Example report on synthetic data

This report is based on **synthetic** data from 27 participants representing affiliations with 21 schools or centers across the university.

Our respondents were affiliated with the following schools and varied in their rank:

Table 1: Number of Participants in Different Schools

School	N
Arts & Science	6
Dentistry	4
Global Public Health	3
Marron	2
Meyers	2
NYU Long Island Medicine	2
SPS	2
Steinhardt	2
Stern	2
Tandon	2
CDS	1
Courant	1
CUSP	1
Gallatin	1
ISA	1
Law	1
NYU Abu Dhabi	1
NYU Shanghai	1
Silver	1
Student Health Center	1
Wagner	1

Table 2: Number of Participants of Different Ranks

Rank	N
Professor	5
Associate Professor	4
Adjunct Professor	3
Assistant Professor	2
Director	2
Postdoctoral Fellow	2
Research Professor	2
Research Staff / Fellow	2
Student	2
Clinical Professor	1
Otherrank	1
Visiting Professor	1

Statistical Methodology

We asked respondents: Which of the following Statistical Methodology do you currently use in your work, need help with, or expect that you may need help with in the future? Respondents indicated:

Table 3: Statistical Methodology in Need

Statistical Methodology	N
Data Visualization	11
Preparing The Raw Data For Analysis	10
Model Interpretation	9
Preparation Of Statistical Grant Materials	9
Coding/Software Help	5
Model Selection And Specification	4
Research Design	4
Other	1
Simulation	1

Once a type of statistical methodology was selected, four sub-questions were posed pertaining to how much the respondent needed that particular skill. These questions were:

1. How often do you currently need to perform these tasks in your research?
2. To what extent do you think access to people who could help you with these tasks would help your research?
3. How hard is it for you to currently support someone to help you with these tasks through your grants?
4. How hard is it for you to currently find people to help you with these tasks?

The following pages outline how respondents answered each of these four questions, first in aggregate over all statistical methodology needs, and then with regards to each needed skill.

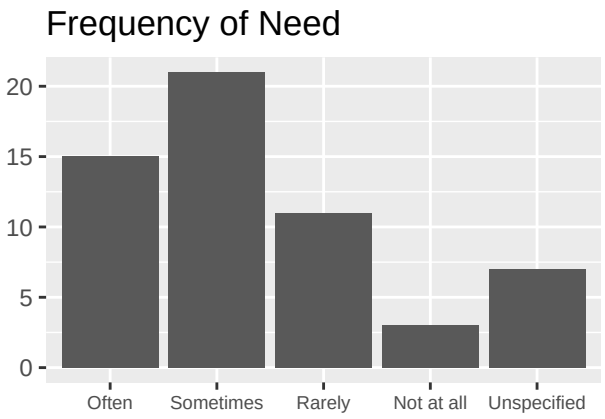
Statistical Methodology In General

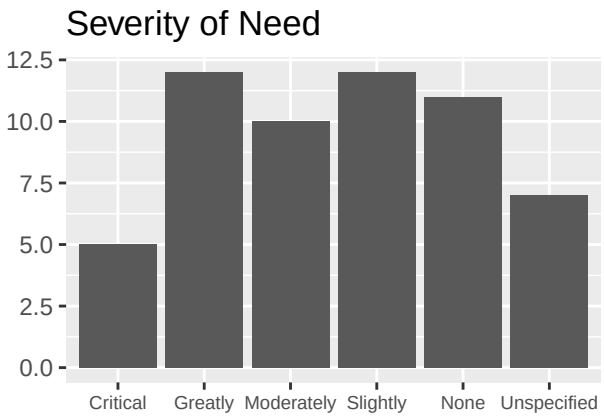
Frequency of Needs	N
Often	15
Sometimes	21
Rarely	11
Not at all	3
Unspecified	7

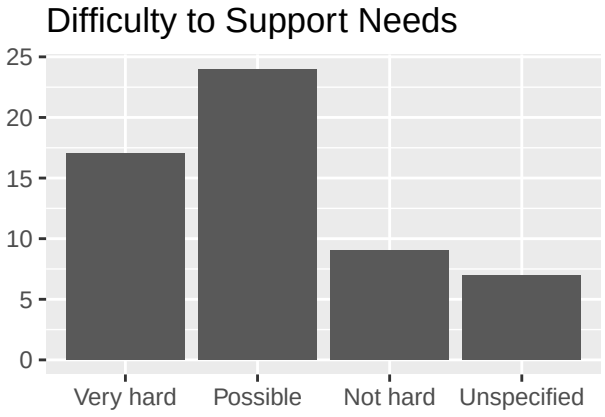
Severity of Needs	N
Critical to research	5
Greatly help	12
Moderately help	10
Slightly help	12
Not at all	11
Unspecified	7

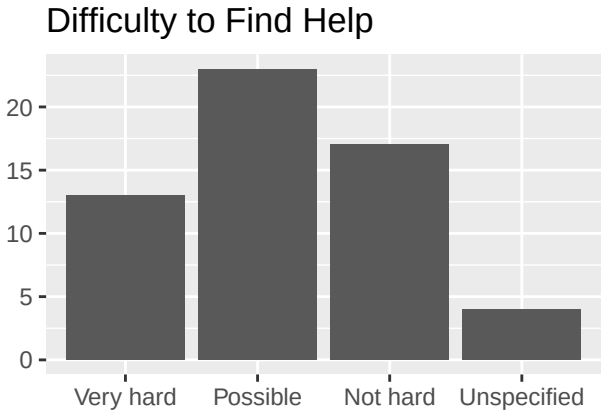
Difficulty to Support Needs	N
Very hard	17
Possible	24
Not hard	9
Unspecified	7

Difficulty to Find Help	N
Very hard	13
Possible	23
Not hard	17
Unspecified	4


Frequency of Need
20
15
10
5
0
Often
Sometimes
Rarely
Not at all
Unspecified


Severity of Need
12.5
10.0
7.5
5.0
2.5
0.0
Critical
Greatly
Moderately
Slightly
None
Unspecified


Difficulty to Support Needs
25
20
15
10
5
0
Very hard
Possible
Not hard
Unspecified


Difficulty to Find Help
20
15
10
5
0
Very hard
Possible
Not hard
Unspecified

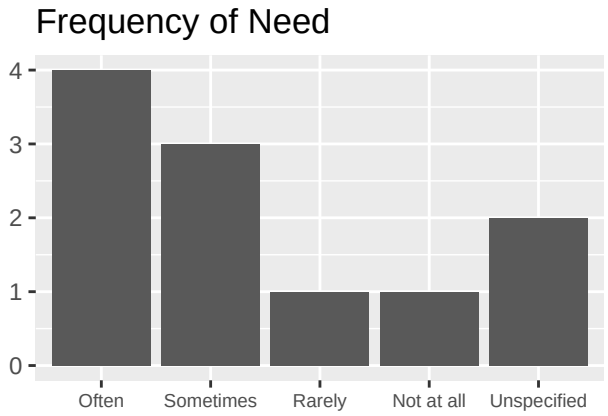
Data Visualization:

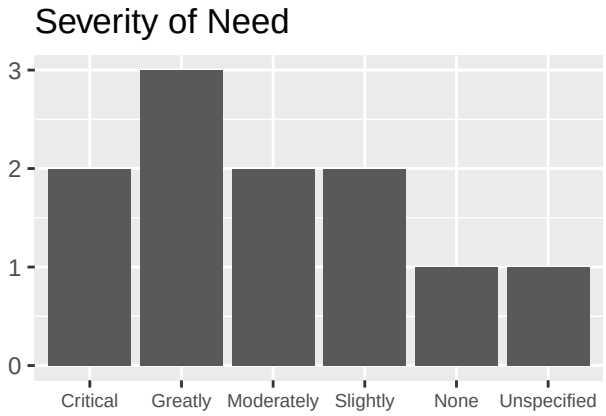
Frequency of Needs	N
Often	4
Sometimes	3
Rarely	1
Not at all	1
Unspecified	2

