2020 Our Husky Compact Assessment in Technology

Department of Residential Life

St. Cloud State University

Claude Haneum Lee

Fall 2020

Our Husky Compact

- Essential and cross-cutting attributes of a St. Cloud State education that we value
- 2020-2021 Academic Year Focus: Integrate Existing And Evolving Technologies

Assessment

Goal

- Observe the preference of using technology and evaluate how the technology is used in engagement programs among residence halls at SCSU

*Engagement program: student-department interactions in residence halls

Plan

- Launch two surveys: Student and Student Staff (Community Advisors, or CAs)
- Analyze three areas: Scheduling, Communication, and Meeting

Surveys

Part 1

(CAs & Students) Preference of using technology in three areas

(Student) Kind of online applications used in student experience

Mainly used for descriptive statistics to show general preference and experience

Part 2

(Same for Students and CAs)

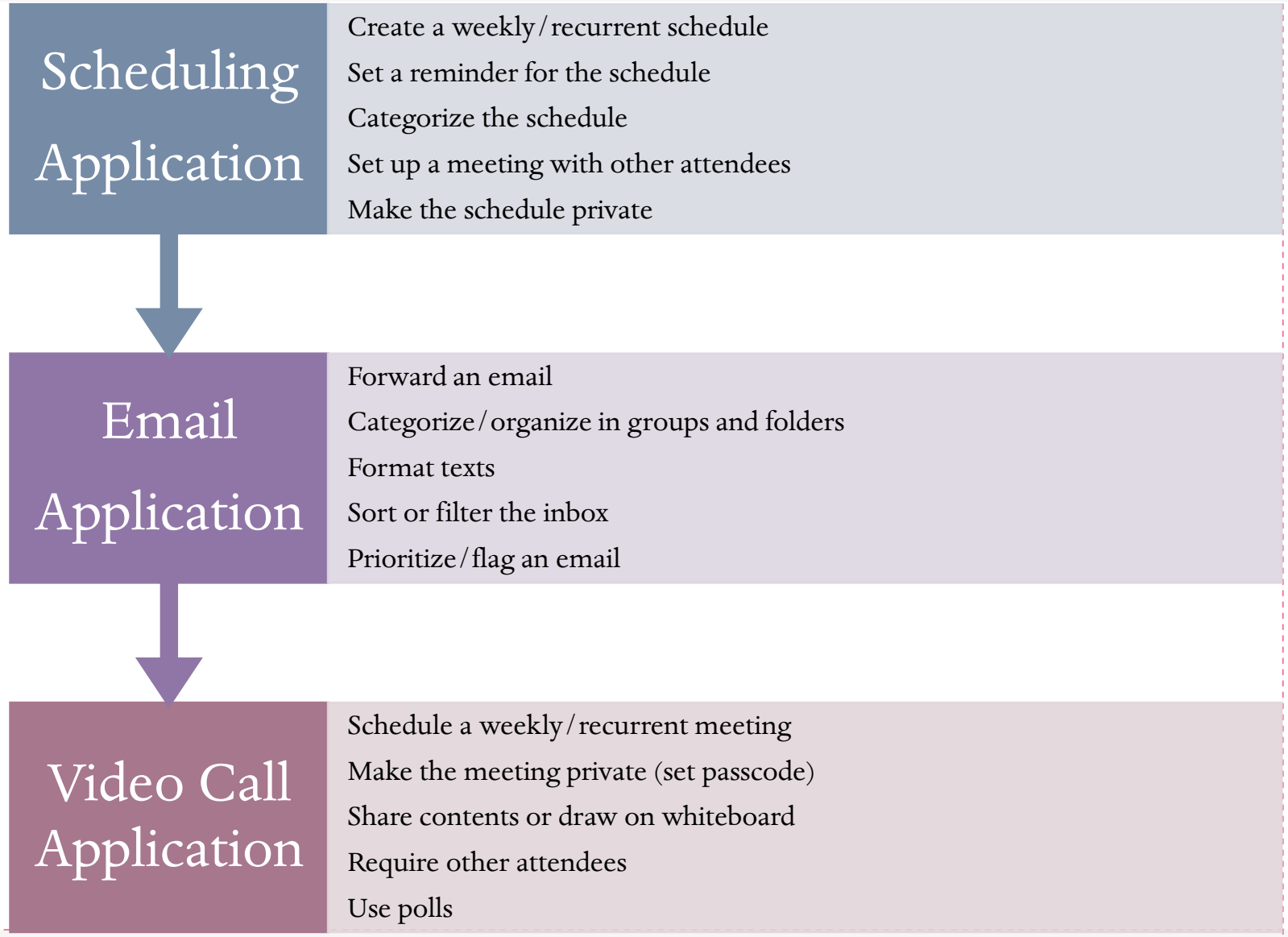
Fluency and use of technology

Whether know how to use/frequently use some basic features in each online application type for three areas

Convert responses to Fluency Score and Usage Score

Joined with demographic/enrollment data (obtained from SCSU database) to compare groups and show areas of improvements

Fluency and Usage Questions



Research Questions

Which method is most commonly used in scheduling, communication, and meetings, separately?

What are some of the common reasons why students and staff prefer non-technological methods for scheduling, communication, and meetings?

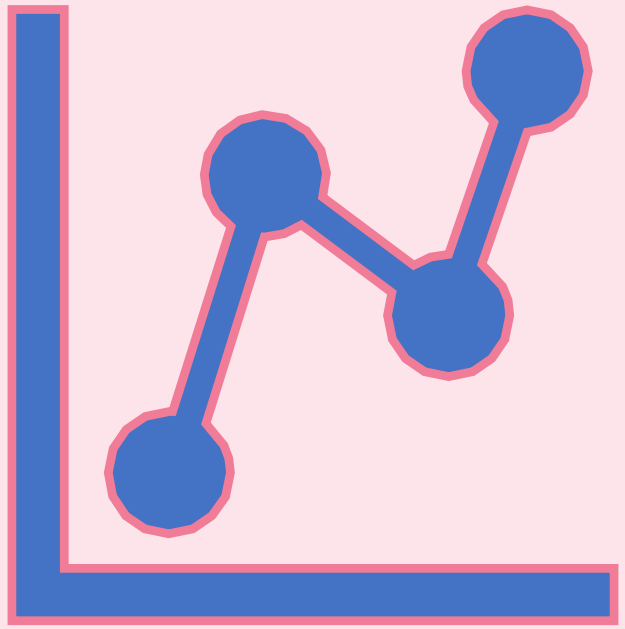
Which areas of Res Life needs an improvement in using technology?

Which groups in residence hall needs special attention for technology fluency and use?

Findings – Use of Technology

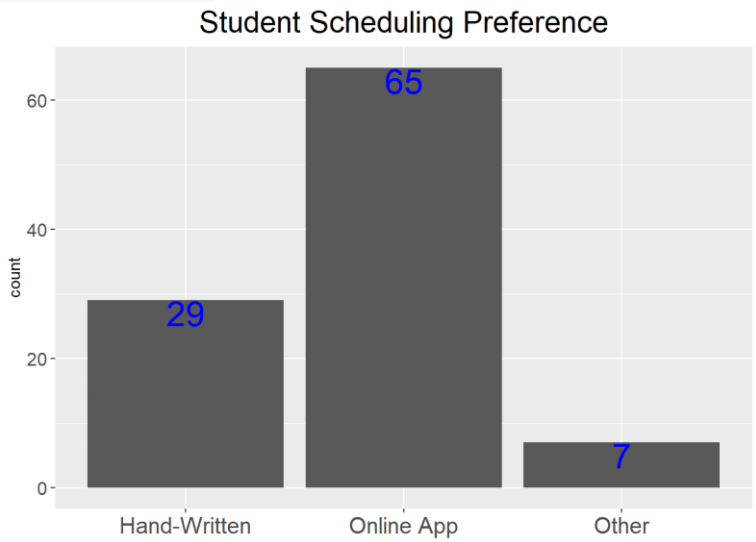
- Current findings are based on **12-2-20** data

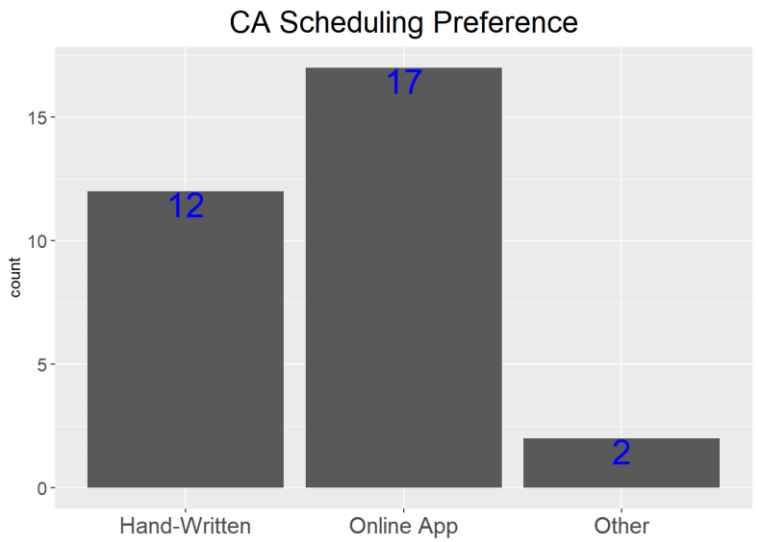
https://rpubs.com/haneumlee99/705381

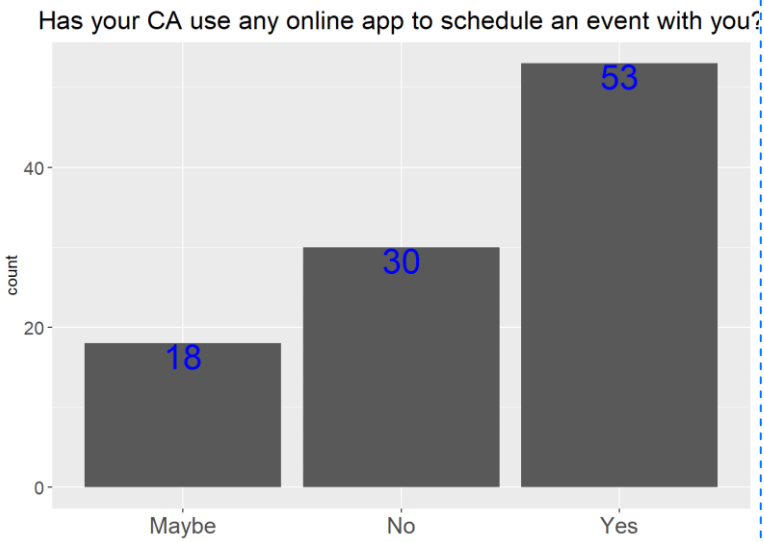


Most Commonly Used Method - Scheduling

- Online Scheduling for all
- Quite a large proportion of hand-written preference
- Many CA have used online applications

