



Alumni Association Report

Team 04

12.03.2021

Our Team



Yun-Jung Fan



Phuong Huynh



Haley O'Reagan



Hsin-Yuan Yen

Agenda

01

Mission Statement

02

Mission Objectives

03

Methods

04

Findings

05

Recommendations

06

Future Work

An aerial, grayscale photograph of a university campus. A large, rectangular green field with a circular center is the focal point. Radiating paths lead from the center towards the edges of the frame. In the background, a large, classical-style building with a prominent portico is visible. The surrounding area is filled with other campus buildings and trees.

01

Mission

Mission Statement

We will identify variables that are correlated to the Alumni Association's **desired outcome of higher event attendance**. Specifically, we want to advise the Association on **how to increase the number of first time attendees** and **major gift prospects** that attend their events.



Mission Objectives

1. Based on the variables provided in the Alumni dataset, how can we increase attendance among first time attendees?
2. Based on the variables provided in the Alumni dataset, how can we increase attendance among major prospects?



Methods

02



Correlation Analysis

Used to understand
the statistical
relationship between
two variables



K-Means Clustering

Used to partition
categorized codes into
k clusters, identifying
trends among the data



Regression Analysis

Used to estimate
relationships among
the variables provided

An aerial, grayscale photograph of a university campus. In the center is a large, open quad with a circular feature in the middle. Radiating from this central area are several wide, straight paths that lead to various academic buildings. The buildings are multi-story and have a classic architectural style. The campus is surrounded by dense trees. Overlaid on the left side of the image is a large, bold, red number '03'.

03

Findings

Variables of Interest



Average Age



Group Code



Date



Location

Correlation Analysis

Want to look more into the relationship between % Major Prospect and Average Age.

```
df.corr()
```

	Participated	Average Age	First Time Attendees	Percentage First Time Attendees	Major Prospects	Percentage Major Prospect
Participated	1.000000	0.037616	0.835996	0.047840	0.658973	0.113415
Average Age	0.037616	1.000000	-0.048204	-0.152633	0.308342	0.549320
First Time Attendees	0.835996	-0.048204	1.000000	0.281961	0.420884	0.051069
Percentage First Time Attendees	0.047840	-0.152633	0.281961	1.000000	0.000751	0.067701
Major Prospects	0.658973	0.308342	0.420884	0.000751	1.000000	0.481370
Percentage Major Prospect	0.113415	0.549320	0.051069	0.067701	0.481370	1.000000

Major prospects may also be first time attendees

Variables of Interest



Average Age

Group Code

Date

Location

Mission 1:

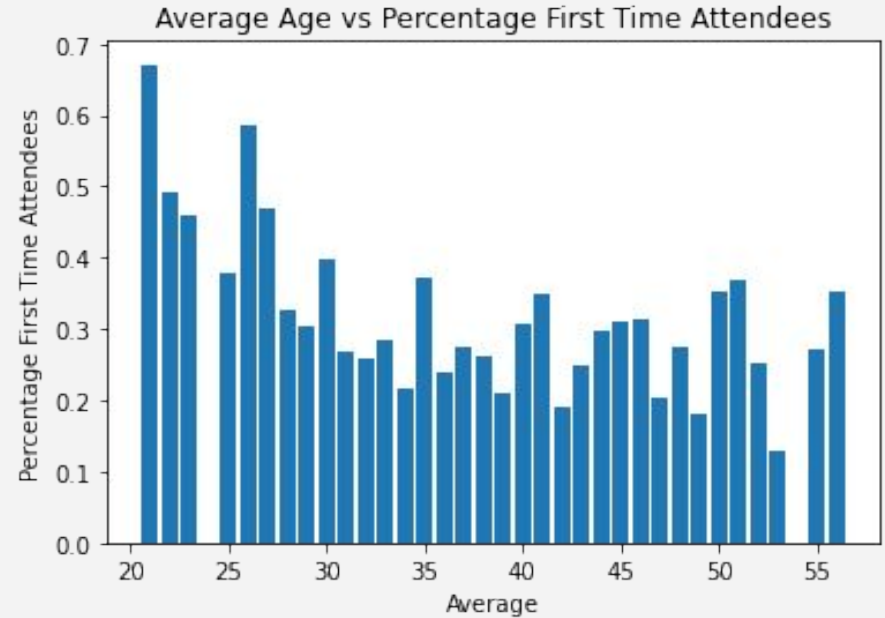
First Time Attendees

VS

Average Age

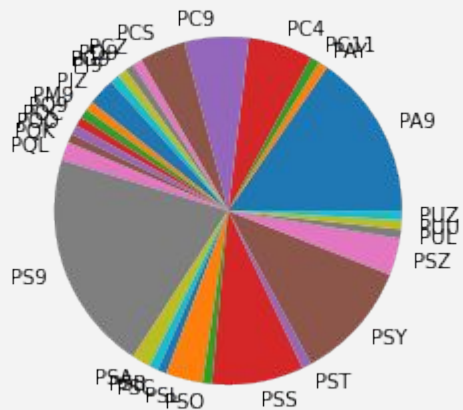
On average, from 19 to 30
years old

```
Average Age
21    0.671010
26    0.585062
22    0.491453
27    0.468864
23    0.460432
30    0.396667
25    0.378049
35    0.371711
51    0.368486
50    0.353562
dtype: float64
```