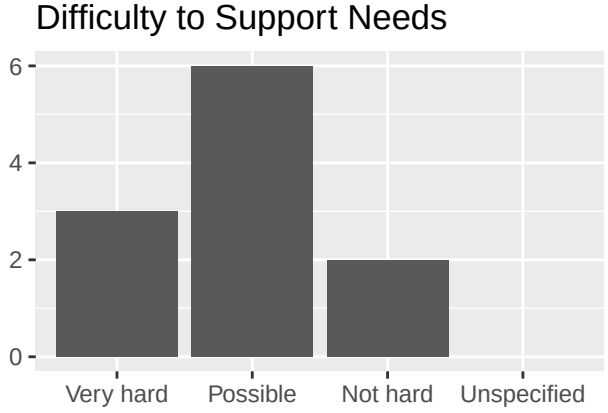
Severity of Needs	N
Critical to research	2
Greatly help	3
Moderately help	2
Slightly help	2
Not at all	1
Unspecified	1

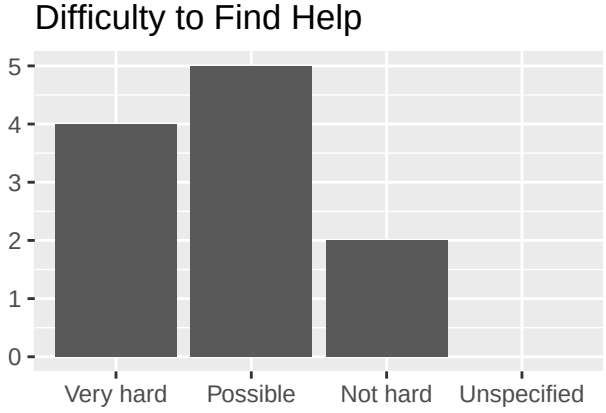
Difficulty to Support Needs	N
Very hard	3
Possible	6
Not hard	2
Unspecified	0

Difficulty to Find Help	N
Very hard	4
Possible	5
Not hard	2
Unspecified	0









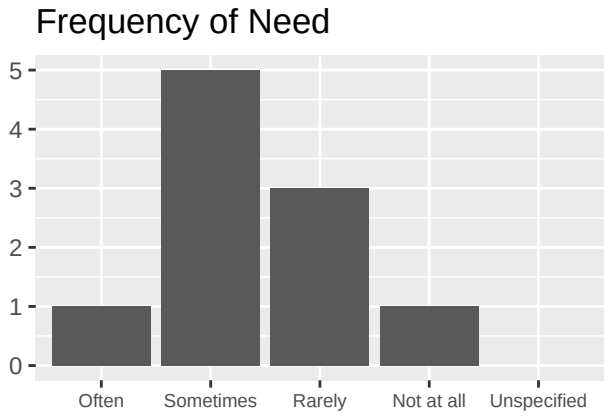
Preparing The Raw Data For Analysis:

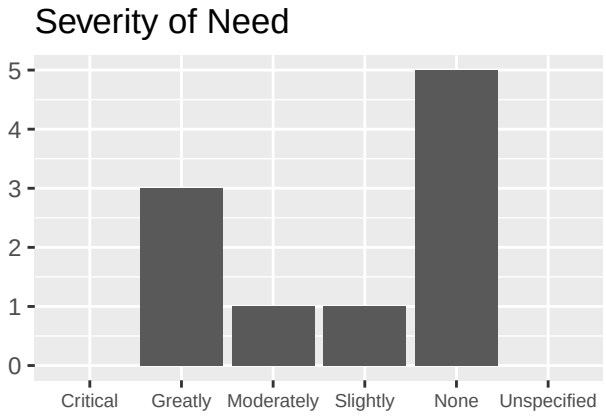
Frequency of Needs	N
Often	1
Sometimes	5
Rarely	3
Not at all	1
Unspecified	0

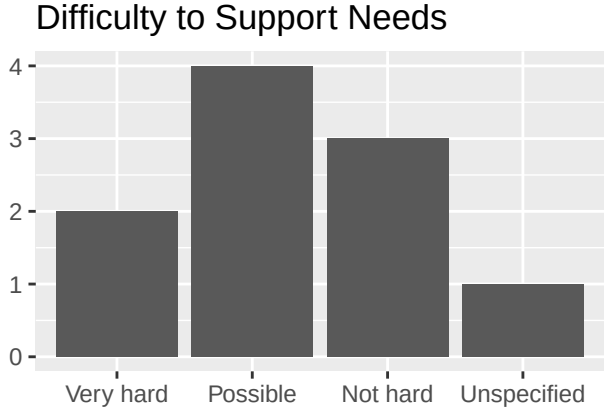
Severity of Needs	N
Critical to research	0
Greatly help	3
Moderately help	1
Slightly help	1
Not at all	5
Unspecified	0

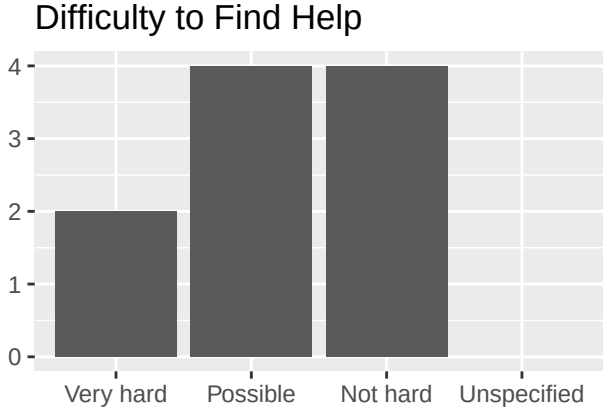
Difficulty to Support Needs	N
Very hard	2
Possible	4
Not hard	3
Unspecified	1

Difficulty to Find Help	N
Very hard	2
Possible	4
Not hard	4
Unspecified	0









Model Interpretation:

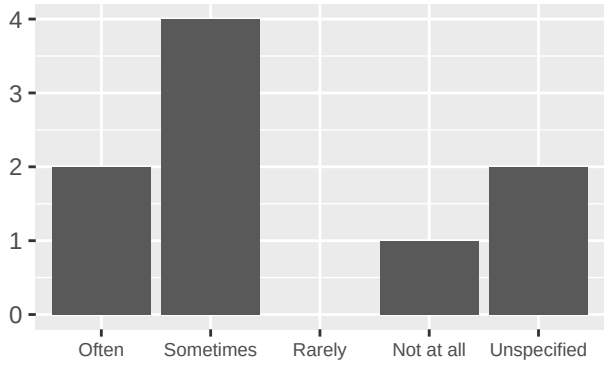
Frequency of Needs	N
Often	2
Sometimes	4
Rarely	0
Not at all	1
Unspecified	2

Severity of Needs	N
Critical to research	0
Greatly help	2
Moderately help	1
Slightly help	3
Not at all	1
Unspecified	2

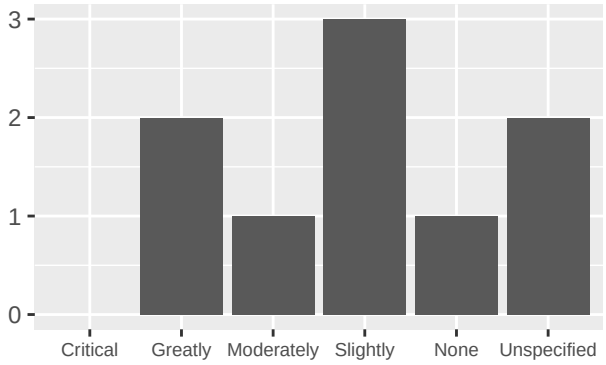
Difficulty to Support Needs	N
Very hard	2
Possible	4
Not hard	1
Unspecified	2

Difficulty to Find Help	N
Very hard	2
Possible	4
Not hard	2
Unspecified	1

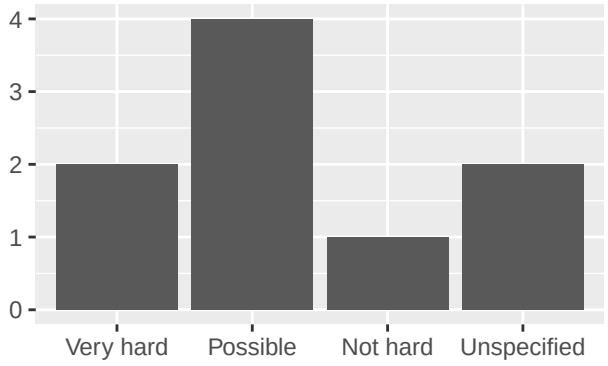
Frequency of Need



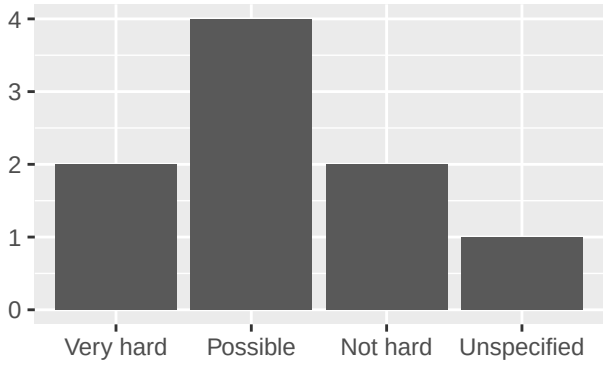
Severity of Need



Difficulty to Support Needs



Difficulty to Find Help



Preparation Of Statistical Grant Materials:

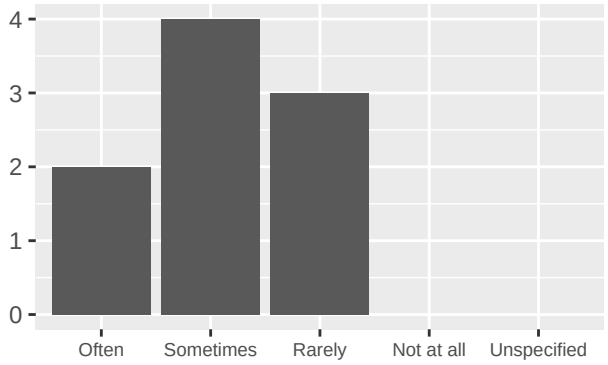
Frequency of Needs	N
Often	2
Sometimes	4
Rarely	3
Not at all	0
Unspecified	0

Severity of Needs	N
Critical to research	1
Greatly help	1
Moderately help	2
Slightly help	2
Not at all	2
Unspecified	1

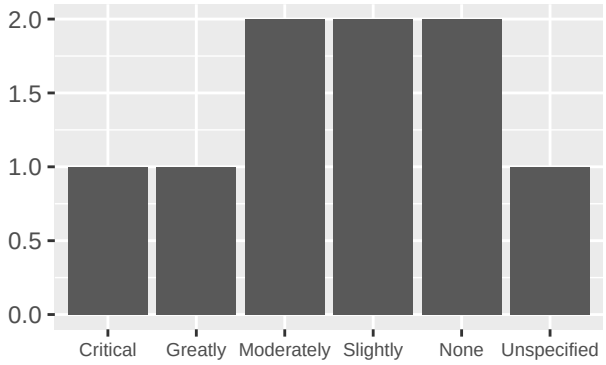
Difficulty to Support Needs	N
Very hard	3
Possible	4
Not hard	1
Unspecified	1

Difficulty to Find Help	N
Very hard	3
Possible	1
Not hard	5
Unspecified	0

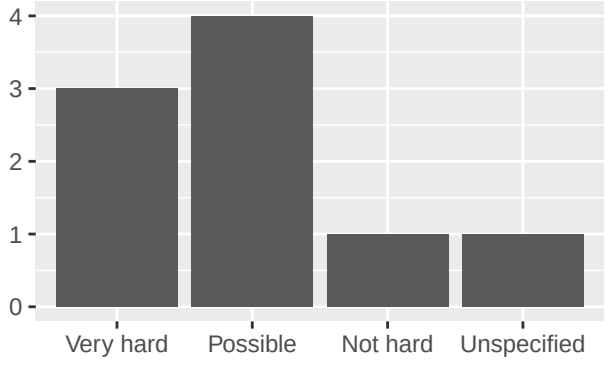
Frequency of Need



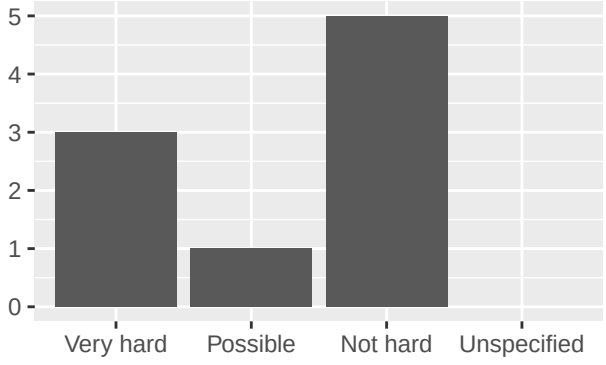
Severity of Need



Difficulty to Support Needs



Difficulty to Find Help



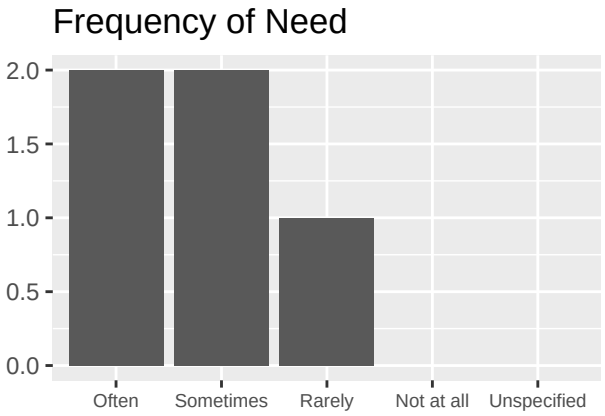
Coding/Software Help:

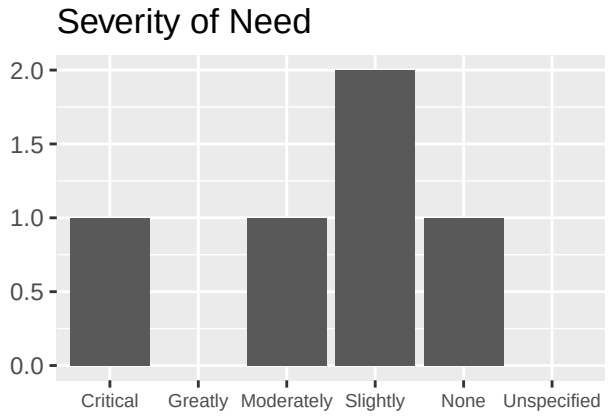
Frequency of Needs	N
Often	2
Sometimes	2
Rarely	1
Not at all	0
Unspecified	0

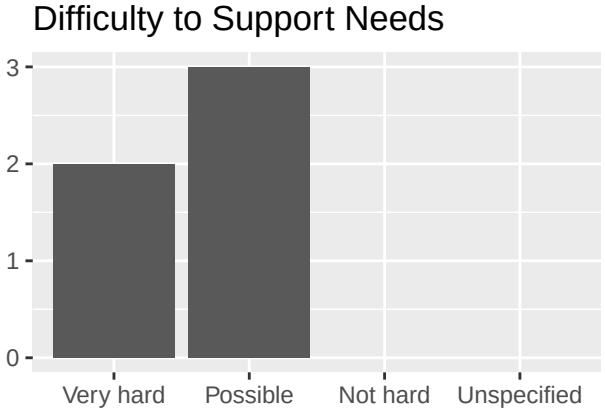
Severity of Needs	N
Critical to research	1
Greatly help	0
Moderately help	1
Slightly help	2
Not at all	1
Unspecified	0

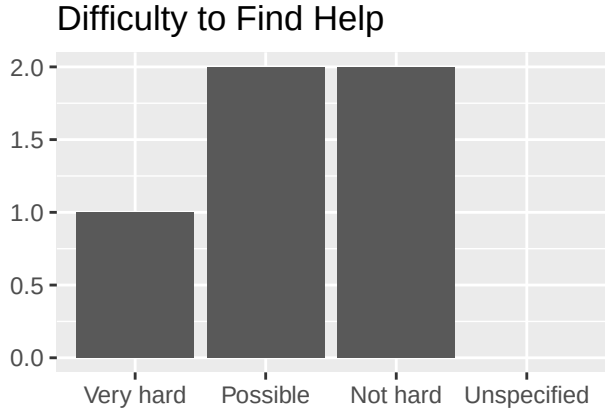
Difficulty to Support Needs	N
Very hard	2
Possible	3
Not hard	0
Unspecified	0