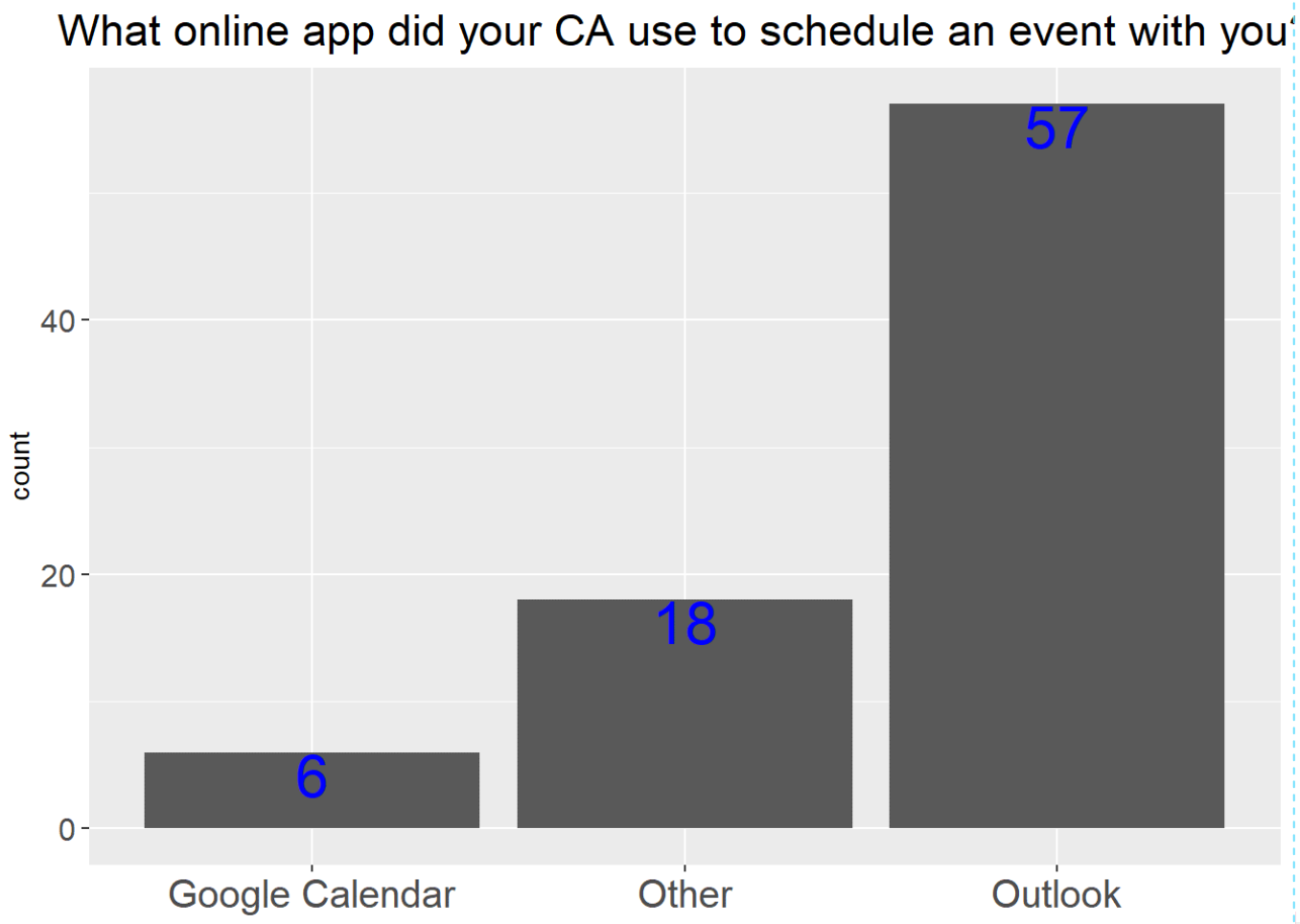


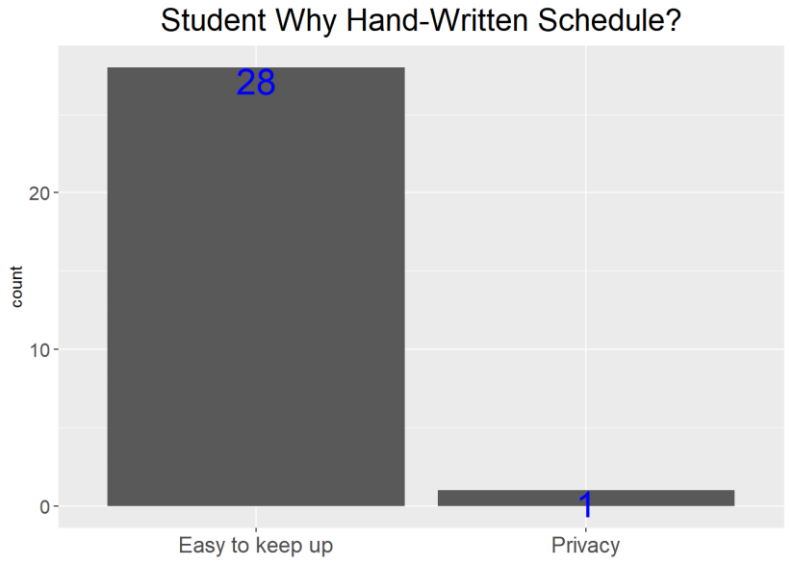


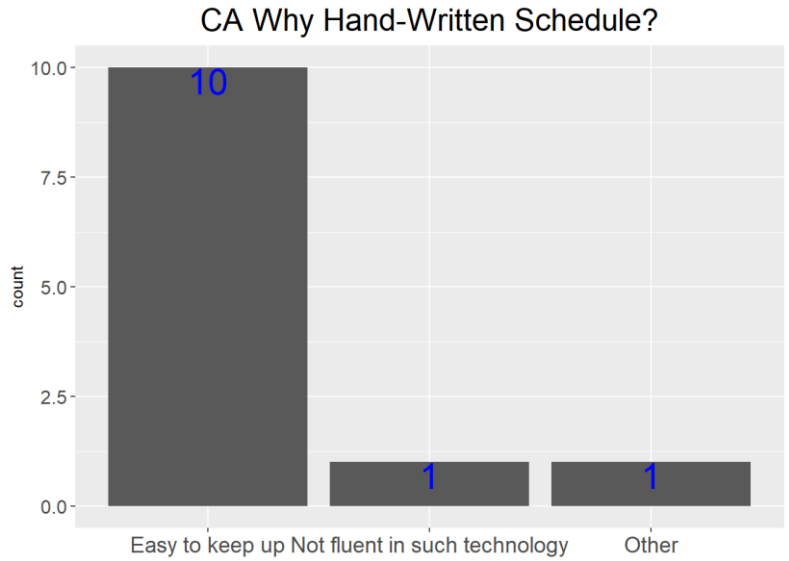


Which Online Scheduling Application?

- Microsoft Soft Outlook
- Other entries: non-scheduling apps





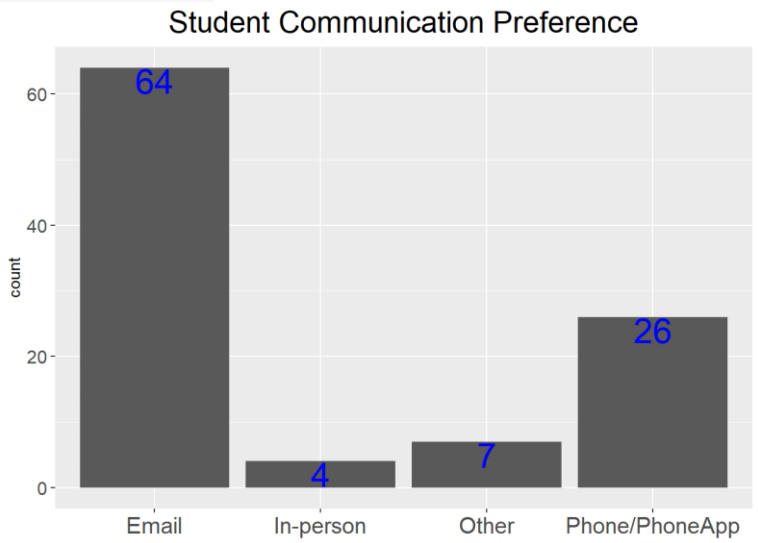


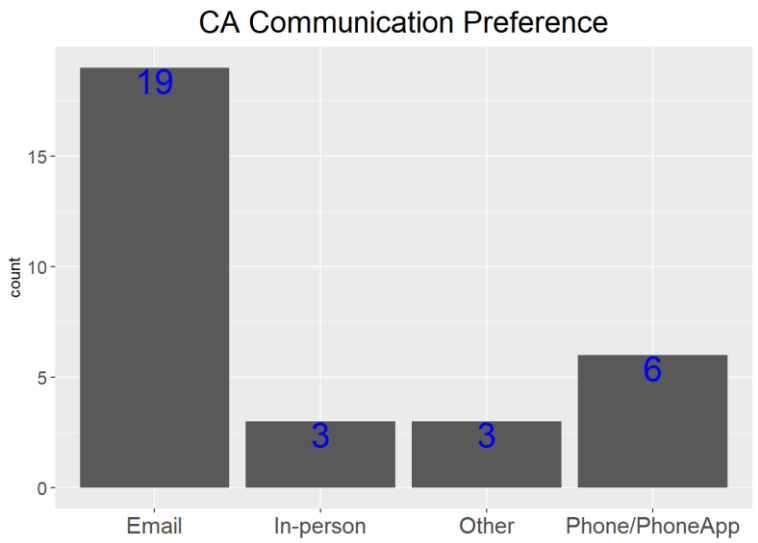
Why Hand-Written Schedule?

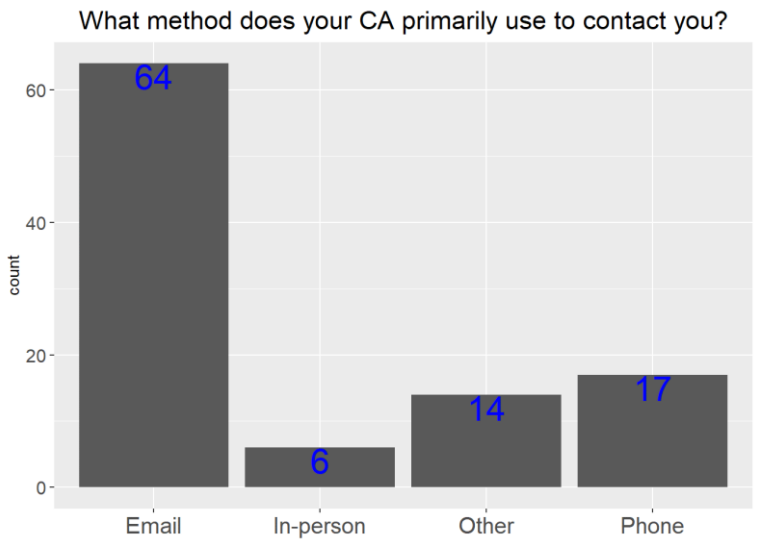
- Easy to keep up with
- Very few privacy and influency

Most Commonly Used Method - Communication

- Similar patterns for all
- Highest in email, some phone/phone apps, and few in-person

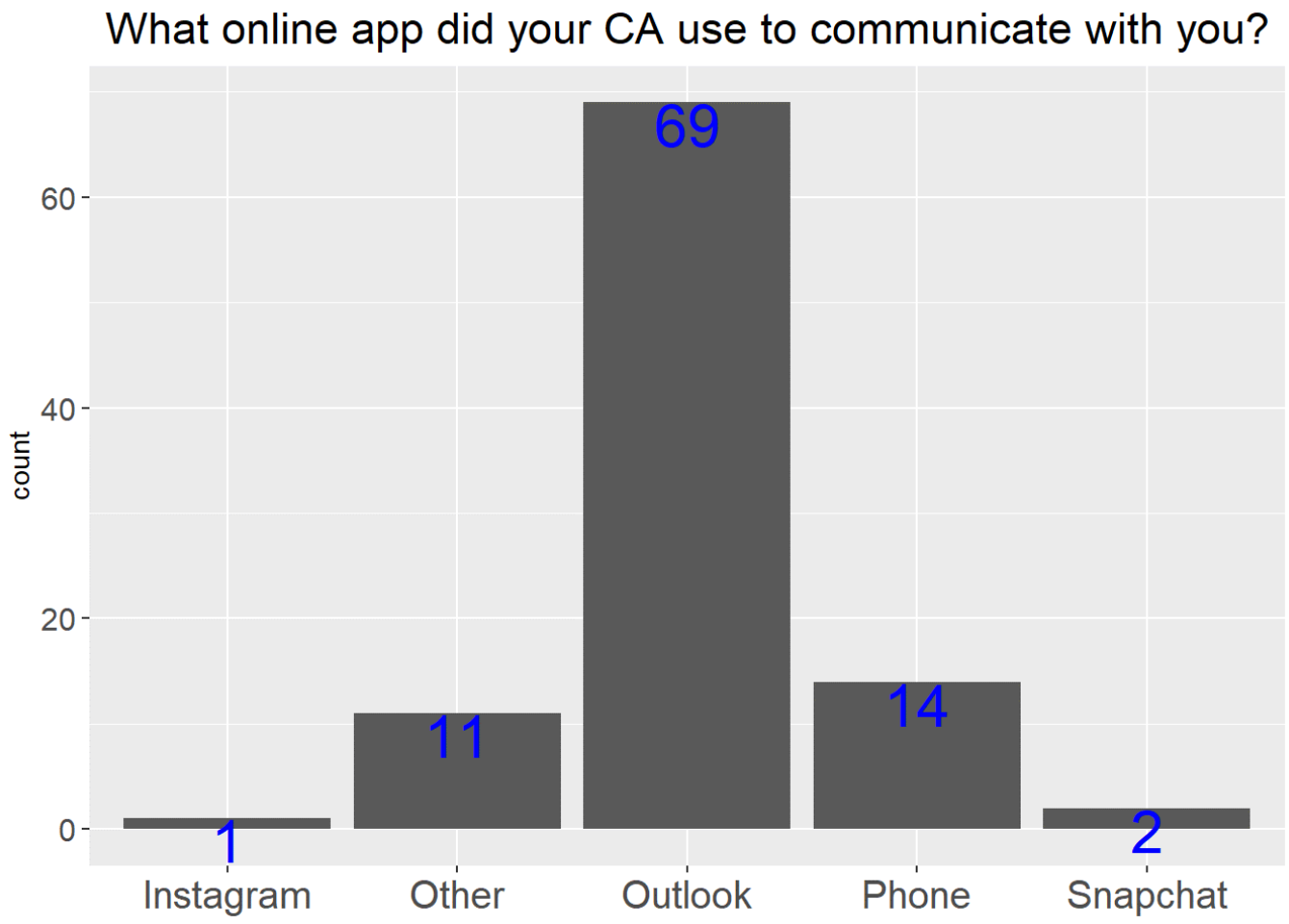


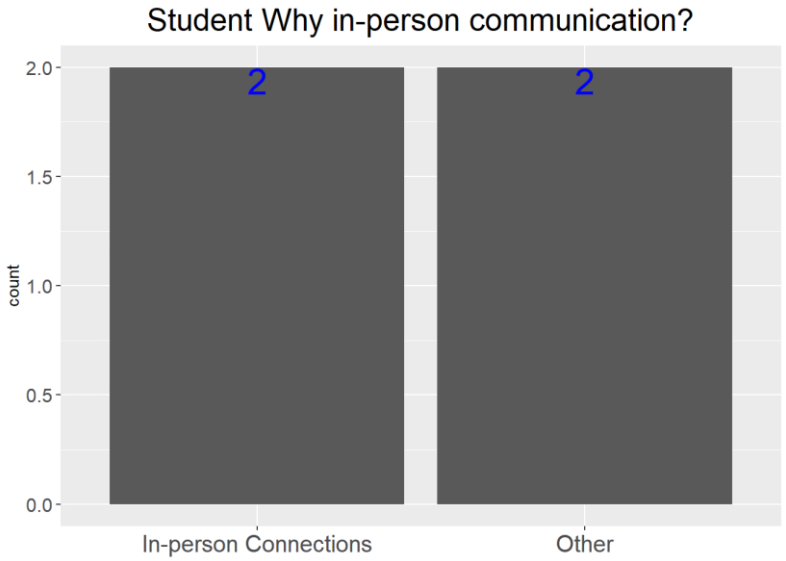


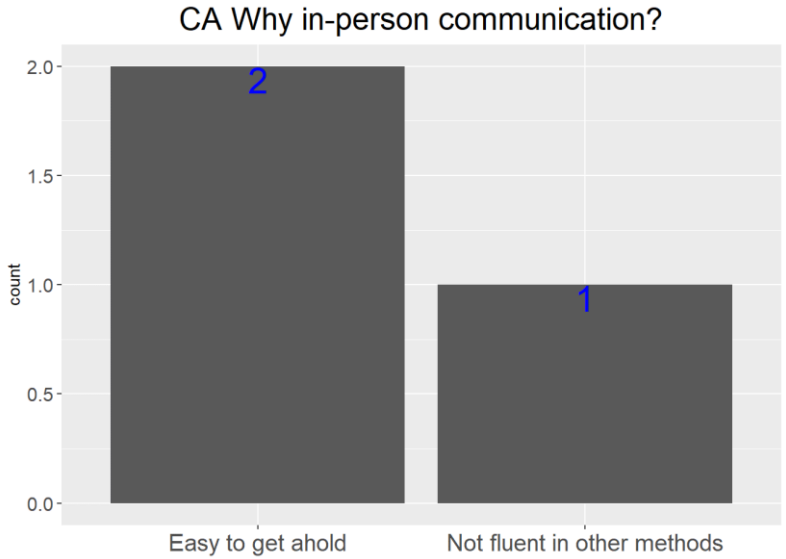


Which Online Communication Application?