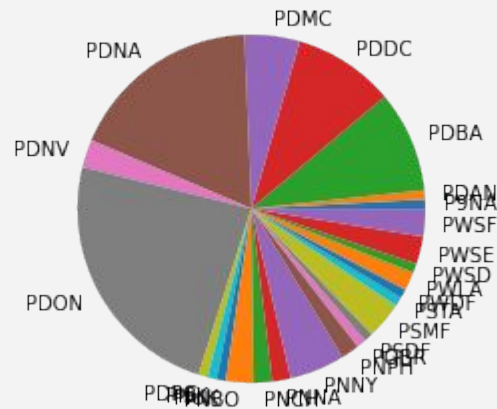
First Time Attendees vs Average Age

Events with high first time attendees rate among top 10 ages



Social (PS9) and Athletics (PA9) events

Locations with high first time attendees rate among top 10 ages

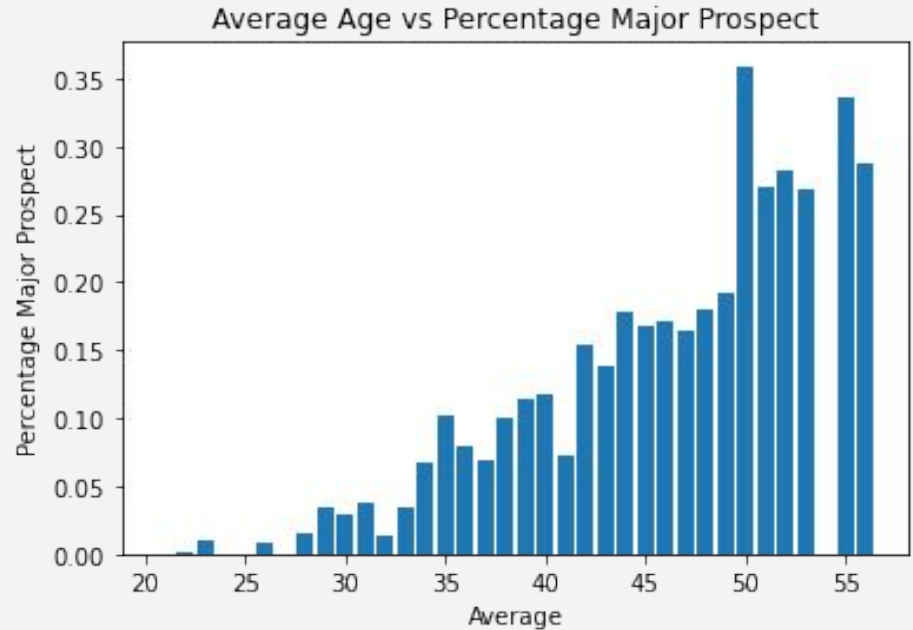


Primarily on Campus.

Mission 2:

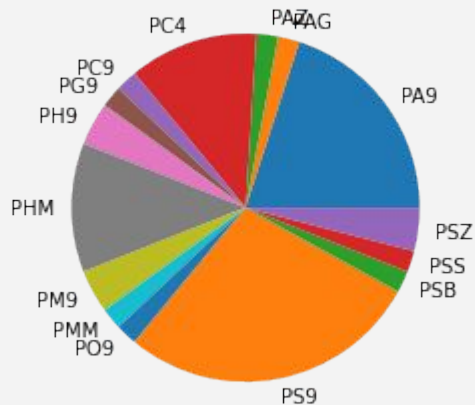
Major Prospect vs Average Age

People who are around 50 years old might have more ability to make a financial gift of \$50,000 or more to the university.



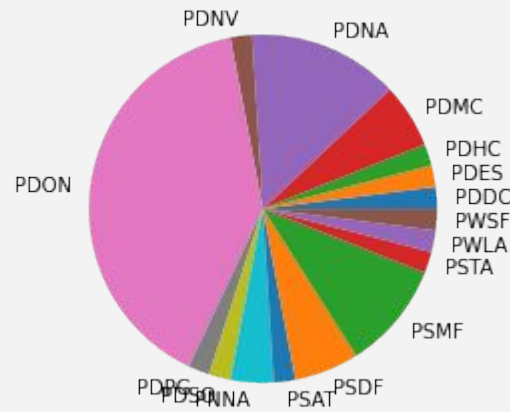
Mission 2: Major Prospects vs Average Age

Events with high first major prospect rate with ages ≥ 50



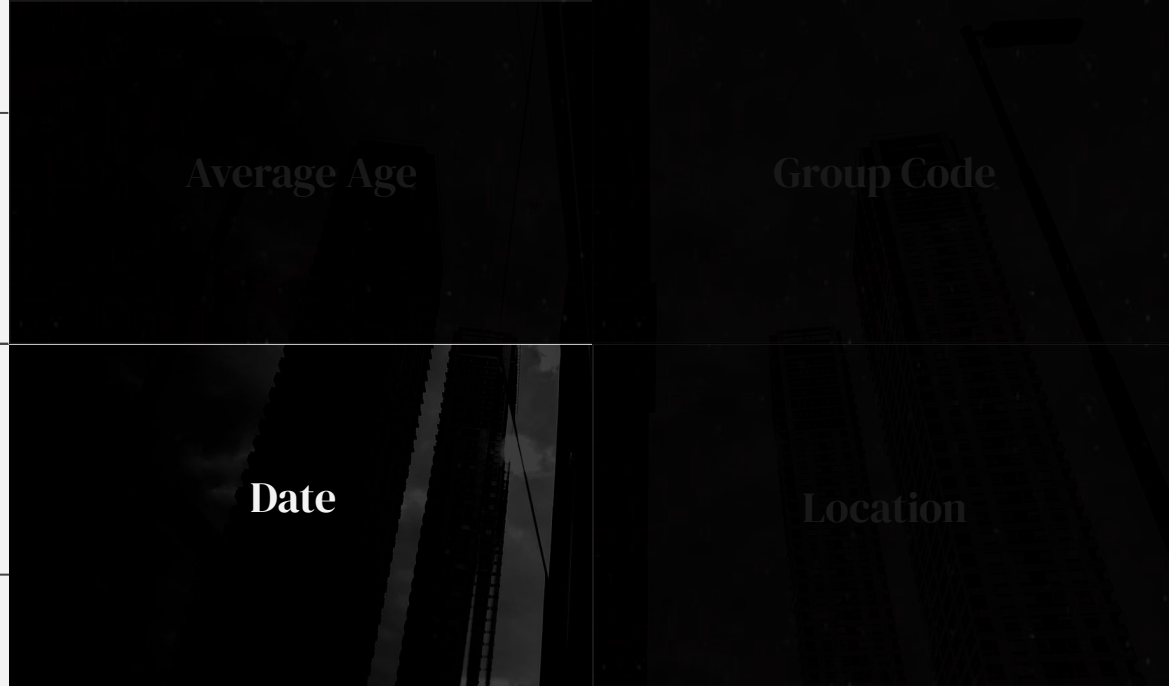
General Social (PS9) and Athletics (PA9) events.