Difficulty to Find Help	N
Very hard	1
Possible	2
Not hard	2
Unspecified	0





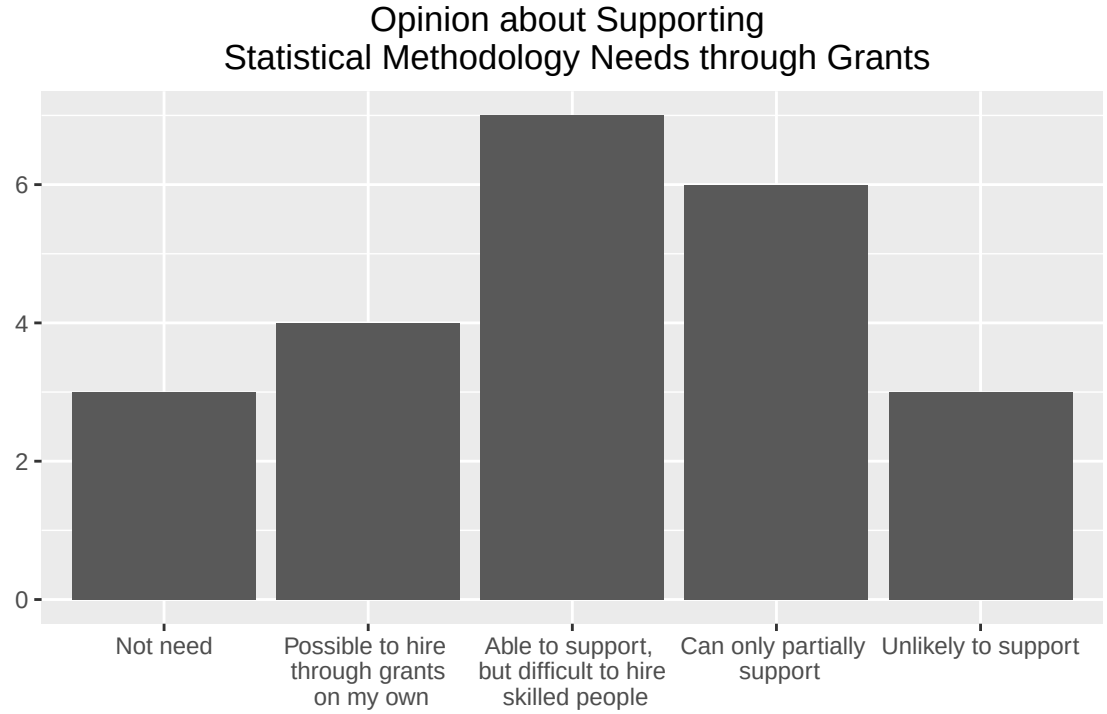




Respondents were asked which best described their opinion about supporting your statistical methodology needs through grants? Faculty identified barriers to being able to hire talent even if they can (partially) support it through grants.

Table 4: Opinion about supporting statistical methodology needs through grants

	N
I don't need to hire anyone to help with statistical methodology	3
It is usually possible for me to hire the personnel needed to satisfy my needs through grants on my own.	4
I would usually be able to support the level of effort that I need through grants, but it is difficult to hire skilled people given the duration of contracts and/or level of effort I require.	7
Usually I can only partially support the level of effort that I need through grants (even if hiring wasn't an obstacle).	6
It is unlikely that I could support any of my needs through grants.	3



Next, we asked respondents whether, if there was a university-selected pool of people available to contract, they would be interested in contracting services from a university pool.

Table 5: Opinion about contracting statistical methodology services from a university pool

	N
I do not need any of these services.	3
I am skeptical of an arrangement where I didn't hire the person myself.	5
I would consider contracting such services as long as there is someone that is a good fit for my needs.	12
I would be happy to contract these services through a university pool.	3

Table 6: How to Access Statistical Services

Access	N
Hire a student	11
Seek consultation from outside the university	8
Collaborate with a professor	5
I donâ€™t	5
Do it myself	2
Ask my friend	1
Consult / hire within school	1

The following table shows where respondents go when they seek consultation from outside the university.

Table 7: Source of Outside Statistical Consultation

my former collegue
consult11
otherconsult111

In order to better understand where in the research life cycle such help would be needed, we asked respondents to indicate when they usually required statistical consulting services and why they were seeking out help.

Table 8: When Do You Rely on Statistical Services?

	N
Before a grant is submitted	3
After receiving a grant	6
Both before and after grants are submitted	2
Regardless of whether I am applying for a grant.	13

Table 9: Why Do You Need Statistical Services?

	N
They are methods or things that you know how to do but do not have the time to implement yourself.	11
They are methods or things that are innovative that you potentially have not used yourself, but could help push forward the research.	12

With regards to statistical methodology support, a final set of questions were asked relating to the number of full time equivalents (FTEs) that the respondent would potentially need and potentially be able to support. The following summaries indicate that only a fraction of the expected needs can currently be met.

Table 10: Gap Between Statistical FTE Needed and FTE Potentially Supported

Needed	Potentially Supported	Gap	% Potentially Supported
16	9.75	6.25	60.9%

Software Engineering

We similarly asked respondents which of the following aspects of software engineering do you currently use in your work, need help with, or expect that you may need help with in the future. Respondents indicated:

Table 11: Software Engineering in Need

Software Engineering	N
Containerization And Cloud Computing	9
Mechanical Turk	9
Python Or R Package Building	7
Database	5
Software Refactoring	5
Web Development	5
Web Front-end	4
Spark & Hadoop	1

Once an aspect of software engineering was selected, four sub-questions were posed pertaining to how much the respondent needed that particular skill. These questions were:

1. How often do you currently need to perform these tasks in your research?
2. To what extent do you think access to people who could help you with these tasks would help your research?
3. How hard is it for you to currently support someone to help you with these tasks through your grants?
4. How hard is it for you to currently find people to help you with these tasks?

The following pages outline how respondents answered each of these four questions, first in aggregate over all software engineering needs, and then with regards to each needed aspect.

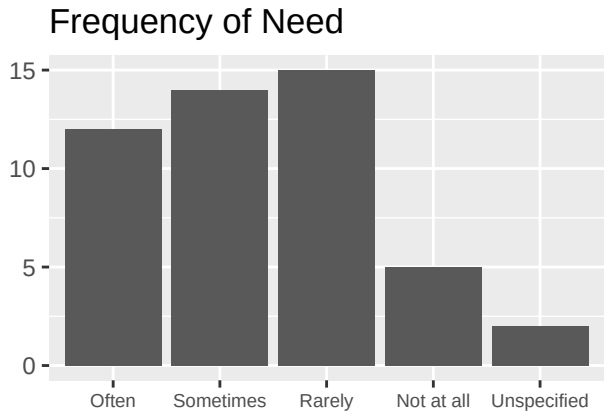
Software Engineering In General

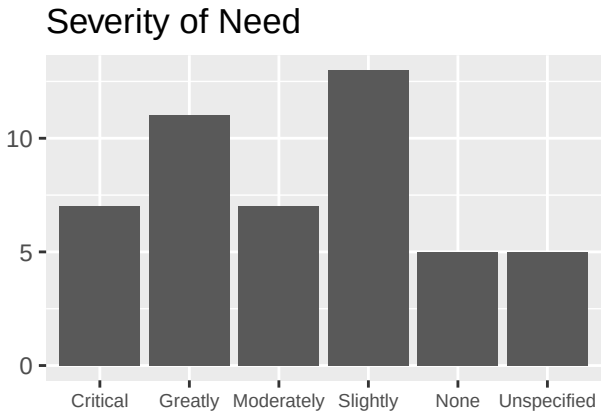
Frequency of Needs	N
Often	12
Sometimes	14
Rarely	15
Not at all	5
Unspecified	2

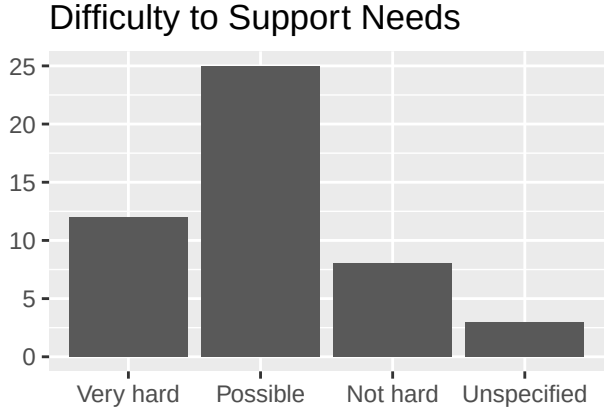
Severity of Needs	N
Critical to research	7
Greatly help	11
Moderately help	7
Slightly help	13
Not at all	5
Unspecified	5