- Microsoft Soft Outlook
- Some phone calls/messages
- Other entries: Group Me, other phone apps





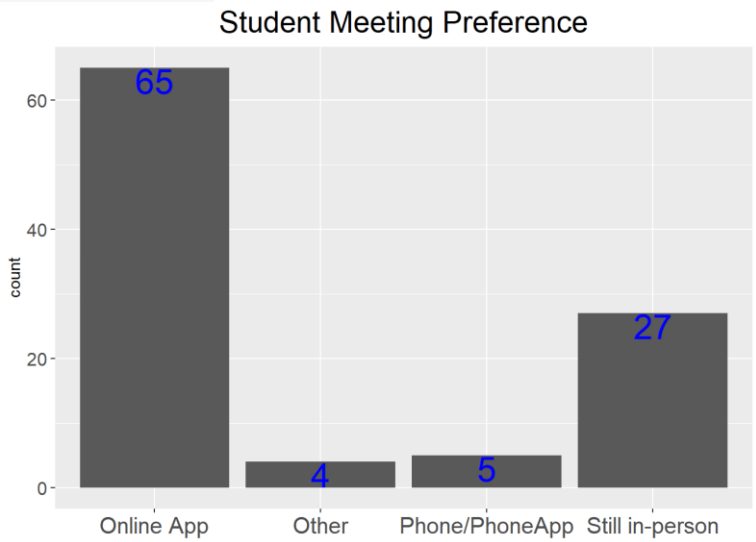


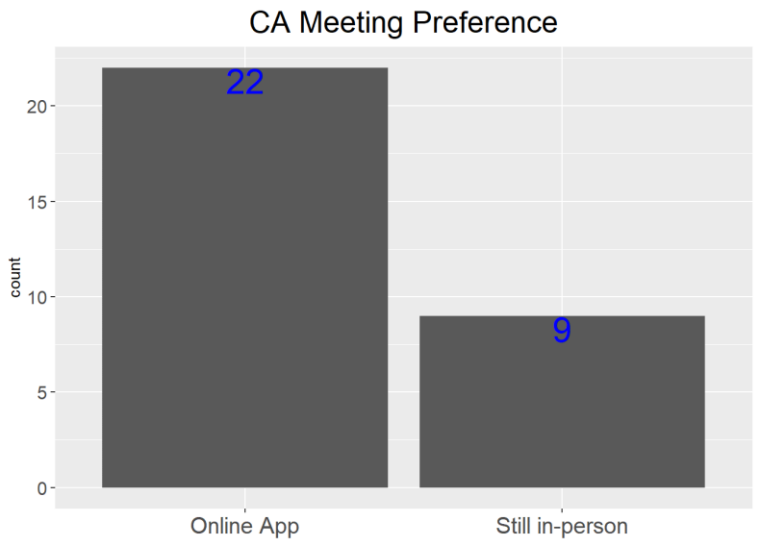
Why In-Person Communication?

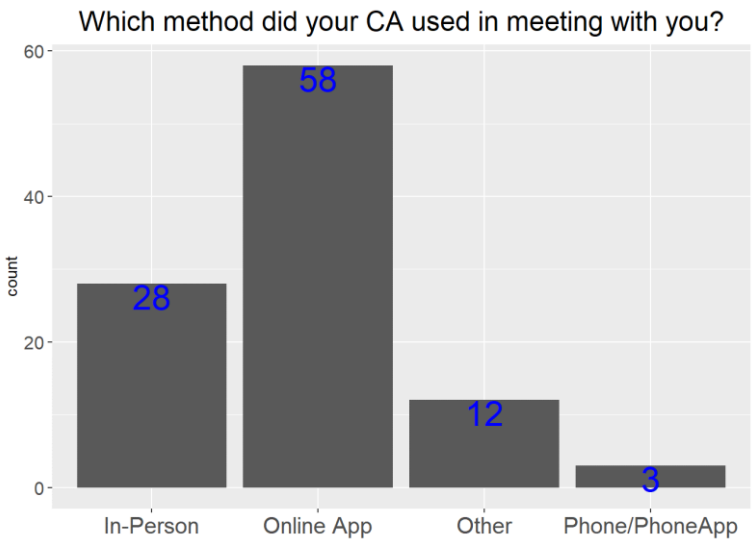
- Too small of sample size – hard to tell

Most Commonly Used Method - Meeting

- Question Condition: if in-person is not desirable, …
- Largely in online app, but quite a lot in “still” in-person
- Experience: mainly online, some in-person

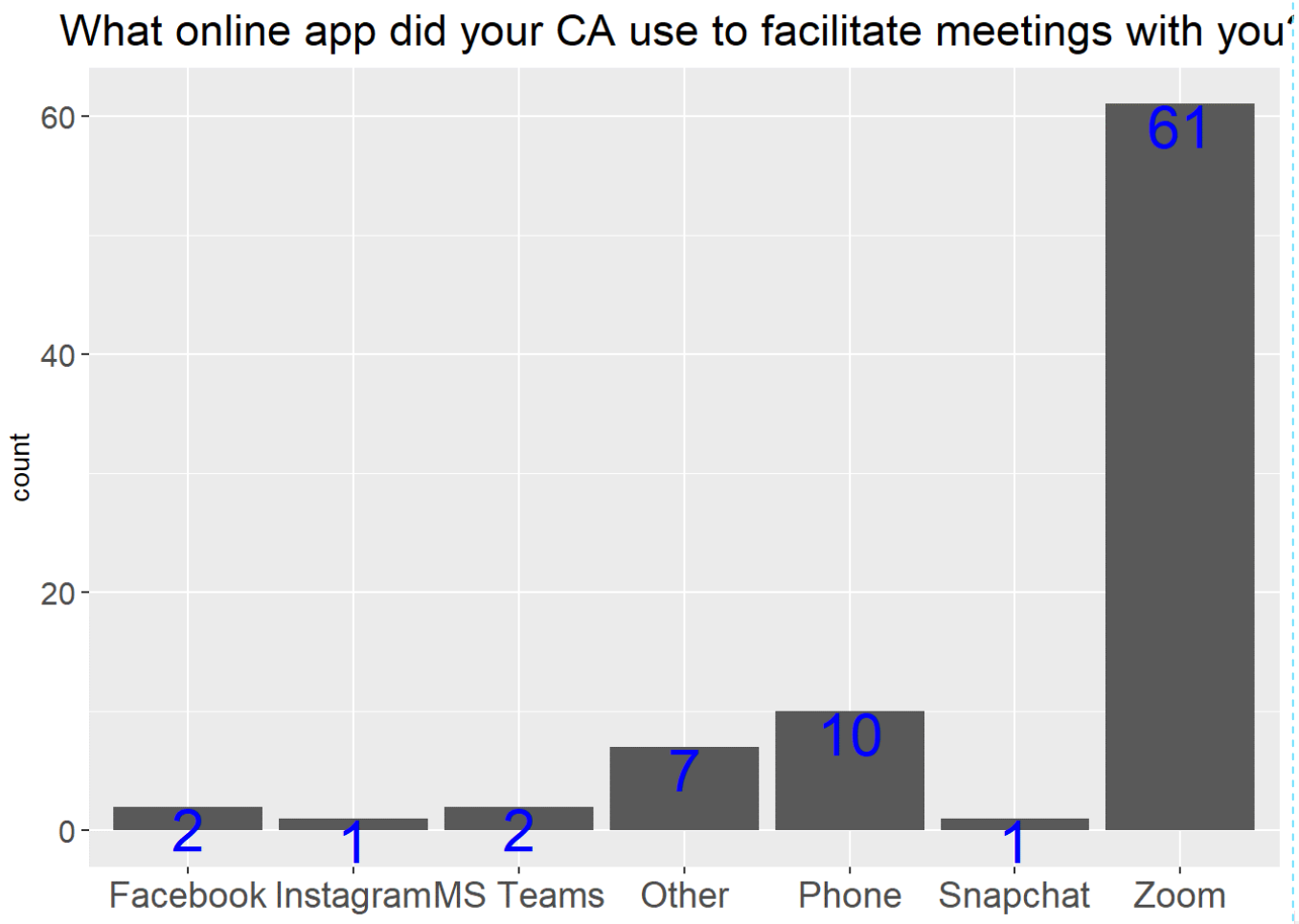


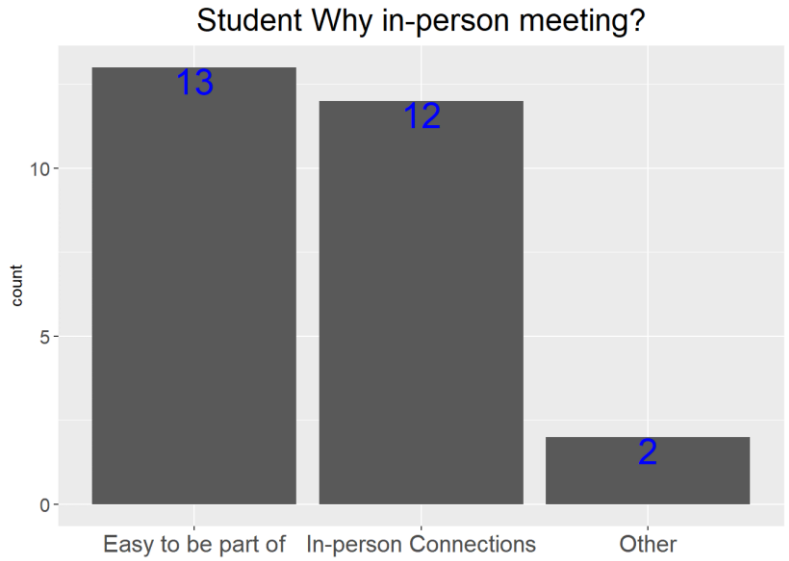


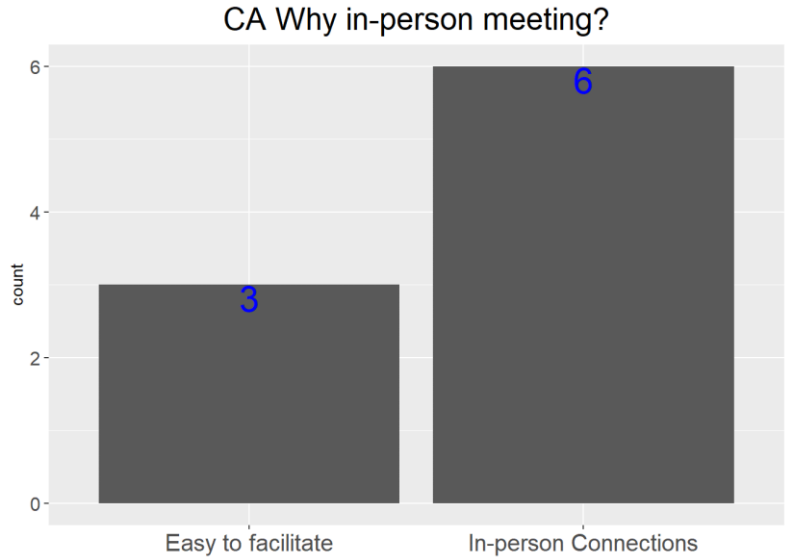


Which Online Meeting/Video Call Application?

- Majority for Zoom
- Some for phone and social media

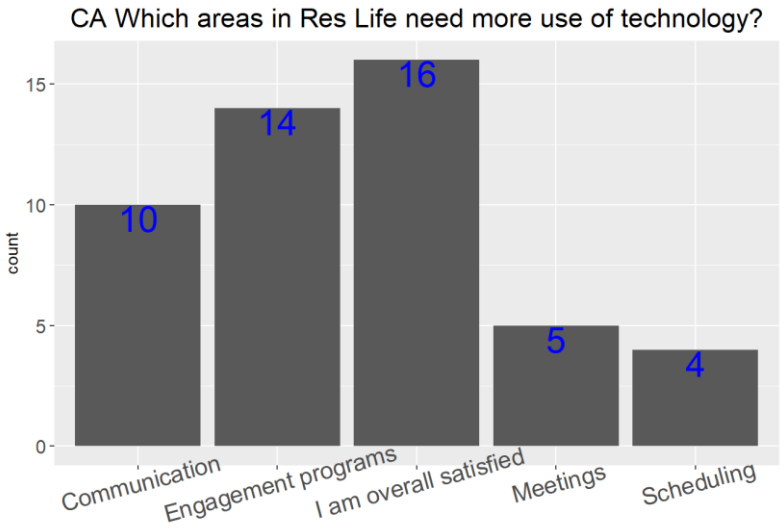


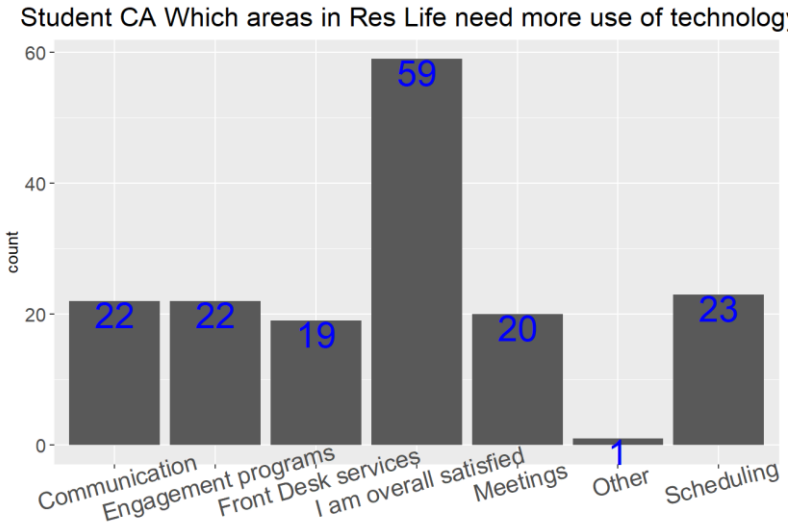




Why In-Person Meeting?