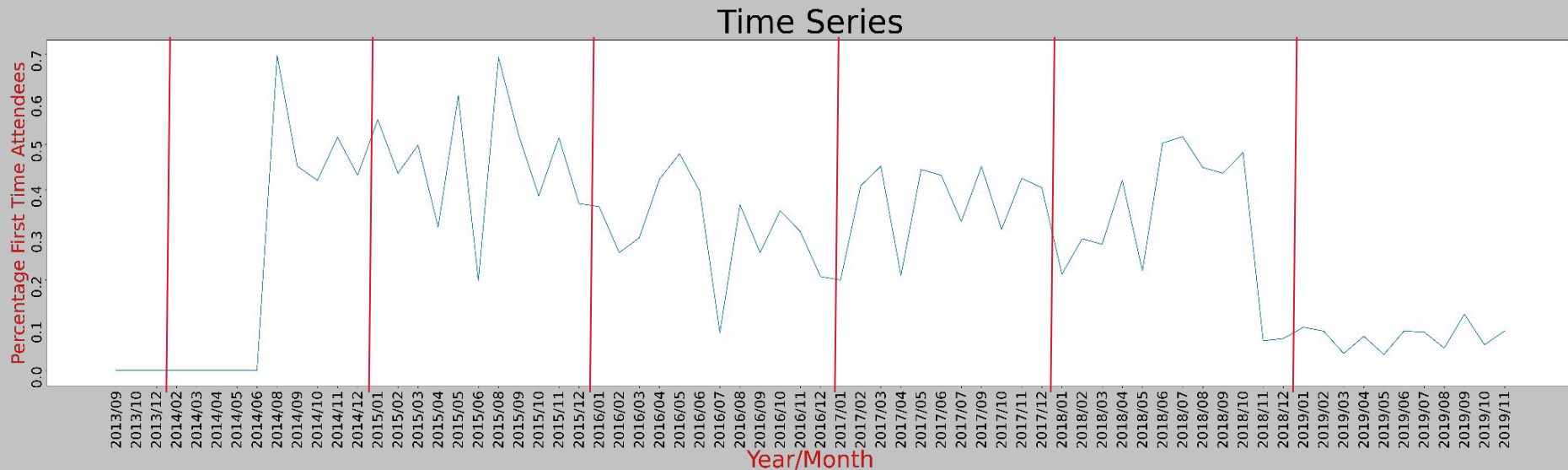
Locations with high Percentage Major Prospect with ages ≥ 50



Primarily on Campus.

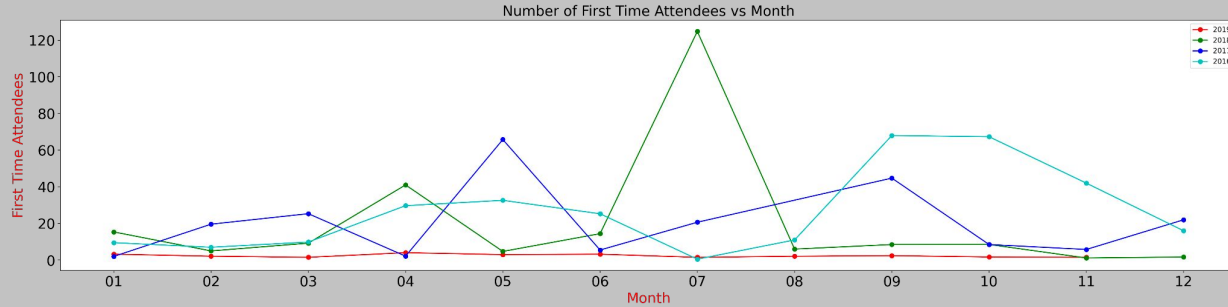
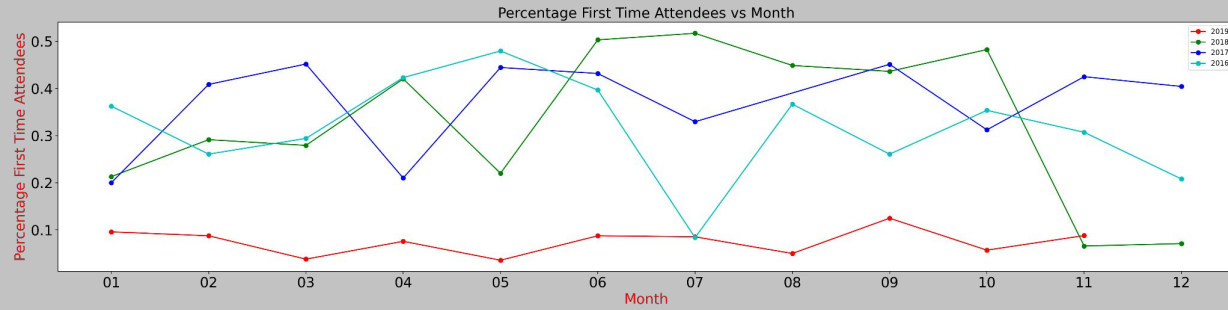
Variables of Interest