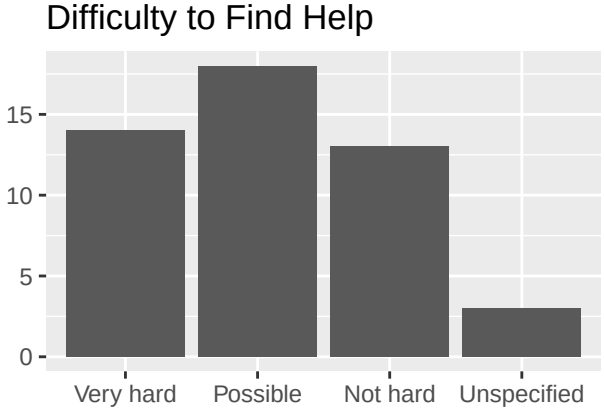
Difficulty to Support Needs	N
Very hard	12
Possible	25
Not hard	8
Unspecified	3

Difficulty to Find Help	N
Very hard	14
Possible	18
Not hard	13
Unspecified	3









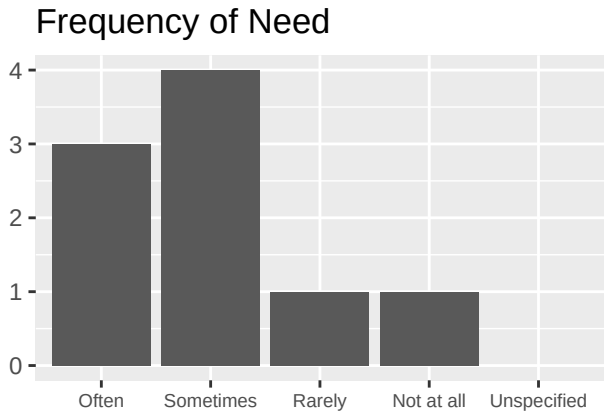
Containerization And Cloud Computing:

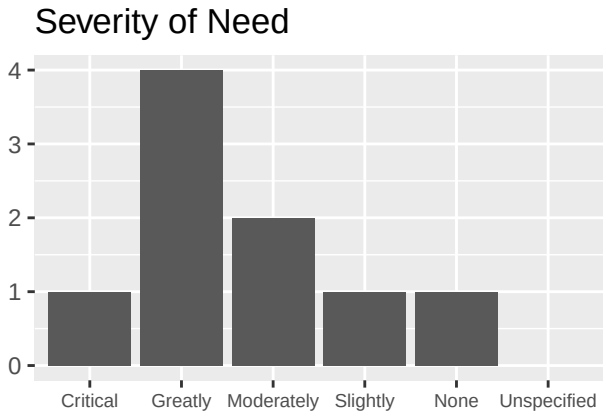
Frequency of Needs	N
Often	3
Sometimes	4
Rarely	1
Not at all	1
Unspecified	0

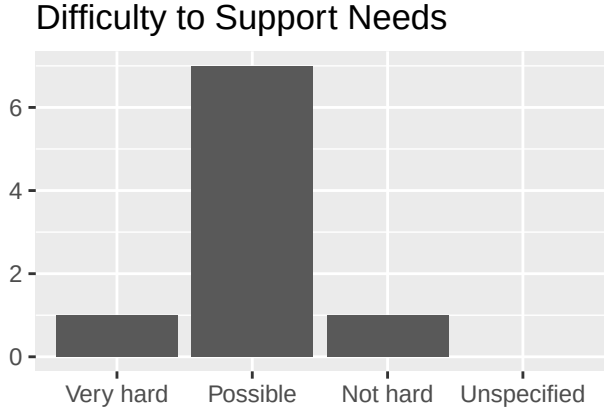
Severity of Needs	N
Critical to research	1
Greatly help	4
Moderately help	2
Slightly help	1
Not at all	1
Unspecified	0

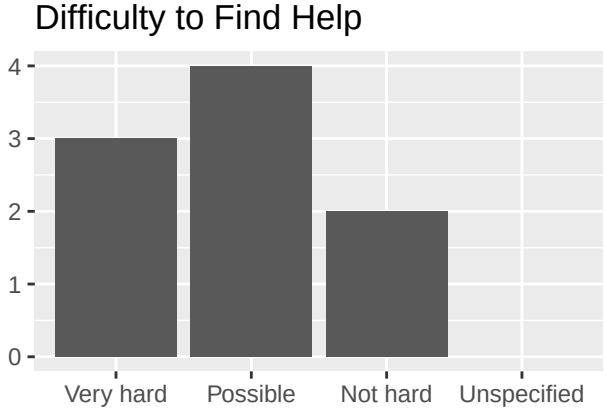
Difficulty to Support Needs	N
Very hard	1
Possible	7
Not hard	1
Unspecified	0

Difficulty to Find Help	N
Very hard	3
Possible	4
Not hard	2
Unspecified	0









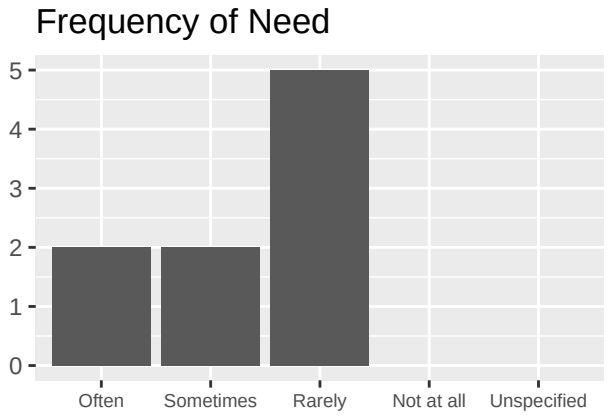
Mechanical Turk:

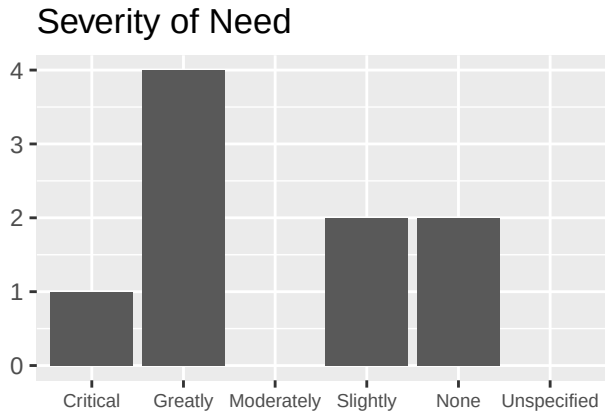
Frequency of Needs	N
Often	2
Sometimes	2
Rarely	5
Not at all	0
Unspecified	0

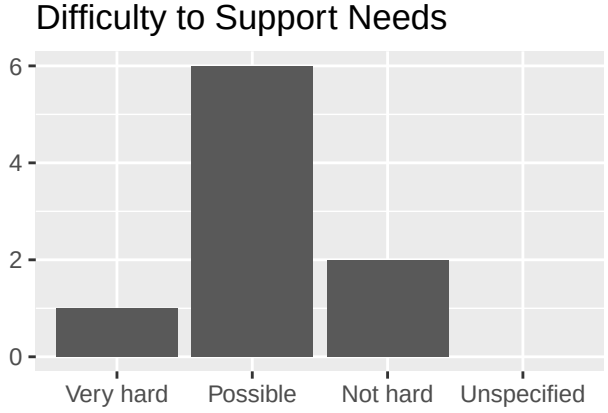
Severity of Needs	N
Critical to research	1
Greatly help	4
Moderately help	0
Slightly help	2
Not at all	2
Unspecified	0

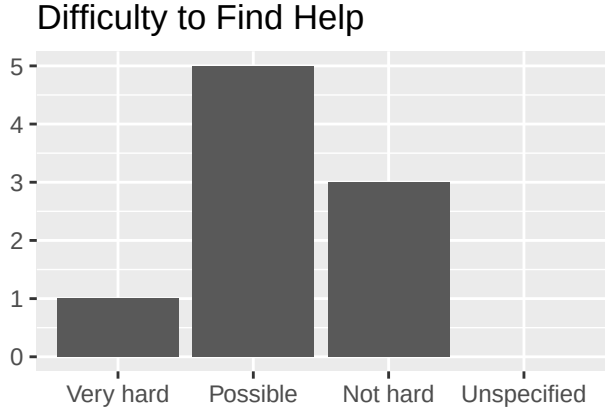
Difficulty to Support Needs	N
Very hard	1
Possible	6
Not hard	2
Unspecified	0