- CAs: Possible in-person connections
- Students: easy to be part of & in-person connections





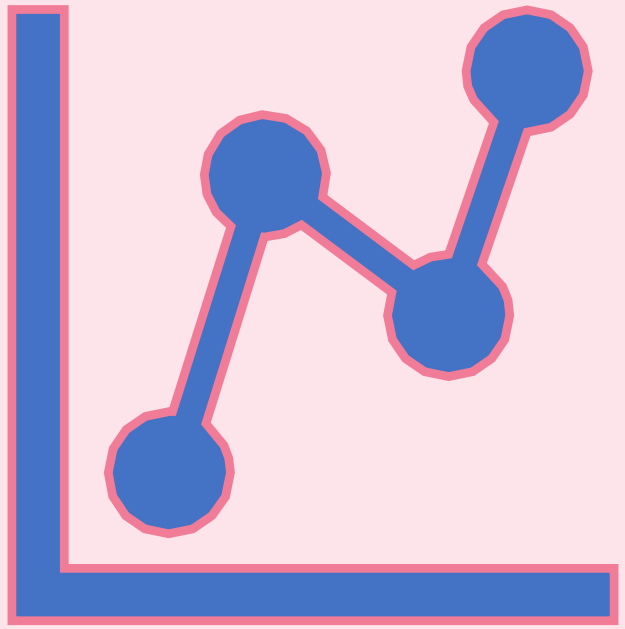
Areas of Improvements for Technology Use in Res Life

- CAs
  - Engagement programs and communication
  - Meetings and scheduling came after.
- Students
  - Overall even responses for each area.

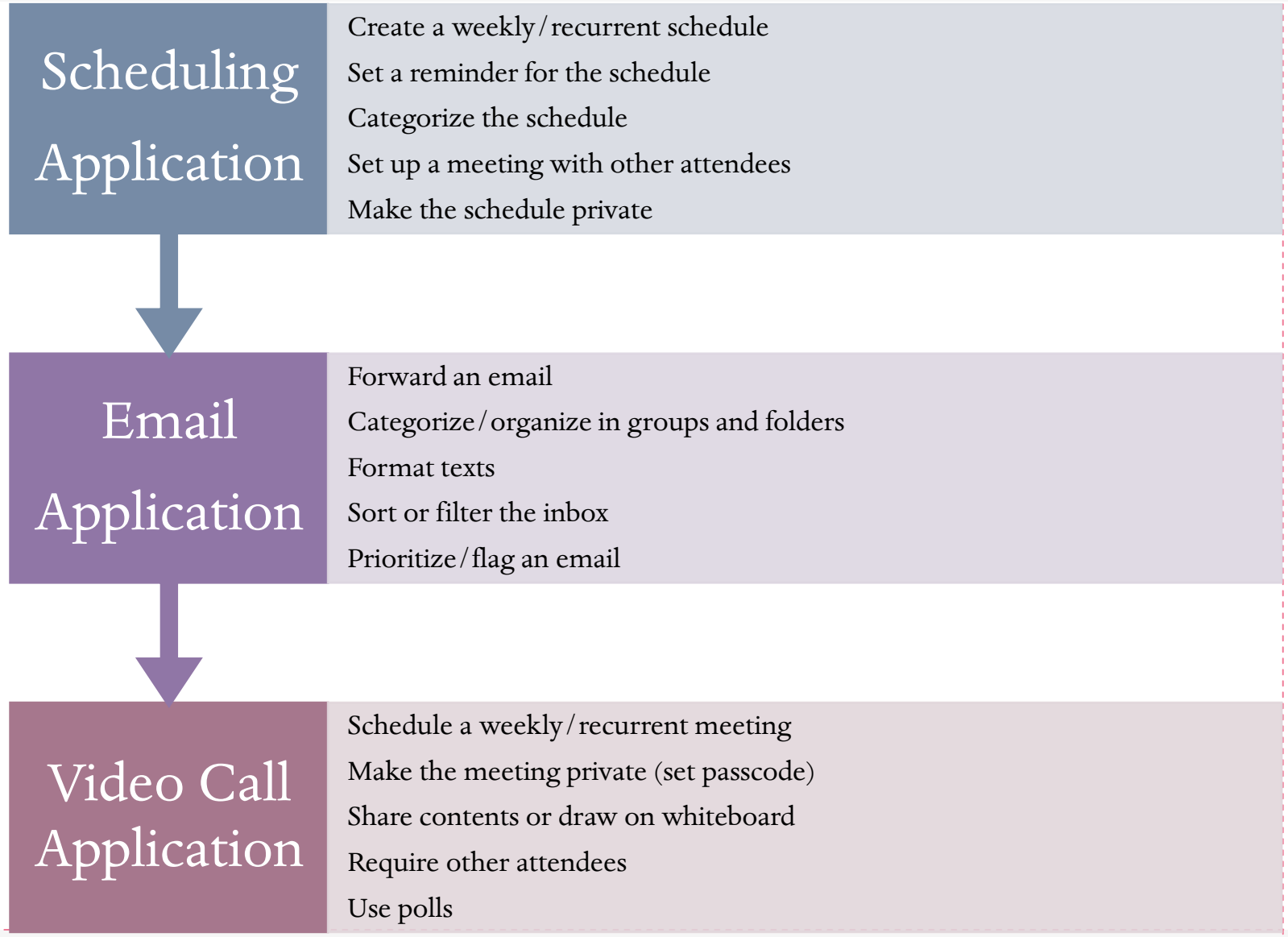
Findings – Fluency and Usage Score

- Survey Results based on **12-2-20** data

- Due to small dataset, all grouping become statistically insignificant
- Analysis depends on mean difference and the size of p-values
- Some uses nonparametric approximated tests
  - p-values may be off every time R code runs



Fluency and Usage Questions



Score Explanation

- 6 Different Scores
  - Area: Scheduling, Communication, Meeting
  - Type: Fluency (know how to), Usage (use frequently)

- 0-5 Scale
  - 5 Questions
  - Number of “Yes” = Number of points

Mean Scores

- Usage scores are overall much lower
- Fluent in communication, but worst in usage

	Fluency	Usage
Scheduling	3.594059	1.49505
Communication	3.752475	1.178218
Meeting	3.059406	1.39604

Difference between Fluency and Usage

Paired t-test between fluency and usage scores for each scheduling, communication, and meeting

For all, very small p-value (alternative: Fluency < Usage)

Mean Differences		
Scheduling: 2.09	Communication: 2.57	Meeting: 1.66

Comparison of Three Areas

- Paired t-test of two scores
- Meeting score is low in fluency, but all three are similar in usage

Fluency

- Scheduling vs Communication
  - p-value: 0.2575
  - Mean Diff: -0.16
- Scheduling vs Meeting
  - p-value: 0.00017
  - Mean Diff: 0.53
- Communication vs Meeting
  - p-value: < 0.001
  - Mean Diff: 0.69

Usage

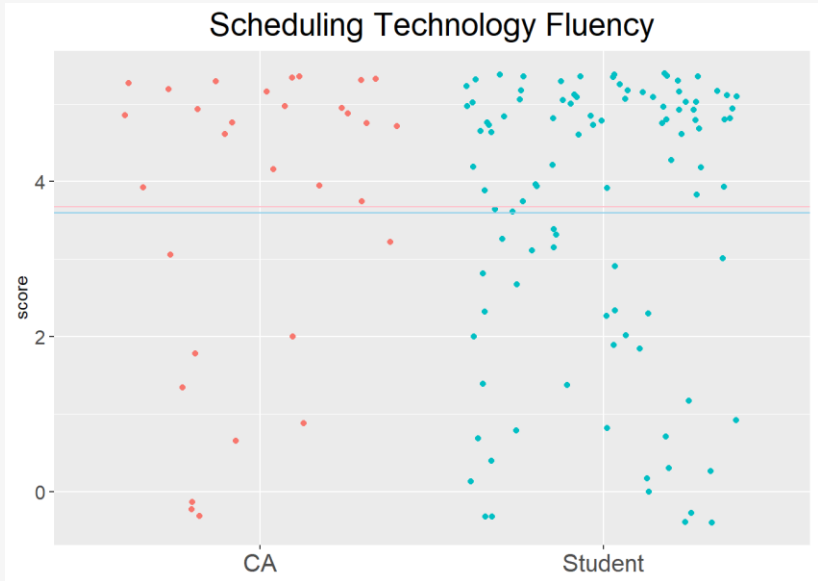
- Scheduling vs Communication
  - p-value: 0.02431
  - Mean Diff: 0.32
- Scheduling vs Meeting
  - p-value: 0.5469
  - Mean Diff: 0.099
- Communication vs Meeting
  - p-value: 0.1583
  - Mean Diff: -0.22

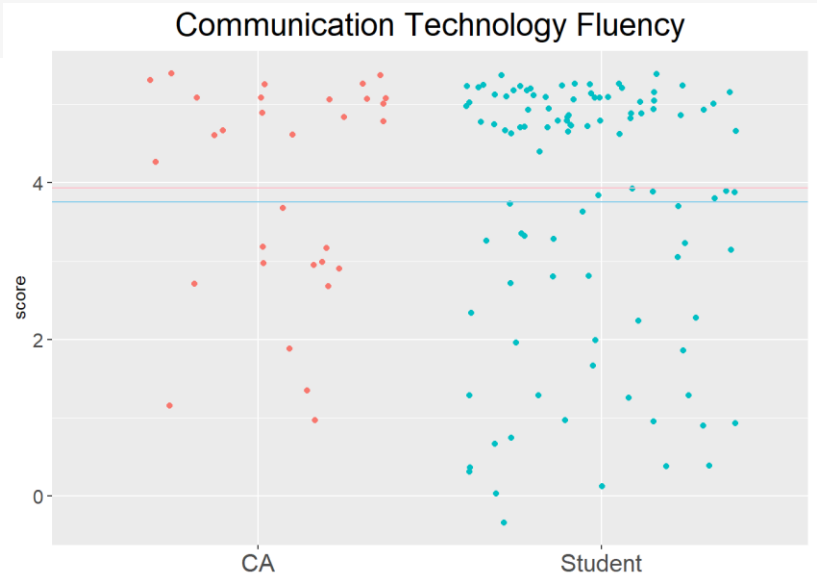
Student Staff vs Students

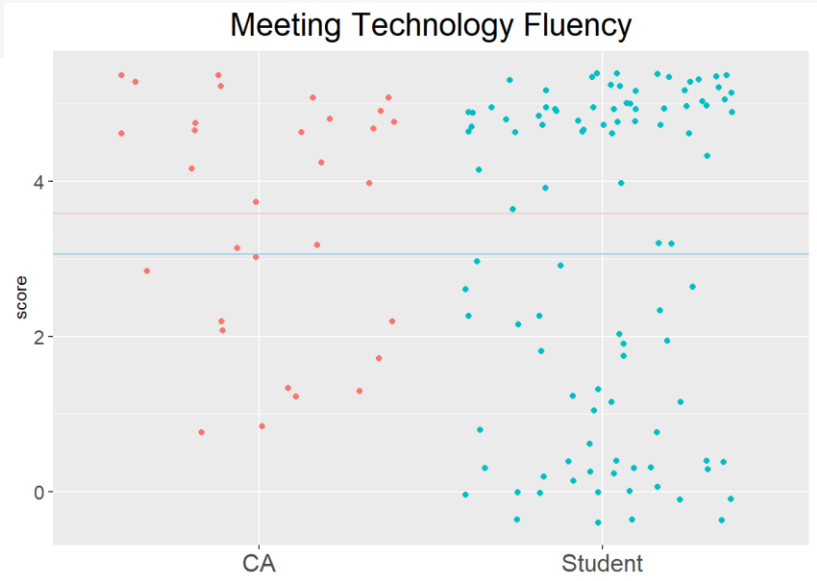
- 2 Sample t-test
  - Staff 30+ Students 100+
- Alternative: Staff __ Students
  - Based on their mean differences

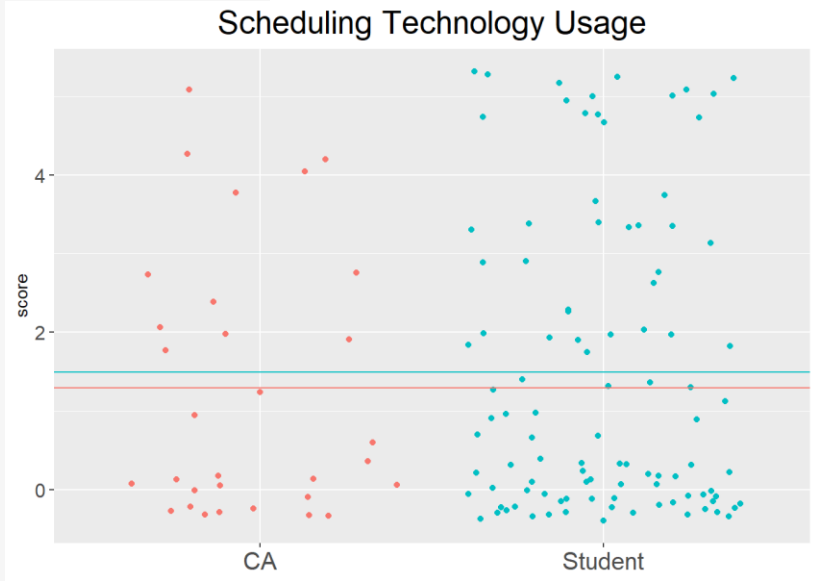
- Staff are slightly more fluent
- No big difference in usage