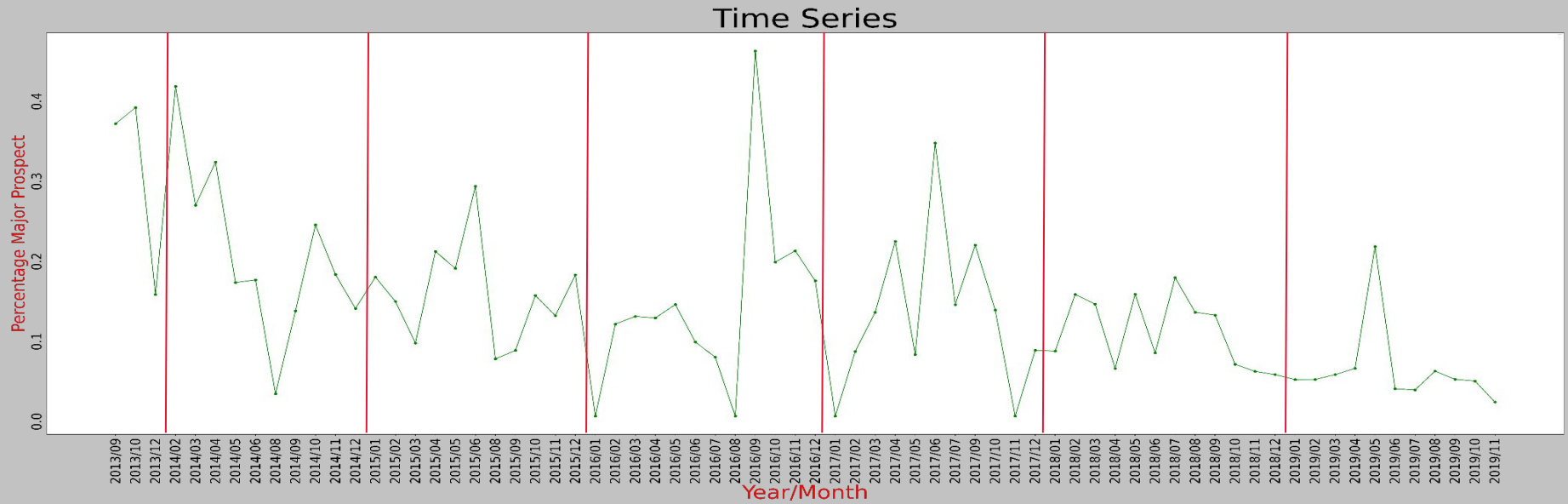
Mission 1: First Time Attendees vs Date

The percentage first-time attendees slightly declines over time.



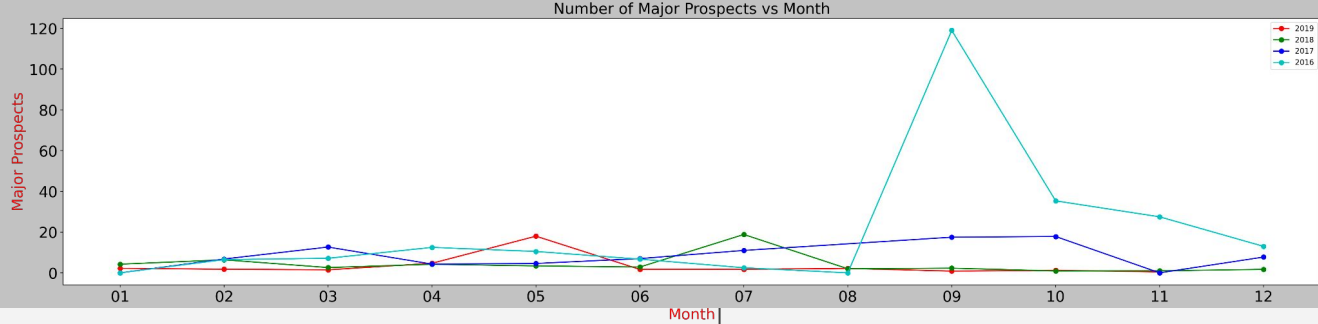
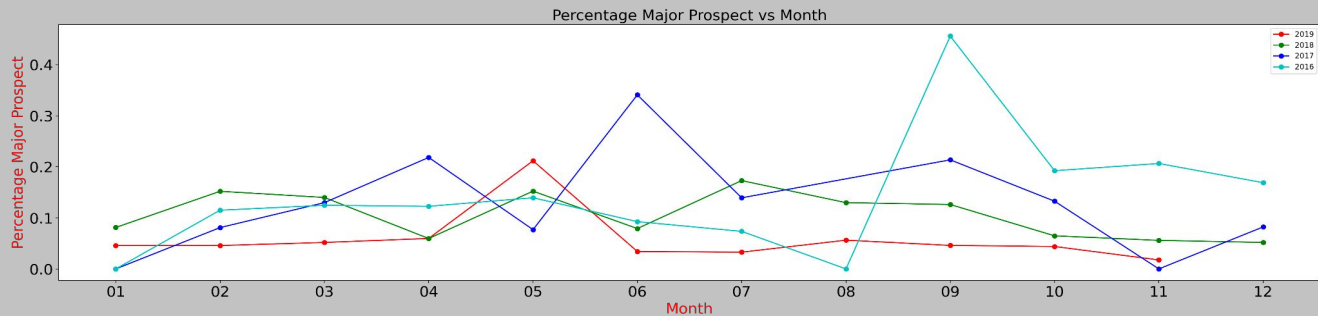
Mission 1: First Time Attendees vs Date

Month doesn't have a strong effect.



Mission 2: Major Prospect vs Date

The percentage major prospect slightly declines over time.



Mission 2: Major Prospect vs Date

In 2016, there was a large spike in percentage of major prospect attendance for the months August-October, otherwise month has no effect.