Difficulty to Find Help	N
Very hard	1
Possible	5
Not hard	3
Unspecified	0









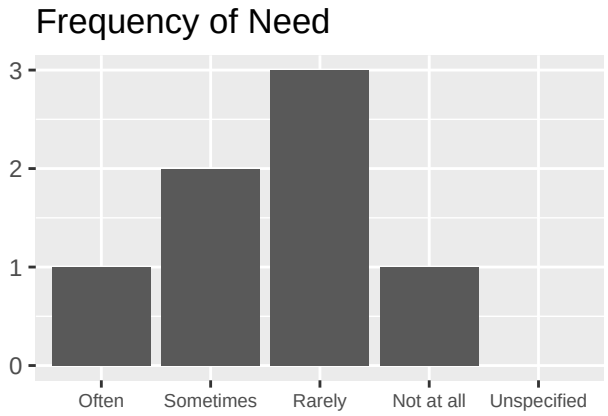
Python Or R Package Building:

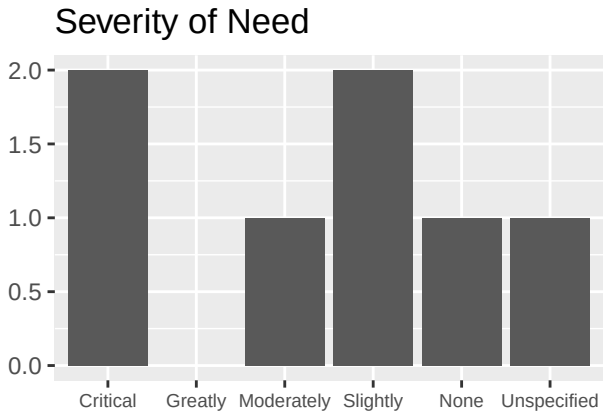
Frequency of Needs	N
Often	1
Sometimes	2
Rarely	3
Not at all	1
Unspecified	0

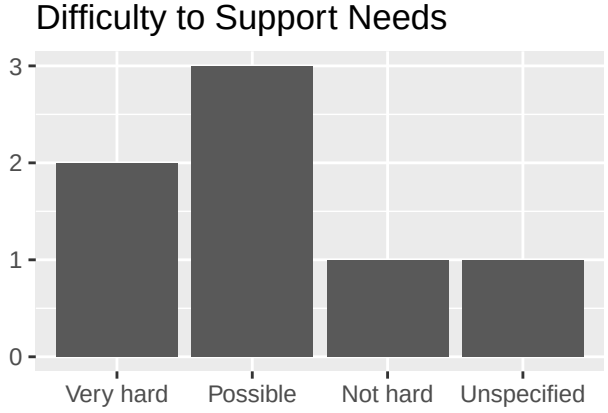
Severity of Needs	N
Critical to research	2
Greatly help	0
Moderately help	1
Slightly help	2
Not at all	1
Unspecified	1

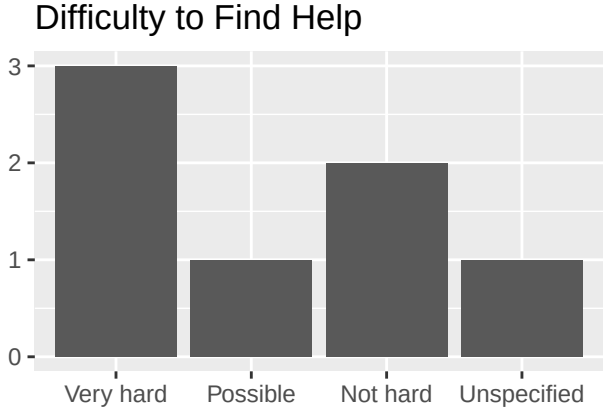
Difficulty to Support Needs	N
Very hard	2
Possible	3
Not hard	1
Unspecified	1

Difficulty to Find Help	N
Very hard	3
Possible	1
Not hard	2
Unspecified	1









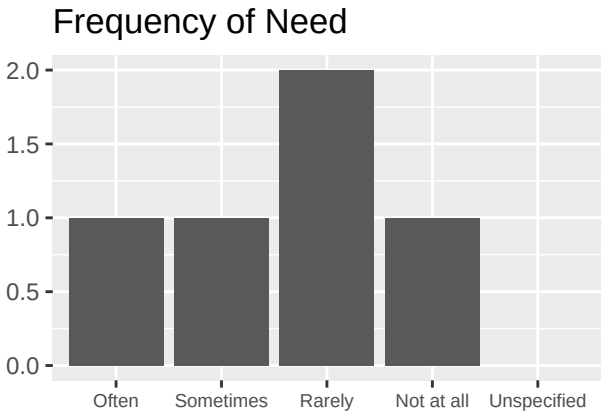
Database:

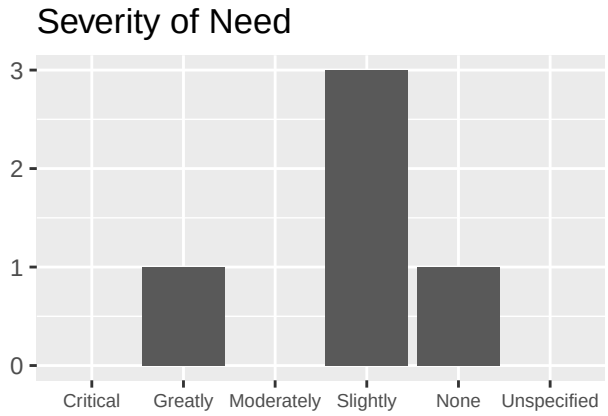
Frequency of Needs	N
Often	1
Sometimes	1
Rarely	2
Not at all	1
Unspecified	0

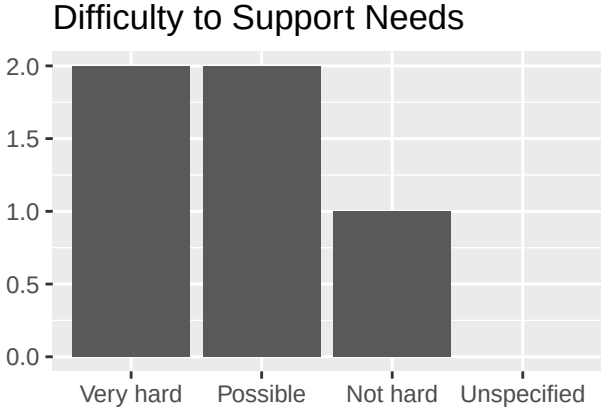
Severity of Needs	N
Critical to research	0
Greatly help	1
Moderately help	0
Slightly help	3
Not at all	1
Unspecified	0

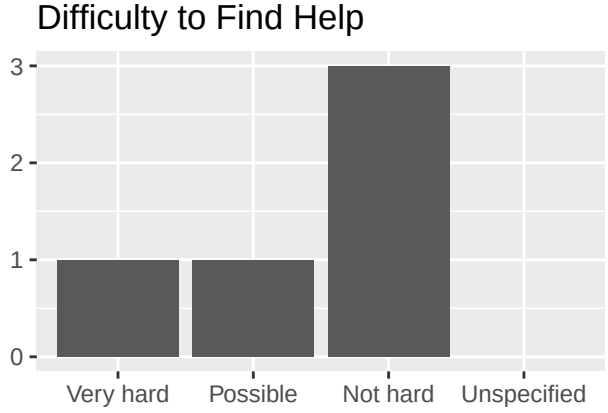
Difficulty to Support Needs	N
Very hard	2
Possible	2
Not hard	1
Unspecified	0