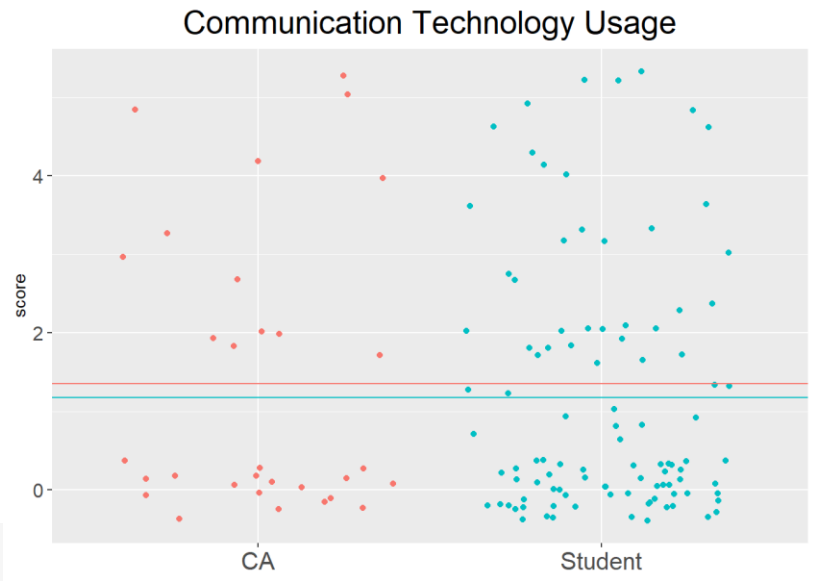
p-value	Fluency	Usage
Scheduling	0.4118 (>) 0.08335995	0.2765 (<) -0.2047269
Communication	0.2708 (>) 0.1830086	0.3129 (>) 0.1766209
Meeting	0.07205 (>) 0.5212392	0.272 (<) -0.2024912

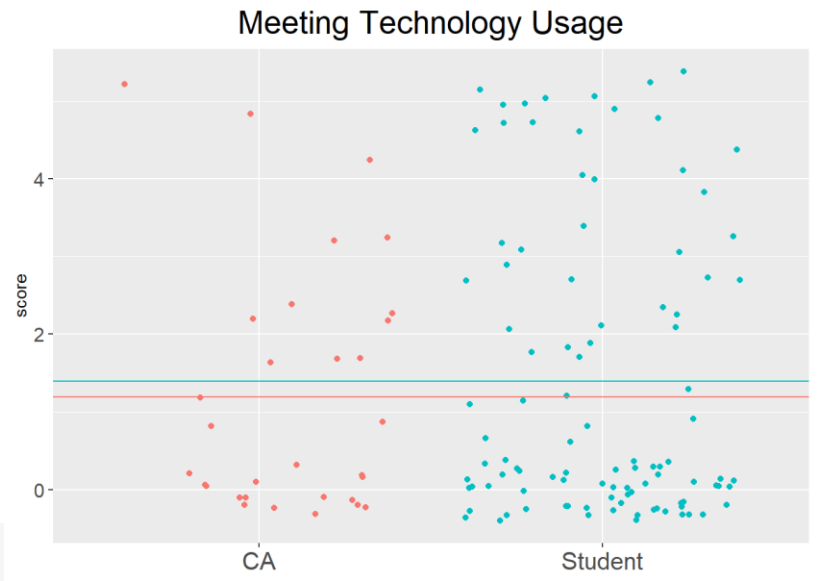

Scheduling Technology Fluency
score
4
2
0
CA
Student


Communication Technology Fluency
score
4
2
0
CA
Student


Meeting Technology Fluency
score
4
2
0
CA
Student


Scheduling Technology Usage
score
4
2
0
CA
Student


Communication Technology Usage
score
4
2
0
CA
Student

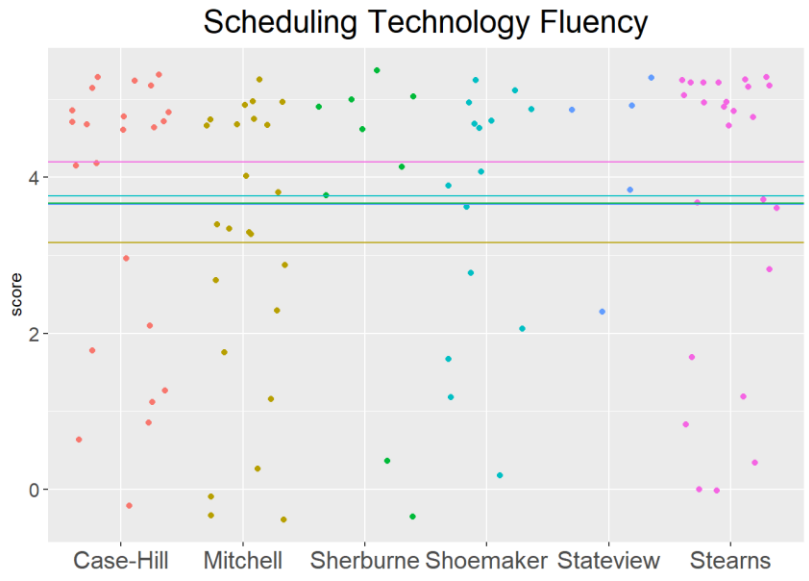

Meeting Technology Usage
score
4
2
0
CA
Student

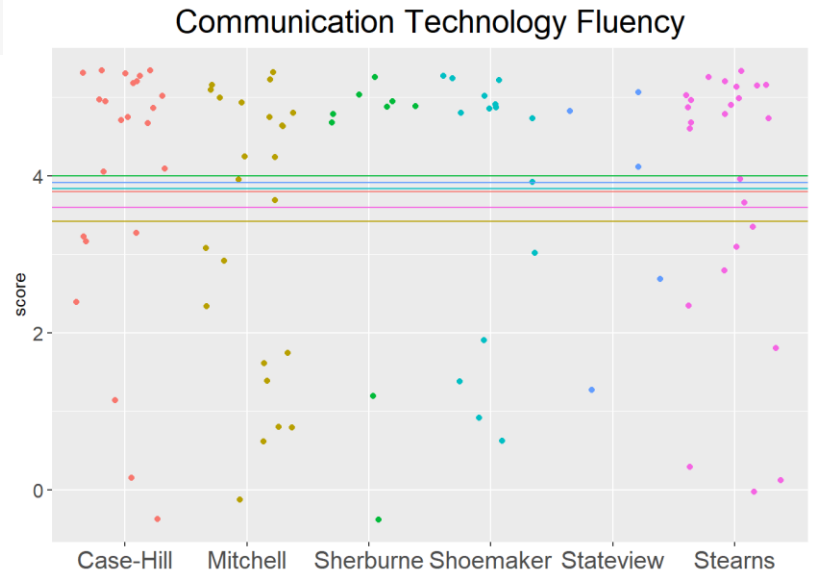
Comparison by Hall

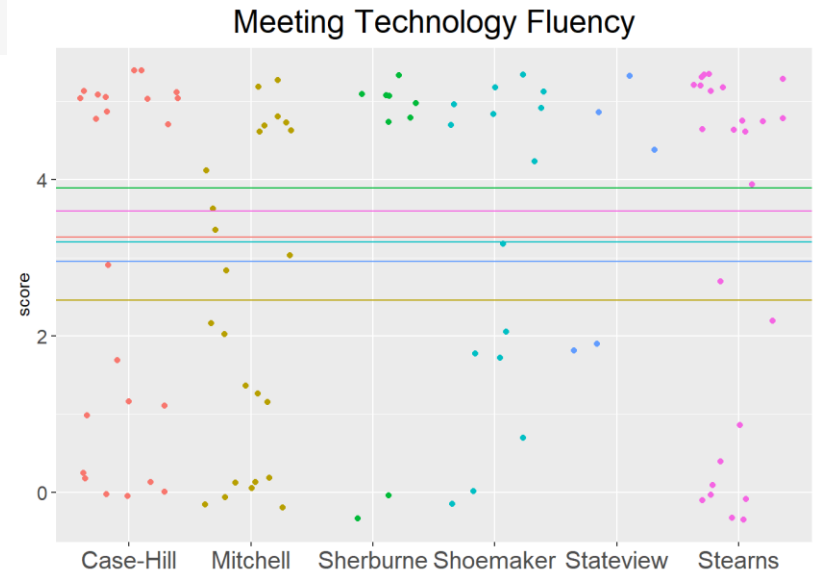
- Kruskal Wallis Test
  - Nonparametric test for comparing multiple groups (extended Mann-Whitney test)
  - Small group sizes

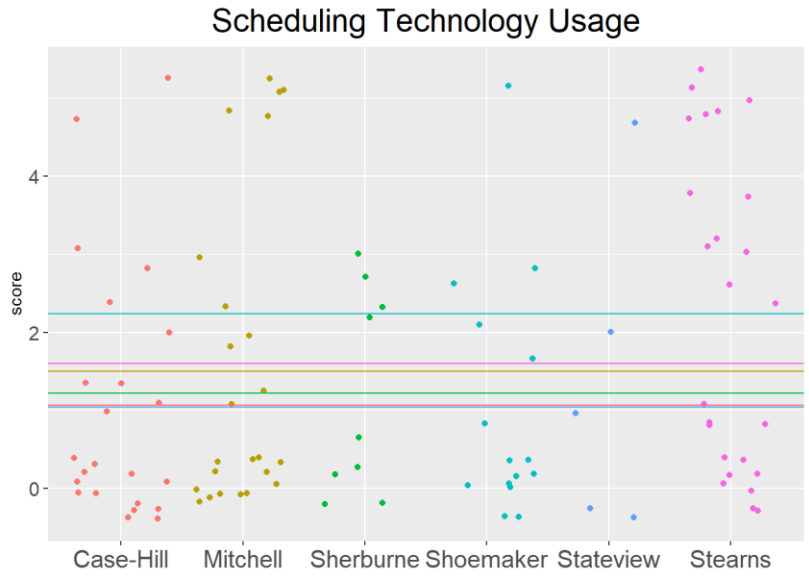
- No consistent outcome

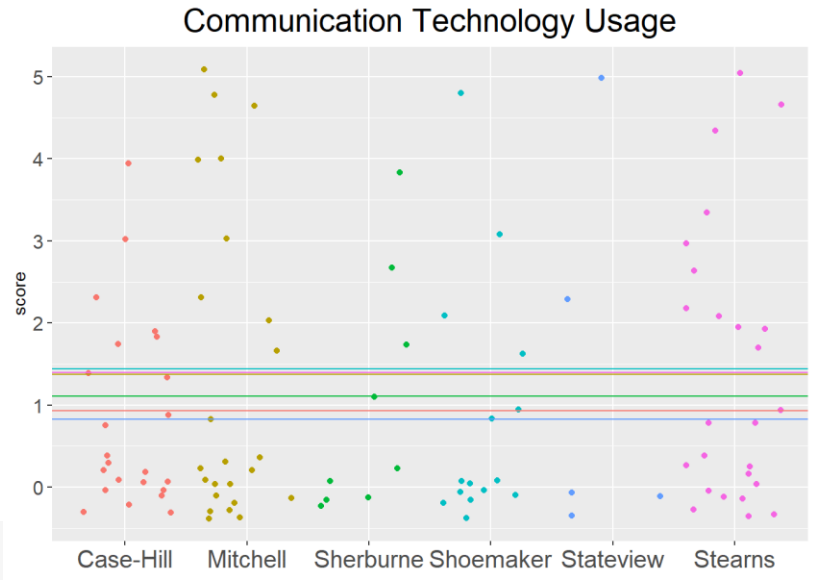
p-value	Fluency	Usage
Scheduling	0.7488	0.3257
Communication	0.7372	0.8792
Meeting	0.5163	0.7785

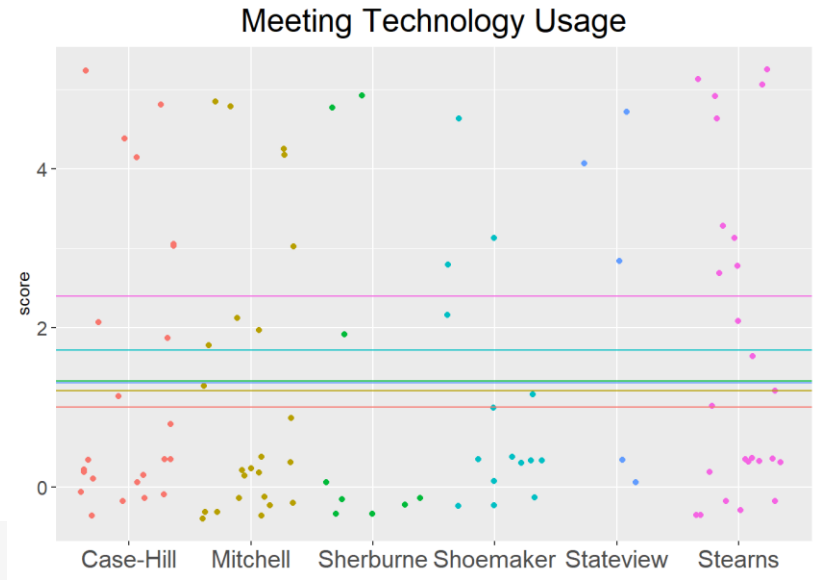

Scheduling Technology Fluency
score
0
2
4
Case-Hill
Mitchell
Sherburne
Shoemaker
Stateview
Stearns