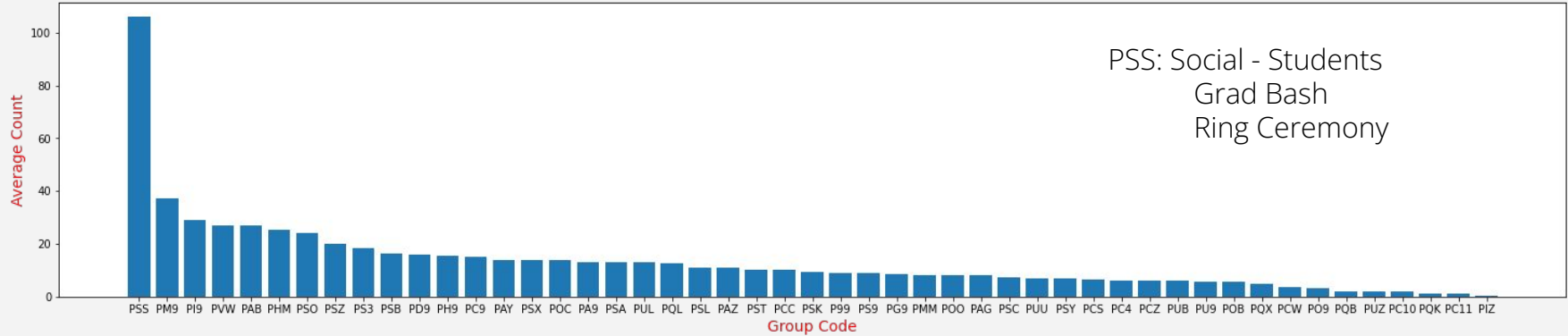
Variables of Interest



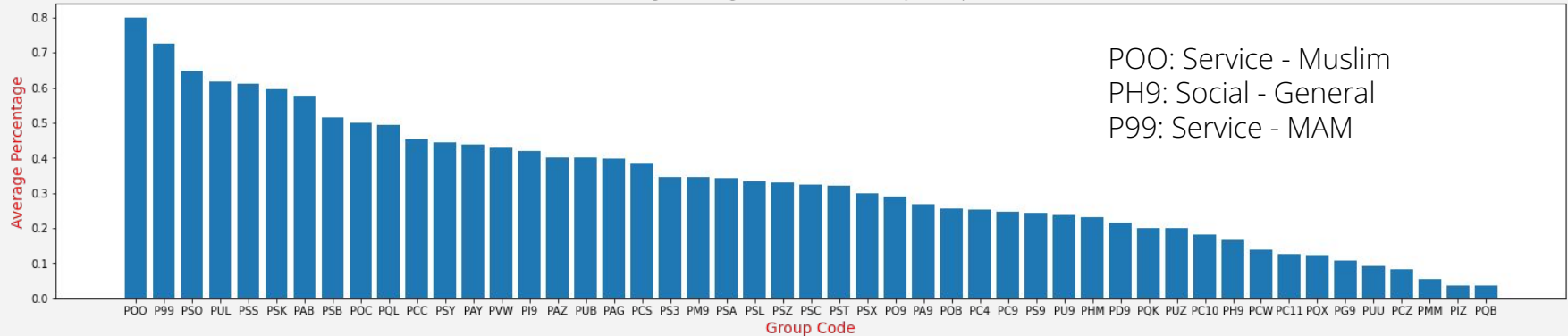
Mission 1:

First Time Attendees vs Group Code

Average Count of First Time Attendees per Group Code

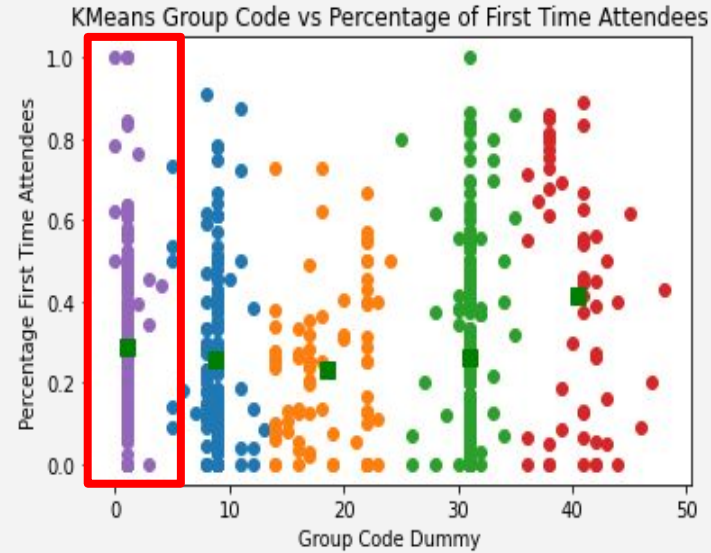


Average Percentage of First Time Attendees per Group Code



Mission 1:

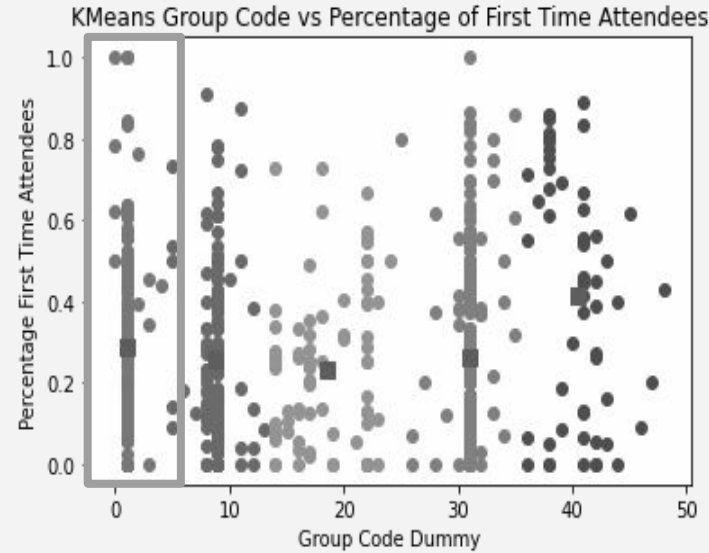
Percentage First Time Attendees vs Group Code



P-value: 0.03503597258591595

Mission 1:

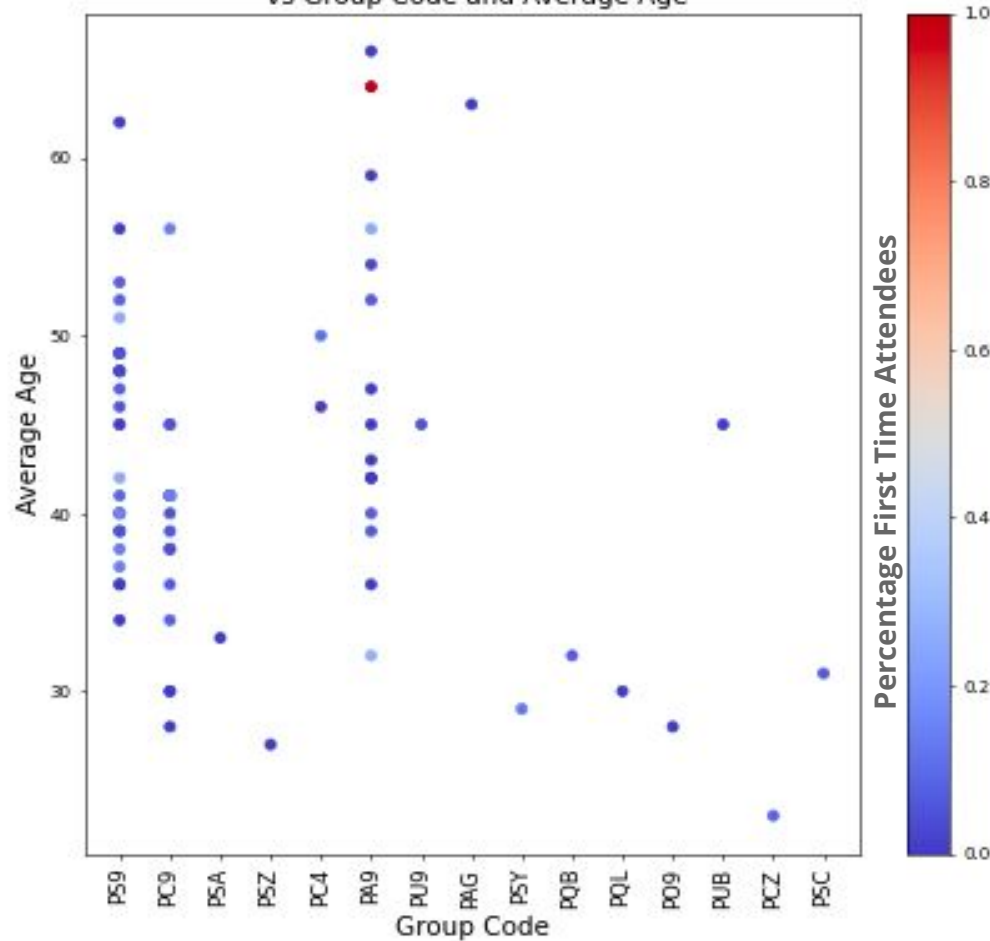
Percentage First Time Attendees vs Group Code



P-value: 0.03503597258591595

		Group Code	Group Description	GroupCode_dum
2019-20	1	PC9	CP ProDev-General	9
	2	PC9	CP ProDev-General	9
	11	PC9	CP ProDev-General	9
	12	PC9	CP ProDev-General	9
	15	PC9	CP ProDev-General	9
	18	PC4	CP ProDev-Mid Career	8
	19	PC9	CP ProDev-General	9
	25	PC9	CP ProDev-General	9
	27	PC9	CP ProDev-General	9
	33	PC9	CP ProDev-General	9
	34	PC9	CP ProDev-General	9
	40	PC9	CP ProDev-General	9
	41	PC4	CP ProDev-Mid Career	8
	48	PC9	CP ProDev-General	9
	55	PC2	CP ProDev-StuAlum	13
	63	PC9	CP ProDev-General	9
	64	PC9	CP ProDev-General	9
2018-19	65	PC9	CP ProDev-General	9
	66	PC9	CP ProDev-General	9
	0	PC9	CP ProDev-General	9
	4	PC9	CP ProDev-General	9
	6	PC4	CP ProDev-Mid Career	8
	8	PC9	CP ProDev-General	9
	11	PC9	CP ProDev-General	9
	15	PC4	CP ProDev-Mid Career	8
	17	PC9	CP ProDev-General	9
	29	PC9	CP ProDev-General	9
	32	PC9	CP ProDev-General	9
	33	PAZ	CP Athletics-Students & Alum	5
	37	PC9	CP ProDev-General	9
	38	PAZ	CP Athletics-Students & Alum	5
	43	PC4	CP ProDev-Mid Career	8
	44	PC4	CP ProDev-Mid Career	8
	54	PCS	CP Career-Student	11
	56	PC4	CP ProDev-Mid Career	8
	58	PC9	CP ProDev-General	9
	64	PC9	CP ProDev-Mid Career	9
	67	PC4	CP ProDev-Mid Career	8
	68	PC9	CP ProDev-General	9
	70	PAZ	CP Athletics-Students & Alum	5
	74	PC9	CP ProDev-General	9
	76	PAZ	CP Athletics-Students & Alum	5
	78	PC4	CP ProDev-Mid Career	8
	79	PC9	CP ProDev-General	9
	81	PC9	CP ProDev-General	9
	82	PC9	CP ProDev-General	9
	83	PC9	CP ProDev-General	9