Difficulty to Find Help	N
Very hard	1
Possible	1
Not hard	3
Unspecified	0









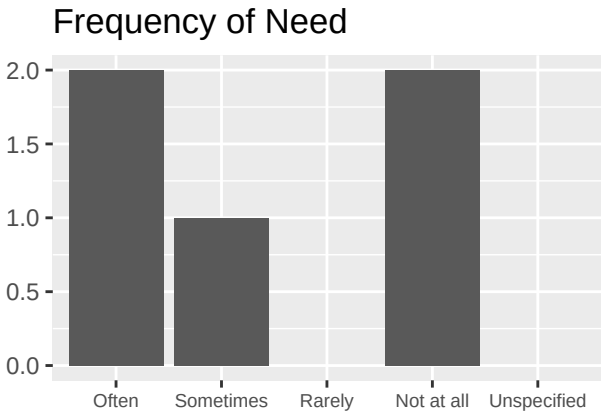
Software Refactoring:

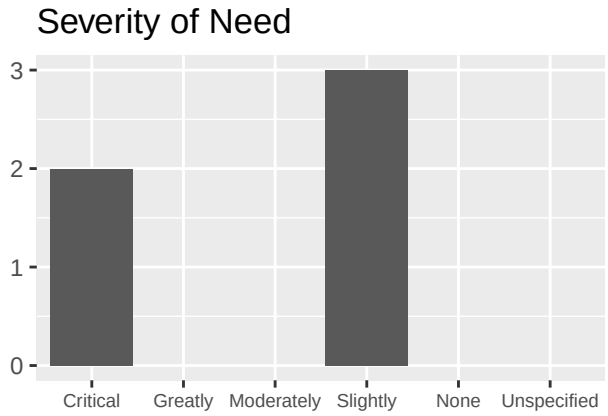
Frequency of Needs	N
Often	2
Sometimes	1
Rarely	0
Not at all	2
Unspecified	0

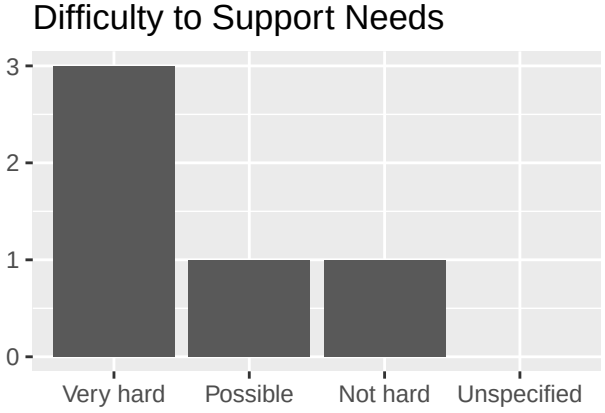
Severity of Needs	N
Critical to research	2
Greatly help	0
Moderately help	0
Slightly help	3
Not at all	0
Unspecified	0

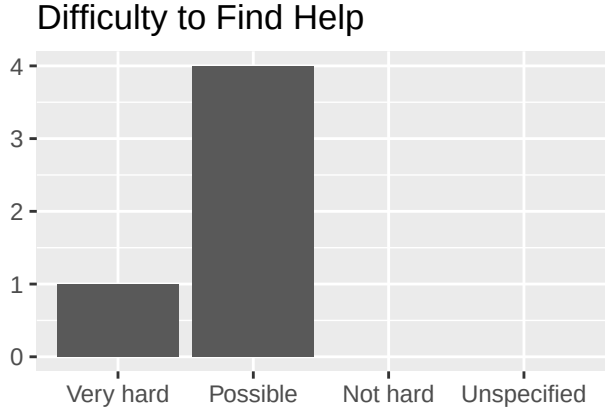
Difficulty to Support Needs	N
Very hard	3
Possible	1
Not hard	1
Unspecified	0

Difficulty to Find Help	N
Very hard	1
Possible	4
Not hard	0
Unspecified	0









Web Development:

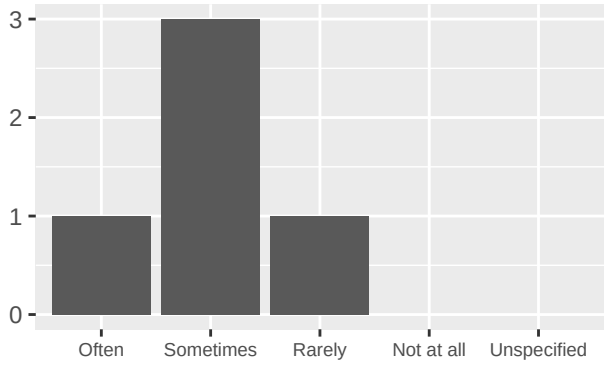
Frequency of Needs	N
Often	1
Sometimes	3
Rarely	1
Not at all	0
Unspecified	0

Severity of Needs	N
Critical to research	0
Greatly help	2
Moderately help	1
Slightly help	1
Not at all	0
Unspecified	1

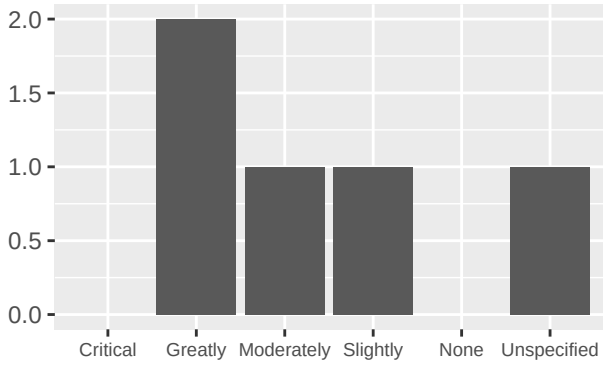
Difficulty to Support Needs	N
Very hard	1
Possible	3
Not hard	1
Unspecified	0