Communication Technology Fluency
score
0
2
4
Case-Hill
Mitchell
Sherburne
Shoemaker
Stateview
Stearns


Meeting Technology Fluency
score
0
2
4
Case-Hill
Mitchell
Sherburne
Shoemaker
Stateview
Stearns


Scheduling Technology Usage
score
0
2
4
Case-Hill
Mitchell
Sherburne
Shoemaker
Stateview
Stearns

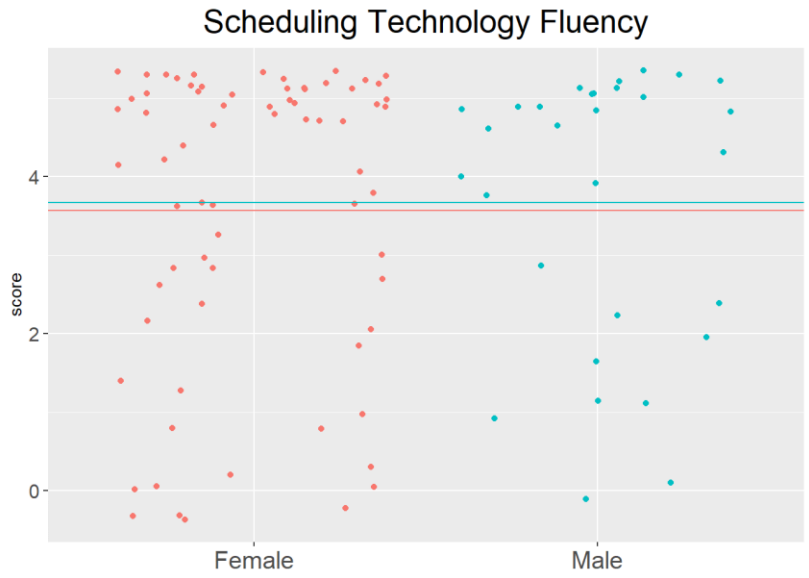

Communication Technology Usage
score
0
1
2
3
4
5
Case-Hill
Mitchell
Sherburne
Shoemaker
Stateview
Stearns

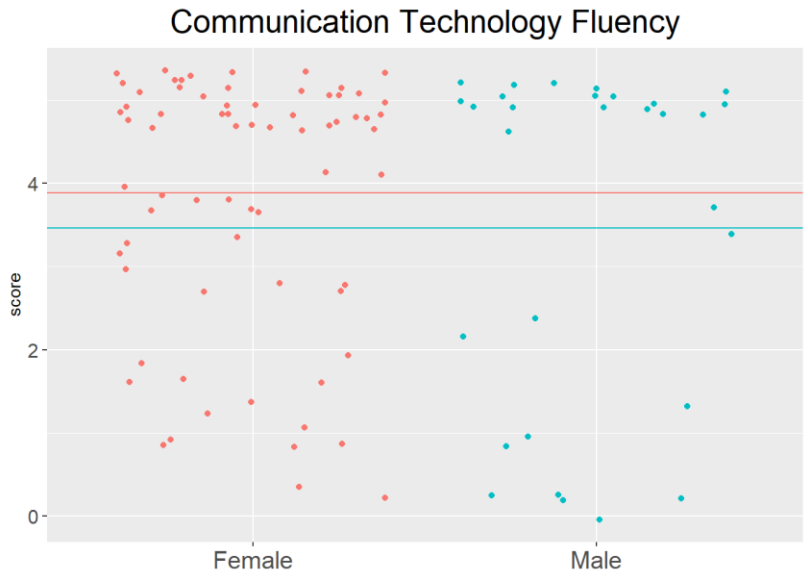

Meeting Technology Usage
score
0
2
4
Case-Hill
Mitchell
Sherburne
Shoemaker
Stateview
Stearns

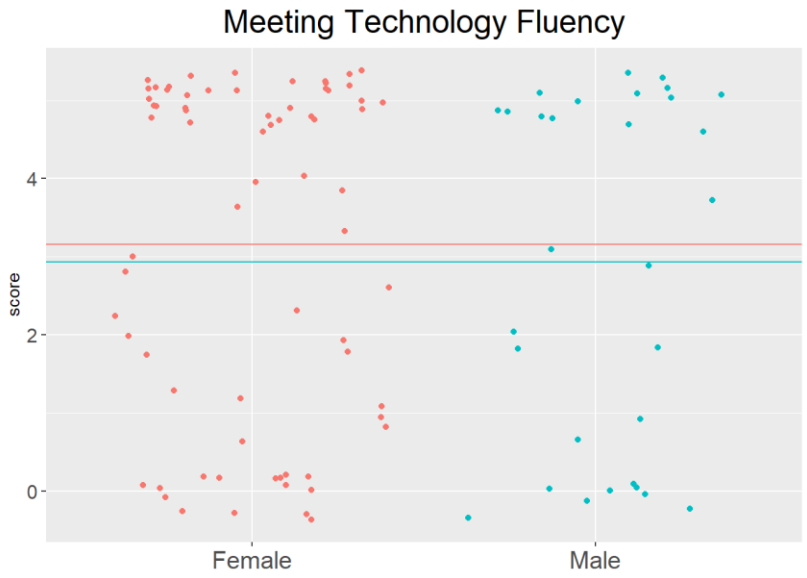
Comparison by Gender

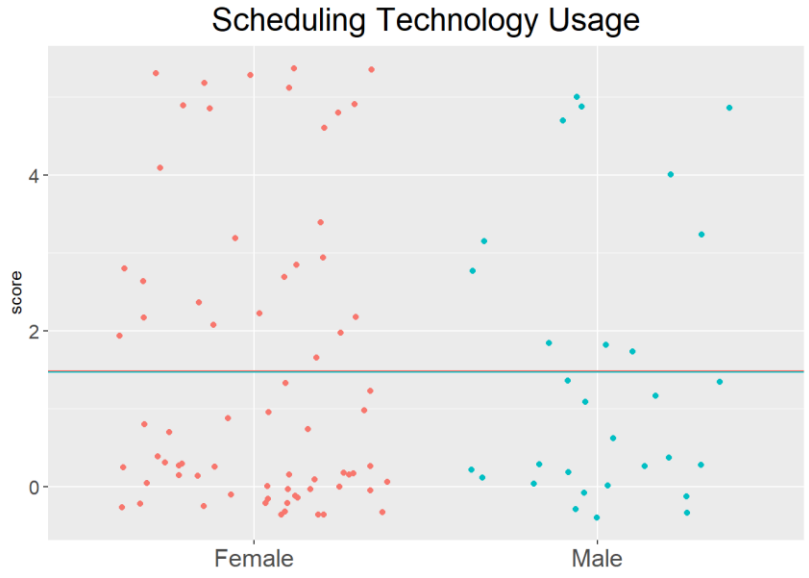
- Two Sample t-Test
  - Large enough sample size
    - F 70, M 30
    - Only one unknown (ignored for simplicity)
- Slight difference in comm.
- Slightly higher for females in most areas

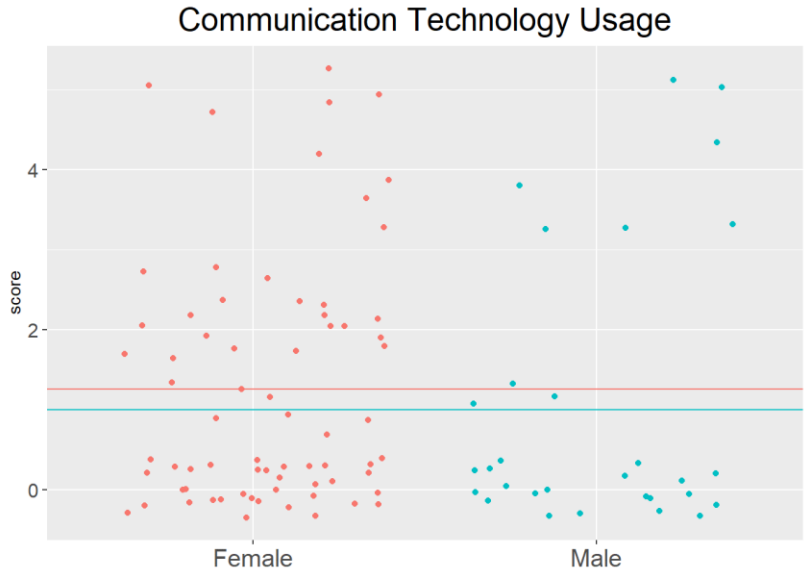
p-value	Fluency	Usage
Scheduling	0.807 -0.0952381	0.9621 0.01904762
Communication	0.3256 0.4190476	0.4778 0.2571429
Meeting	0.6385 0.2238095	0.9372 -0.03333333

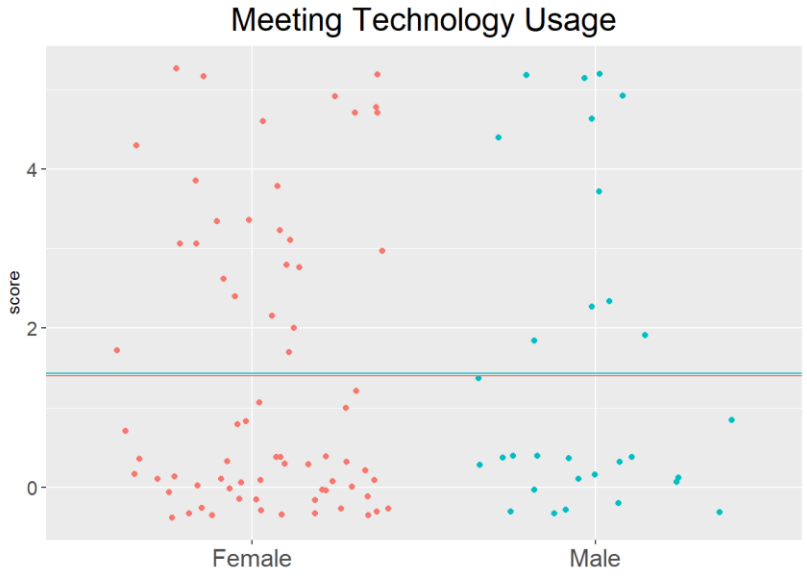

Scheduling Technology Fluency
score
4
2
0
Female
Male


Communication Technology Fluency
score
4
2
0
Female
Male


Meeting Technology Fluency
score
4
2
0
Female
Male


Scheduling Technology Usage
score
4
2
0
Female
Male


Communication Technology Usage
score
4
2
0
Female
Male

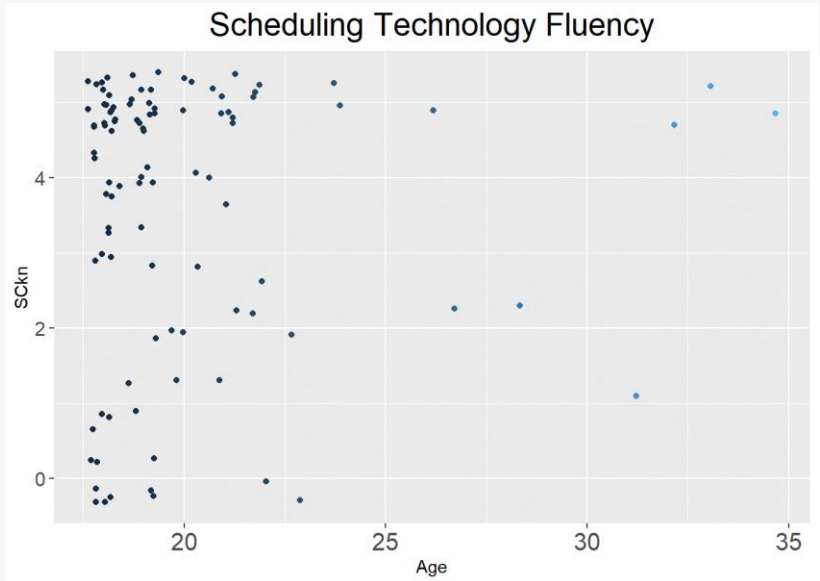

Meeting Technology Usage
score
4
2
0
Female
Male

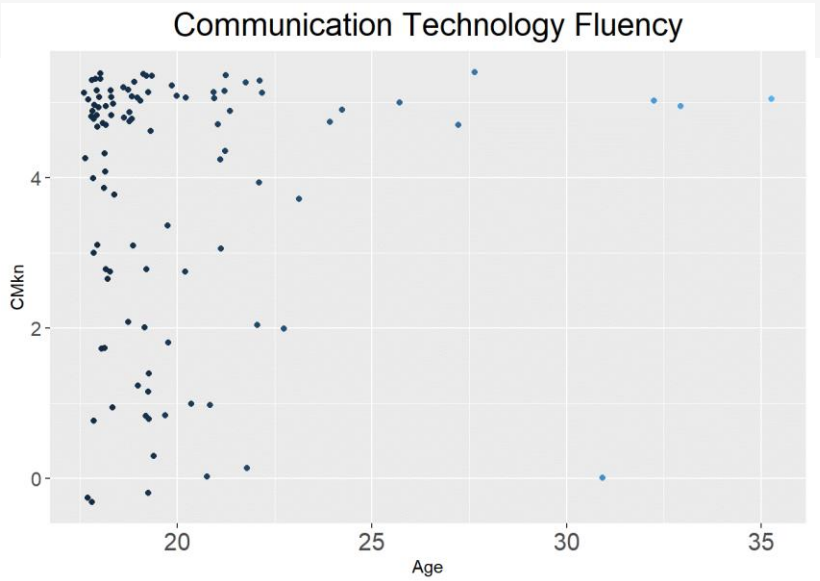
Correlation with Age

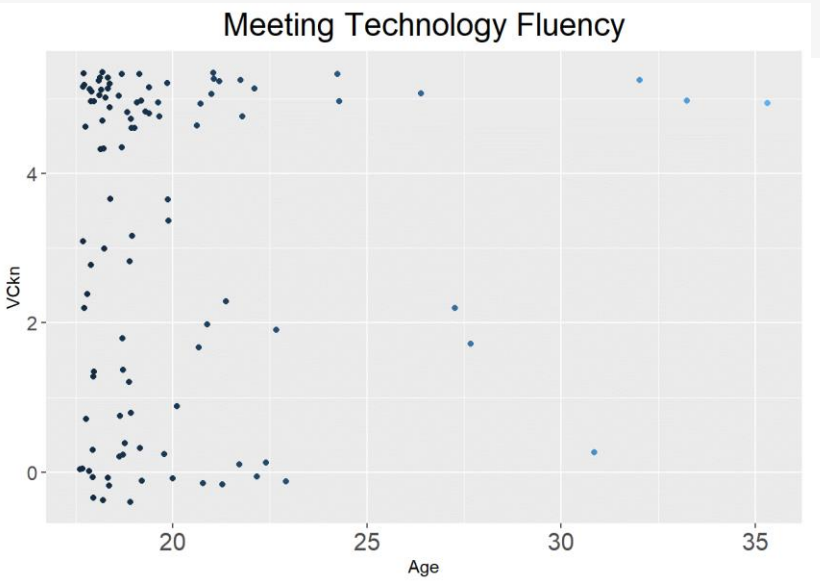
- Pearson Correlation Test
  - Category vs Quantitative
  - Ave Age: 20.0495