2019-20 Percentage of First Time Attendees
vs Group Code and Average Age

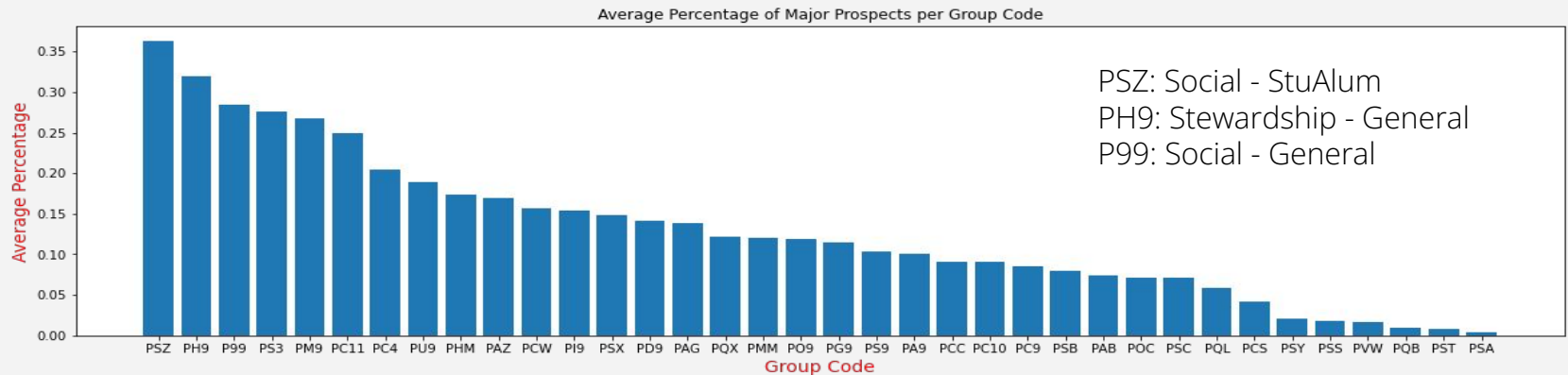
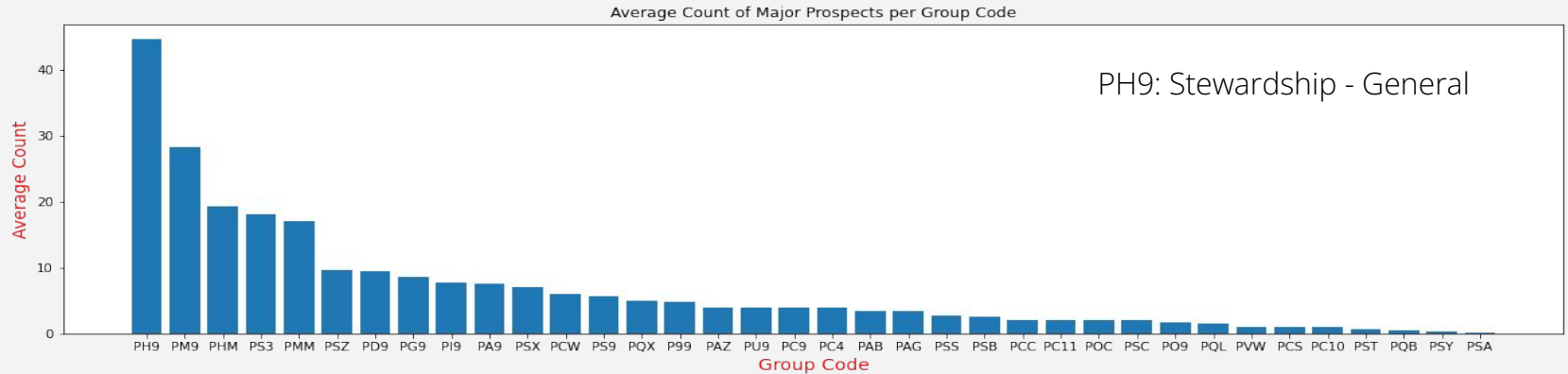


Mission 1: Percentage First Time Attendees vs Group Code and Average Age

From our results, we can see the average ages among events within each group code and the percentage of first time attendees.

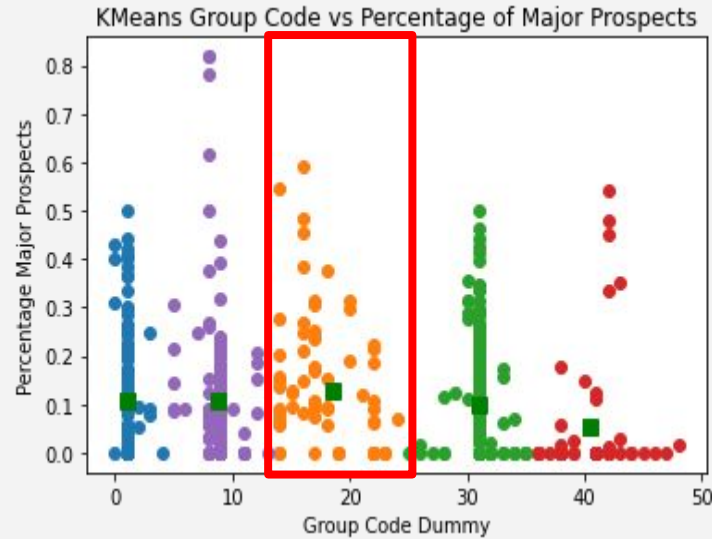
Events under group code PA9, for example, have a wide age range among first time attendees.

Mission 2: Major Prospects vs Group code



Mission 1:

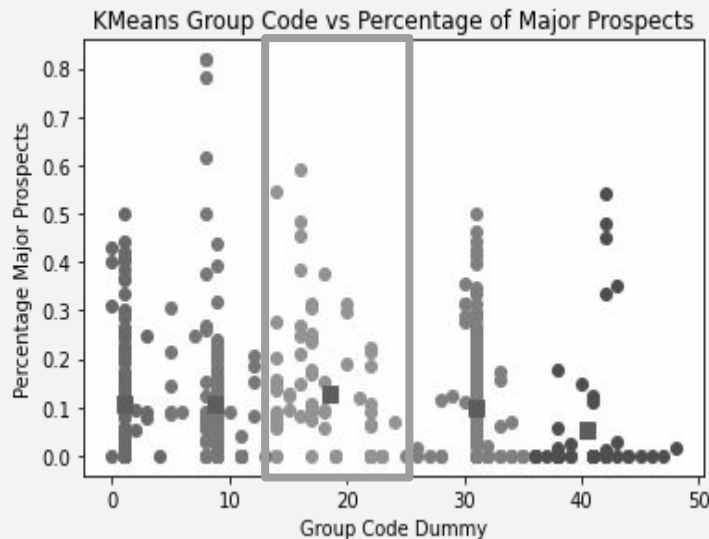
Percentage Major Prospects vs Group Code