Difficulty to Find Help	N
Very hard	2
Possible	1
Not hard	2
Unspecified	0

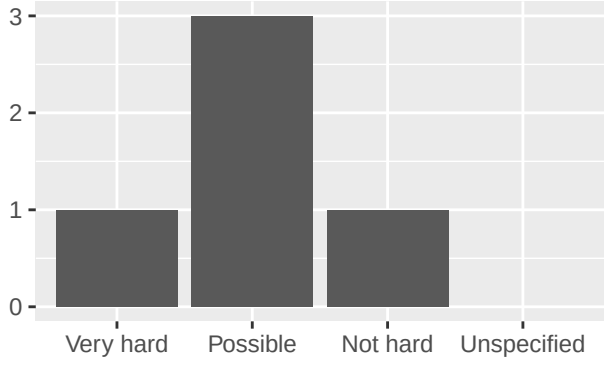
Frequency of Need



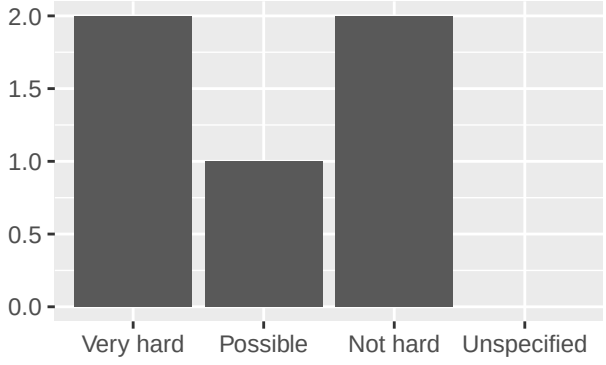
Severity of Need



Difficulty to Support Needs



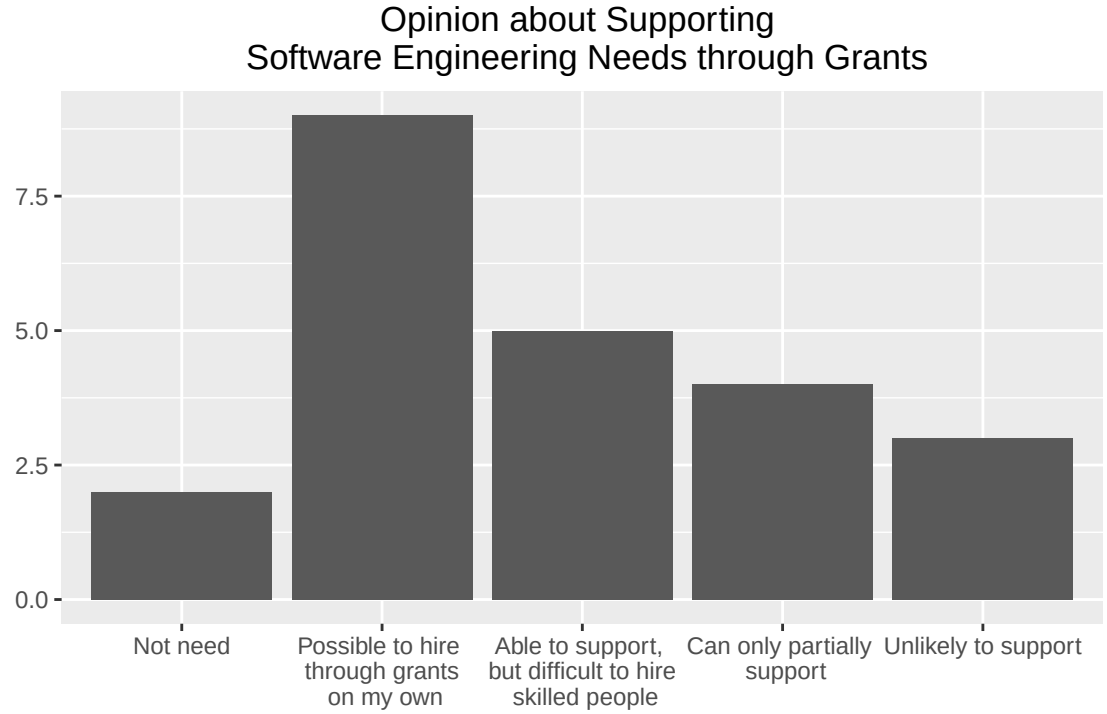
Difficulty to Find Help



Respondents were asked which best described their opinion about supporting your software engineering needs through grants? Faculty identified barriers to being able to hire talent even if they can (partially) support it through grants.

Table 12: Opinion about supporting software engineering needs through grants

	N
I don't need to hire anyone to help with software engineering	2
It is usually possible for me to hire the personnel needed to satisfy my needs through grants on my own.	9
I would usually be able to support the level of effort that I need through grants, but it is difficult to hire skilled people given the duration of contracts and/or level of effort I require.	5
Usually I can only partially support the level of effort that I need through grants (even if hiring wasn't an obstacle).	4
It is unlikely that I could support any of my needs through grants.	3



Next, we asked respondents whether, if there was a university-selected pool of people available to contract, they would be interested in contracting services from a university pool.

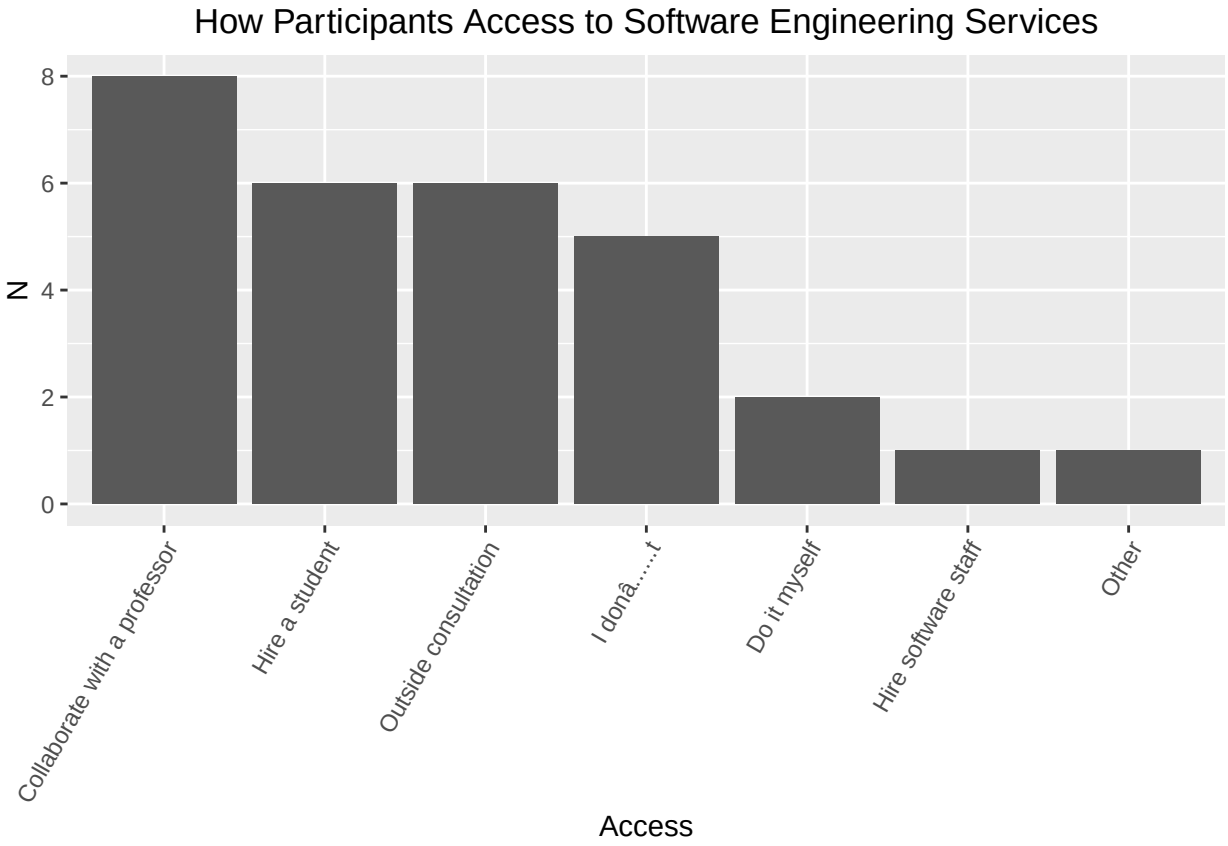
Table 13: Opinion about contracting software engineering services from a university pool

	N
I do not need any of these services.	3
I am skeptical of an arrangement where I didn't hire the person myself.	7
I would consider contracting such services as long as there is someone that is a good fit for my needs.	8
I would be happy to contract these services through a university pool	5

We further queried the respondents about how they currently meet their software needs.

Table 14: How to Access Software Services

Access	N
Collaborate with a professor	8
Hire a student	6
Seek consultation from outside the university	6
I donâ€™t	5
Do it myself	2
Hire software staff	1
Other	1



In order to better understand where in the research life cycle such help would be needed, we asked respondents to indicate when they usually required software consulting services and why they were seeking out help.

Table 15: When Do You Rely on Software Services?

	N
Before a grant is submitted	4
After receiving a grant	3
Both before and after grants are submitted	5
Regardless of whether I am applying for a grant.	12

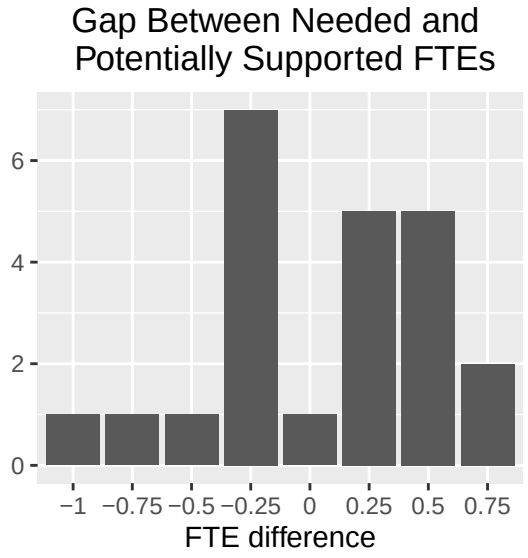
Table 16: Why Do You Need Software Services?

	N
They are methods or things that you know how to do but do not have the time to implement yourself.	10
They are methods or things that are innovative that you potentially have not used yourself, but could help push forward the research.	12

With regards to software engineering support, a final set of questions were asked relating to the number of full time equivalents (FTEs) that the respondent would potentially need and potentially be able to support. The following summaries indicate that only a fraction of the expected needs can currently be met.

Table 17: Gap Between Software FTE Needed and FTE Potentially Supported

Needed	Potentially Supported	Gap	% Potentially Supported
13.25	12	1.25	90.6%



Open-ended Questions

Other things you would like us to know?

Table 18: Other Experience (For Public Use)

This is decoy other experience 1.
decoy other experience 3.
decoy other experience 4
;)

Any other comments?

Table 19: Other Comments (For Public Use)

:)
:) :) :)
:) :) :) :)
I am just a little cat
This is a fake comment.
decoy comment :)
This is the little cat answering again