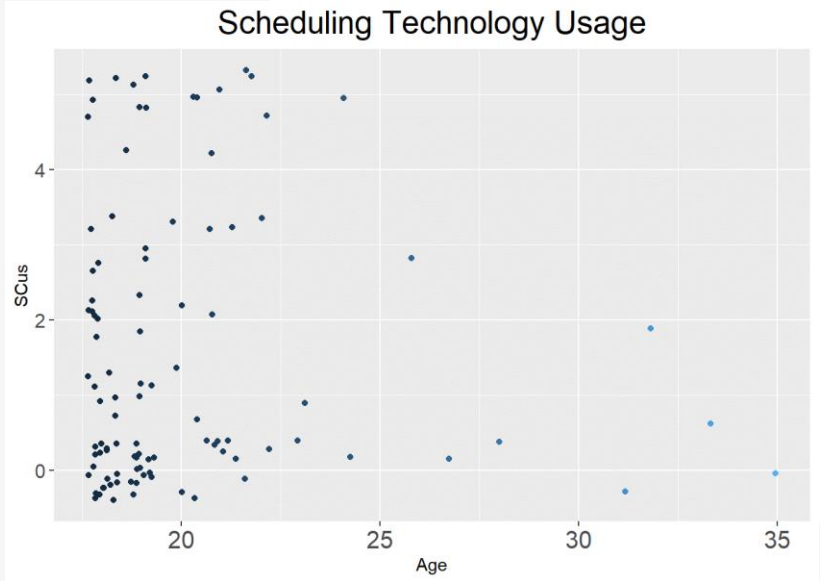
- High variance in younger population
- High scores for older students in fluency, but low/average in usage

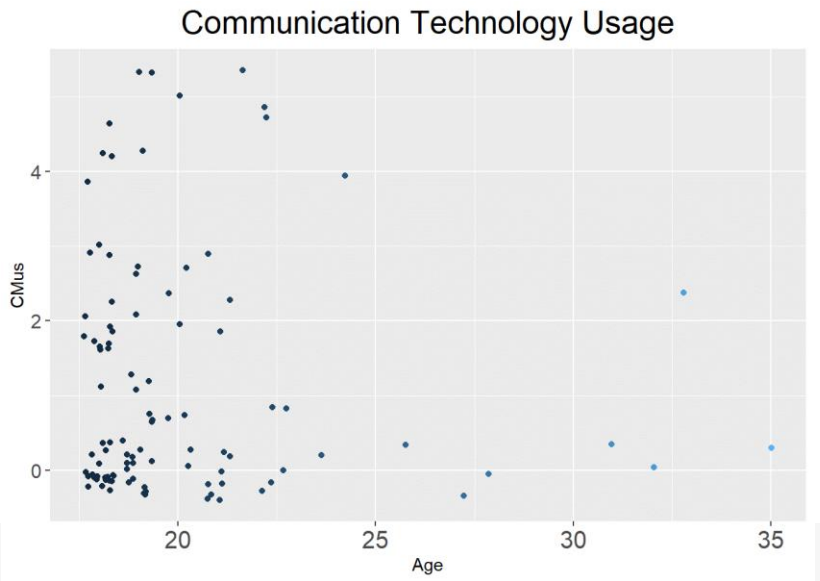
p-value	Fluency	Usage
Scheduling	0.8191 0.02545569	0.7798 -0.02238248
Communication	0.6321 0.05050889	0.3633 -0.08420549
Meeting	0.6432 0.04948217	0.4092 0.08743197

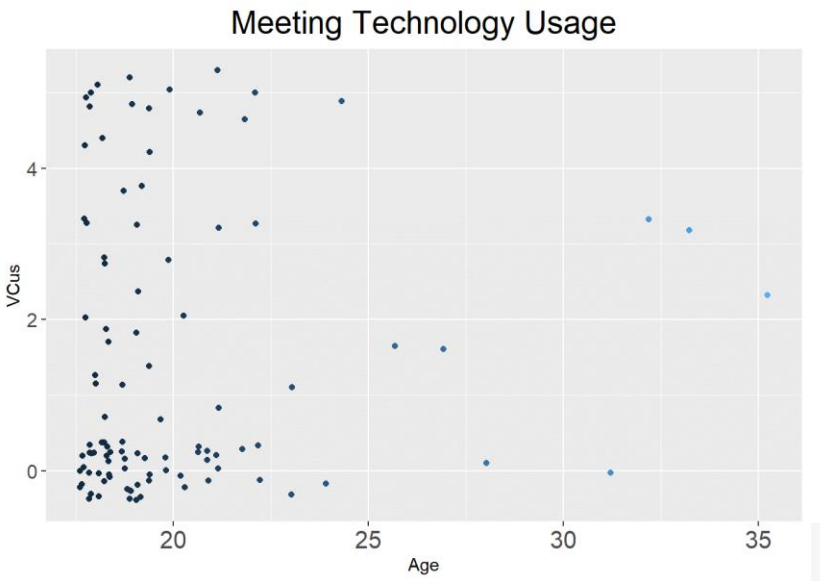

Scheduling Technology Fluency
SCkn
Age
0
2
4
20
25
30
35


Communication Technology Fluency
CMkn
Age
0
2
4
20
25
30
35


Meeting Technology Fluency
VCkn
Age
0
2
4
20
25
30
35


Scheduling Technology Usage
SCus
Age
0
2
4
20
25
30
35

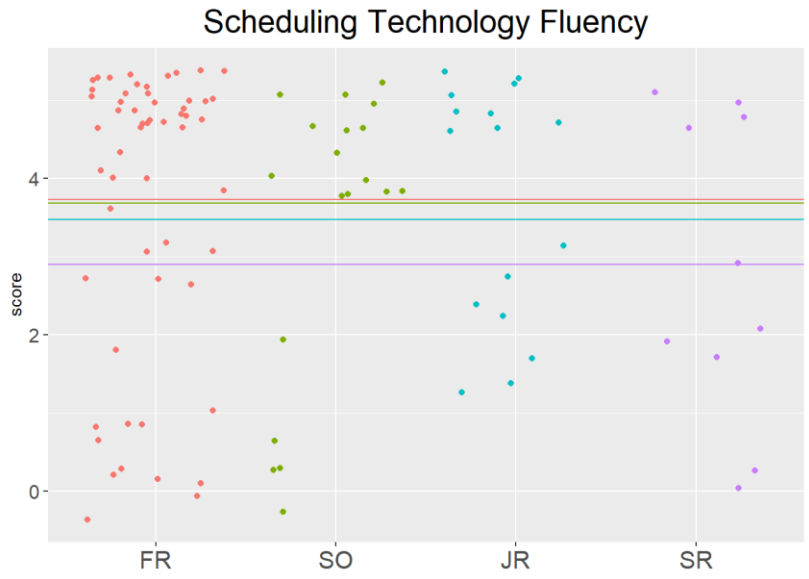

Communication Technology Usage
CMus
Age
0
2
4
20
25
30
35

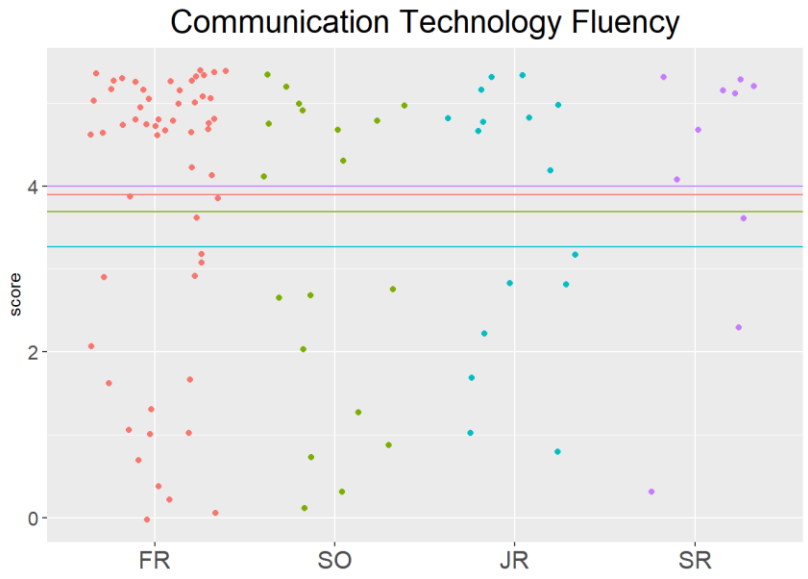

Meeting Technology Usage
VCus
Age
0
2
4
20
25
30
35

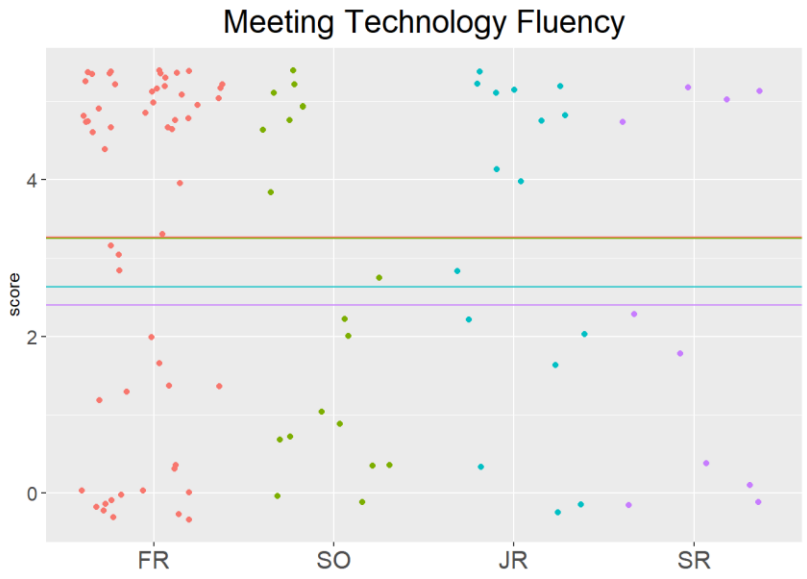
Comparison by Class (Year in College)

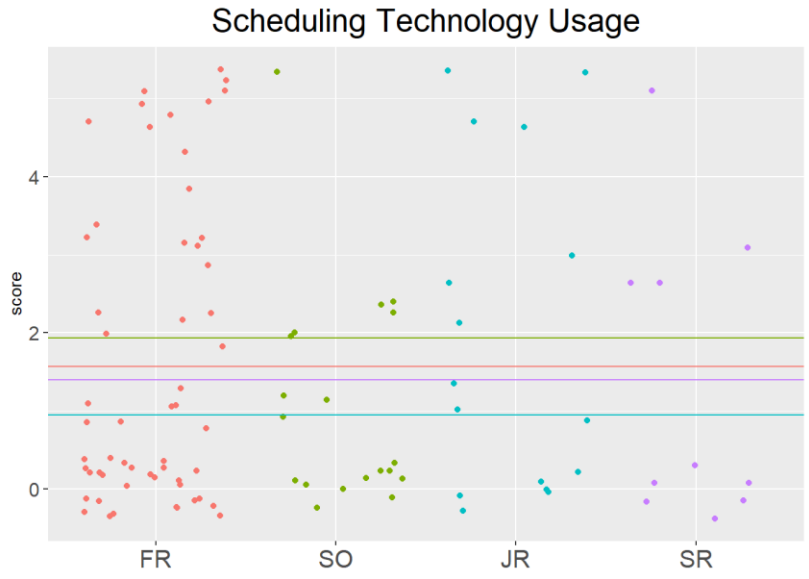
- Kruskal Wallis Test
  - Small group sizes
  - Large freshmen with less than 20 for other upper classes
  - #: 56, 19, 16, 10
- Seniors have low scores mostly
- Sophomores and Freshmen have overall higher scores

