strong qualitative research background and, consequently, feel confident in advising on methods and procedures for analysis of qualitative data. I also feel comfortable providing basic-level statistical analysis advice. Responding to the perceived need for advanced-level quantitative analysis support and to enhance our capacity to assist campus researchers with data analysis software and statistical consulting, we’ve hired a newly-created Quantitative Data Specialist for the Social Sciences, whose first day is actually today [June 1, 2018].

## Thanks for what went peachy...now what about the pits?

- I know you can \*SIGN\* up for a workshop, but can you \*SHOW\* up...and on time?
- Balancing act of “I’m really here to teach you SPSS, not to teach you statistics, but...”



While our Team’s efforts have been deemed mostly successful, there are, of course, challenges we’re trying to overcome:

- If 50% of those signed up for a workshop actually show up, we consider that a good day. It makes planning a challenge, and is frustrating when you end up with a ‘full’ registration and a waitlist but don’t know what to tell the waitlisted people about their chances. Finding a way to improve our show-up rate would be nice. It would also be nice if people didn’t show up habitually late.
- We went into offering data analysis software support trying to draw a hard line of “we don’t provide analysis advice,” but we quickly learned taking this approach is challenging to maintain and adequately support our users’ needs – we’re still figuring out how to best balance these tensions.

## Thanks for what went peachy...now what about the pits?

- I know you can \*SIGN\* up for a workshop, but can you \*SHOW\* up...and on time?
- Balancing act of “I’m really here to teach you SPSS, not to teach you statistics, but...”
- When your SAS person quits.
- Time, time, time...
- Getting the word out.



- Maintaining consistent and sustainable services is also challenging when we tend to have individual librarians with unique skills – and, if they leave for somewhere else, then what? We *should* do more cross-training amongst our team to alleviate the threat of lost services, which leads to the next challenge...
- Currently every person providing data services support, including the ‘dedicated’ data services librarians, is also either a subject liaison librarian or has full responsibilities in another area (such as our Digital Scholarship Librarian and our Assessment & User Experience Librarian). Consequently, we are stretched thin in terms of cross-training and further building our data services support capacity.
- How to reach our users in the first place and then convince them that we’re capable of helping is perhaps the biggest challenge of all – in part because communication on our campus is always a challenge, but also because our researchers still do not necessarily think of the library when they think about getting help with all things data.



UNIVERSITY  
LIBRARY

...Making our Grads

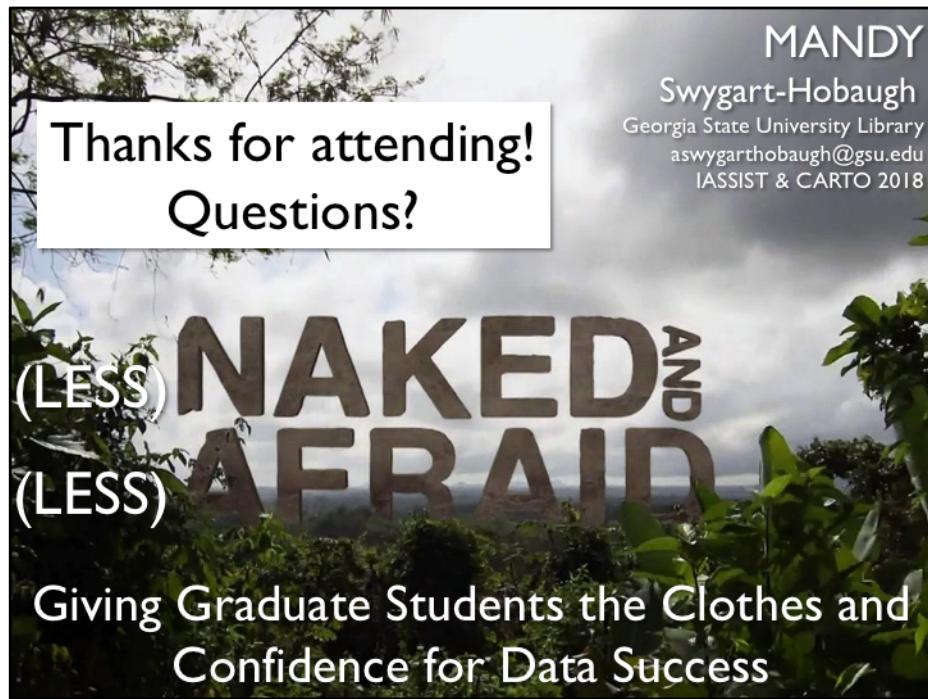


Georgia State graduate students are hungry for guidance in all things data, and I don't believe that the graduate experience at our institution is unique. We at the Georgia State University Library have carved out a lucrative niche supporting this specific student population that can serve as a model for other libraries considering expanding support in the area of data services.

In conclusion, this close look at one library's experience demonstrates the potential for academic librarians to focus data services efforts on this vulnerable student population, helping them gain the survival skills to feel less naked and less afraid so they may emerge from the graduate-school wilderness clothed and confident in their data-related abilities.

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Thank you!



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