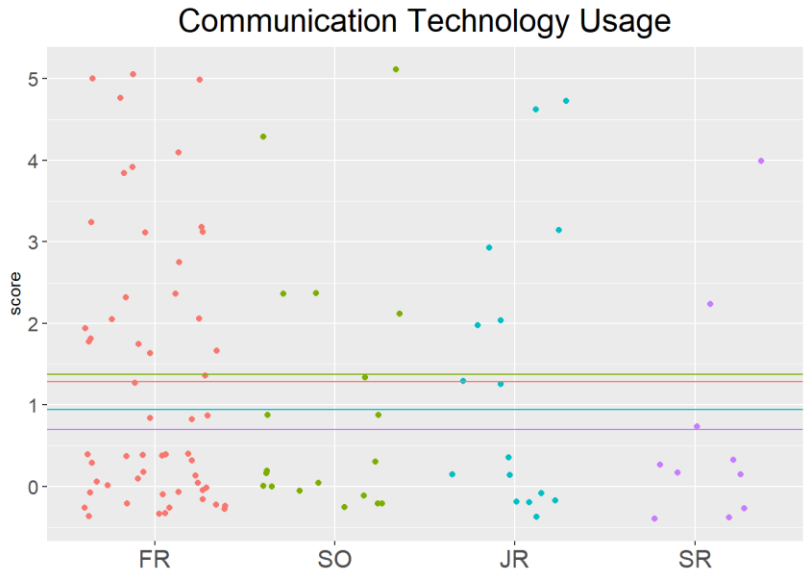
p-value	Fluency	Usage
Scheduling	0.5821	0.7798
Communication	0.4648	0.6105
Meeting	0.5588	0.9497

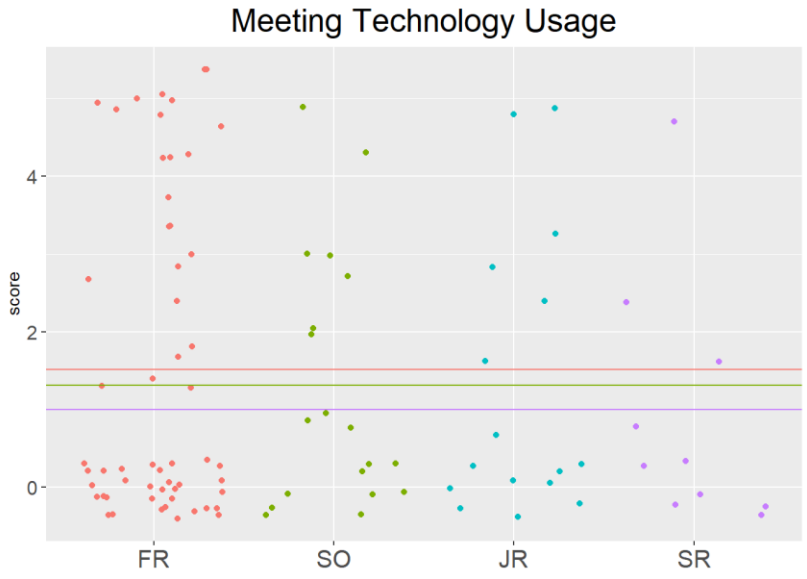

Scheduling Technology Fluency
score
4
2
0
FR
SO
JR
SR


Communication Technology Fluency
score
4
2
0
FR
SO
JR
SR


Meeting Technology Fluency
score
4
2
0
FR
SO
JR
SR


Scheduling Technology Usage
score
4
2
0
FR
SO
JR
SR

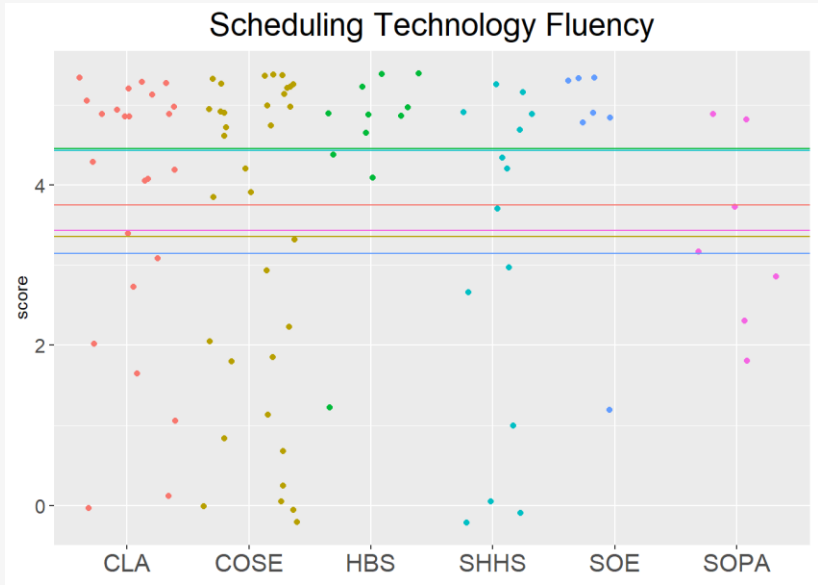

Communication Technology Usage
score
5
4
3
2
1
0
FR
SO
JR
SR

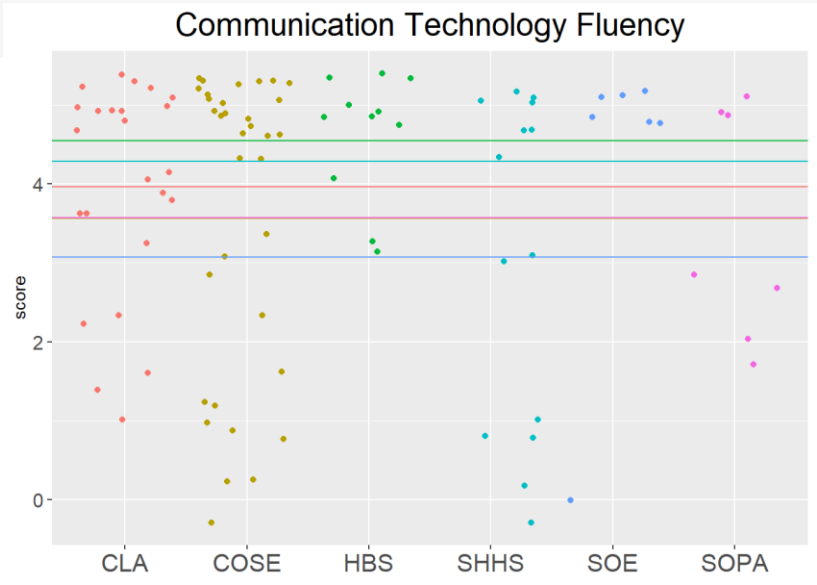

Meeting Technology Usage
score
4
2
0
FR
SO
JR
SR

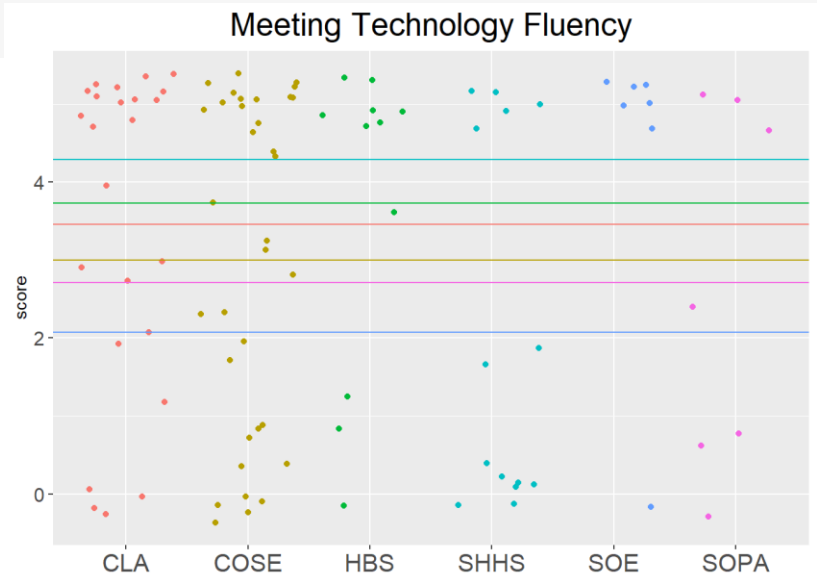
Comparison by College/School

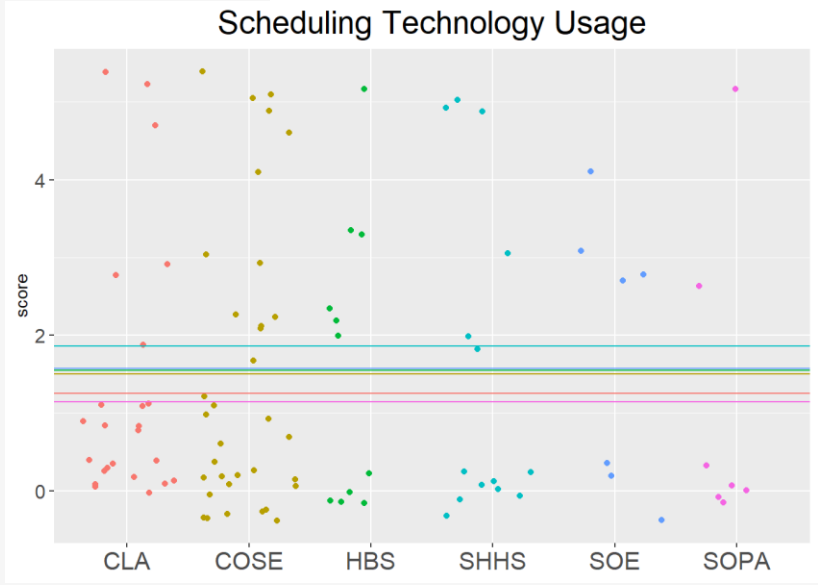
- Kruskal Wallis Test
  - Small group sizes
  - Removed unknown (3) and University College (1) for simplicity
- SOE and HB have high scores in fluency (also have low p-values)
- Usage scores vary too much between groups

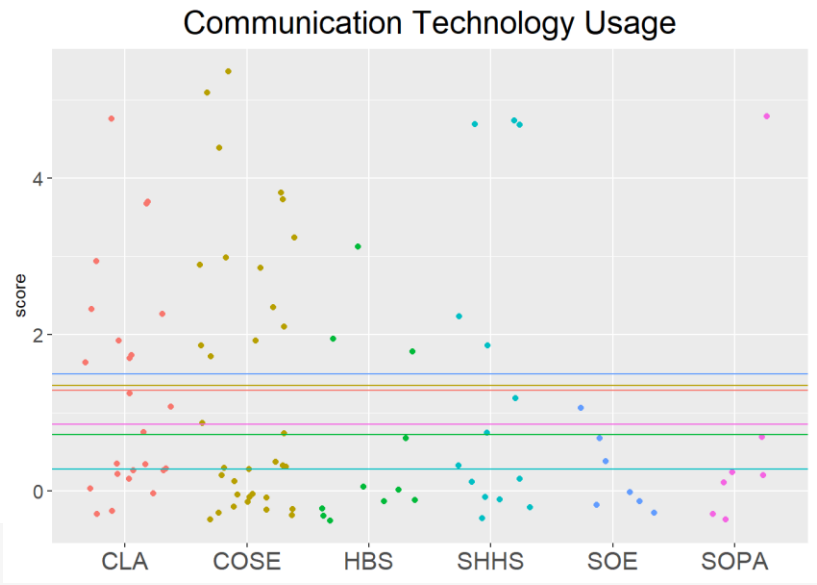
p-value	Fluency	Usage
Scheduling	0.2118	0.941
Communication	0.3359	0.5728
Meeting	0.1835	0.4004

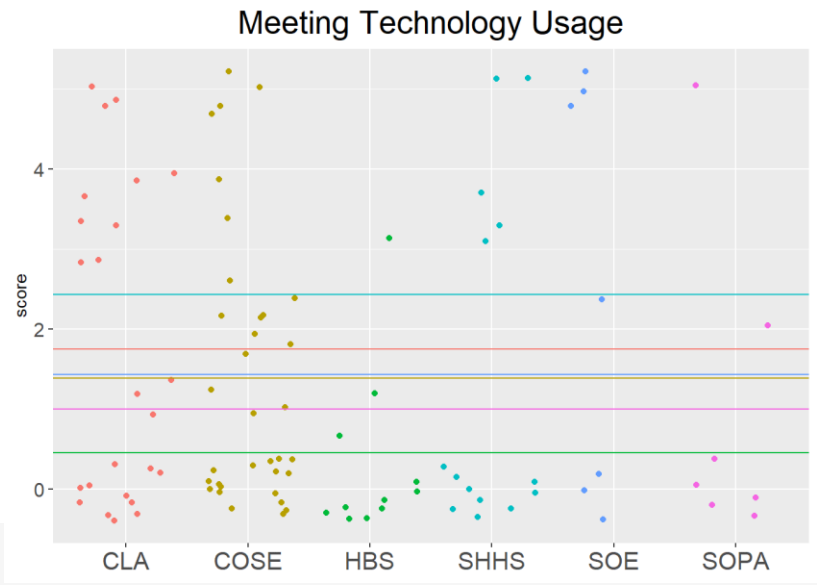

Scheduling Technology Fluency
score
0
2
4
CLA
COSE
HBS
SHHS
SOE
SOPA


Communication Technology Fluency
score
0
2
4
CLA
COSE
HBS
SHHS
SOE
SOPA


Meeting Technology Fluency
score
0
2
4
CLA
COSE
HBS
SHHS
SOE
SOPA


Scheduling Technology Usage
score
0
2
4
CLA
COSE
HBS
SHHS
SOE
SOPA


Communication Technology Usage
score
0
2
4
CLA
COSE
HBS
SHHS
SOE
SOPA


Meeting Technology Usage
score
0
2
4
CLA
COSE
HBS
SHHS
SOE
SOPA

Discussion

- OLS fitting did not work out well
  - Only "Senior" indication showed 90% significance (others lower)
  - Due to small sample (multiple layers of grouping will result in very tiny group sizes)

- None of the comparisons came out as significant
  - Same reason as above
  - Focus on mean differences and p-value sizes

- Too many scores
  - Hard to decide what to focus on
  - May consider sum 3 areas into one and only consider fluency/usage