P-value: 4.949278140936414e-05

Mission 1:

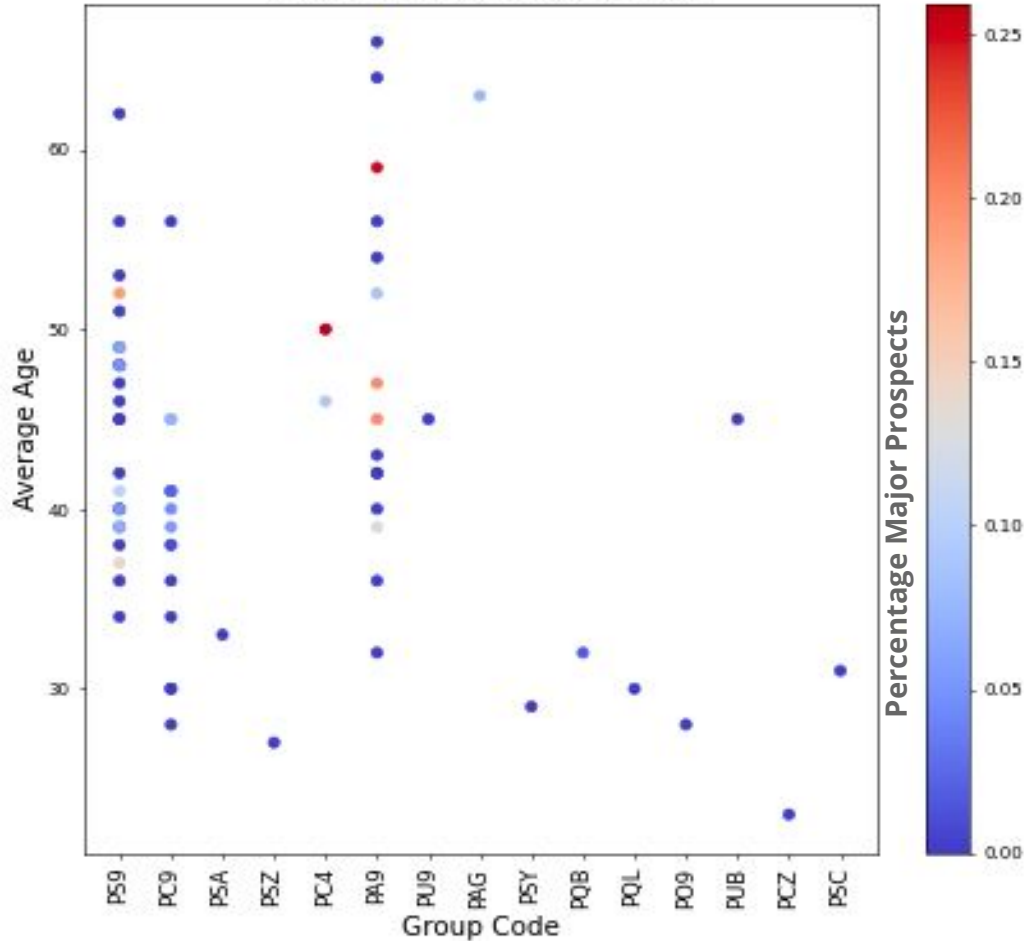
Percentage Major Prospects vs Group Code



P-value: 4.949278140936414e-05

	Group Code	Group Description	GroupCode_dum
2019-20	53	PO9 CP Service-General	22
	3	PD9 CP Advocacy-General	14
2018-19	84	PO9 CP Service-General	22
	97	PD9 CP Advocacy-General	14
	103	PO9 CP Service-General	22
	105	PO9 CP Service-General	22
	111	PO9 CP Service-General	22
	116	POB CP Service-UMBA	23
	118	PG9 CP Campaign-General	15
	122	PD9 CP Advocacy-General	14
	142	POB CP Service-UMBA	23
	143	PD9 CP Advocacy-General	14
	149	PHM CP Stewardship-Membership	17
	152	PIZ CP Cultivation-StuAlum	19
	156	PG9 CP Campaign-General	15
	169	PO9 CP Service-General	22
	172	PO9 CP Service-General	22
	177	PG9 CP Campaign-General	15
	181	PIZ CP Cultivation-StuAlum	19
	182	PO9 CP Service-General	22
	183	PO9 CP Service-General	22
	187	PO9 CP Service-General	22
	193	PH9 CP Stewardship-General	16
	196	PO9 CP Service-General	22
	198	PIZ CP Cultivation-StuAlum	19
	200	PH9 CP Stewardship-General	16
	206	PI9 CP Cultivation-General	18
	209	PHM CP Stewardship-Membership	17
	214	PD9 CP Advocacy-General	14
2017-18	0	PD9 CP Advocacy-General	14
	19	PHM CP Stewardship-Membership	17
	22	PH9 CP Stewardship-General	16
	25	PH9 CP Stewardship-General	16
	35	PO9 CP Service-General	22
	39	PD9 CP Advocacy-General	14
	43	PHM CP Stewardship-Membership	17
	51	PD9 CP Advocacy-General	14
	71	PD9 CP Advocacy-General	14
	73	PO9 CP Service-General	22
	74	PO9 CP Service-General	22
	85	PO9 CP Service-General	22
2016-17	88	PO9 CP Service-General	22
	95	PH9 CP Stewardship-General	16
	109	PI9 CP Cultivation-General	18
	3	PH9 CP Stewardship-General	16
	9	PHM CP Stewardship-Membership	17
	11	PD9 CP Advocacy-General	14

2019-20 Percentage of Major Prospects
vs Group Code and Average Age

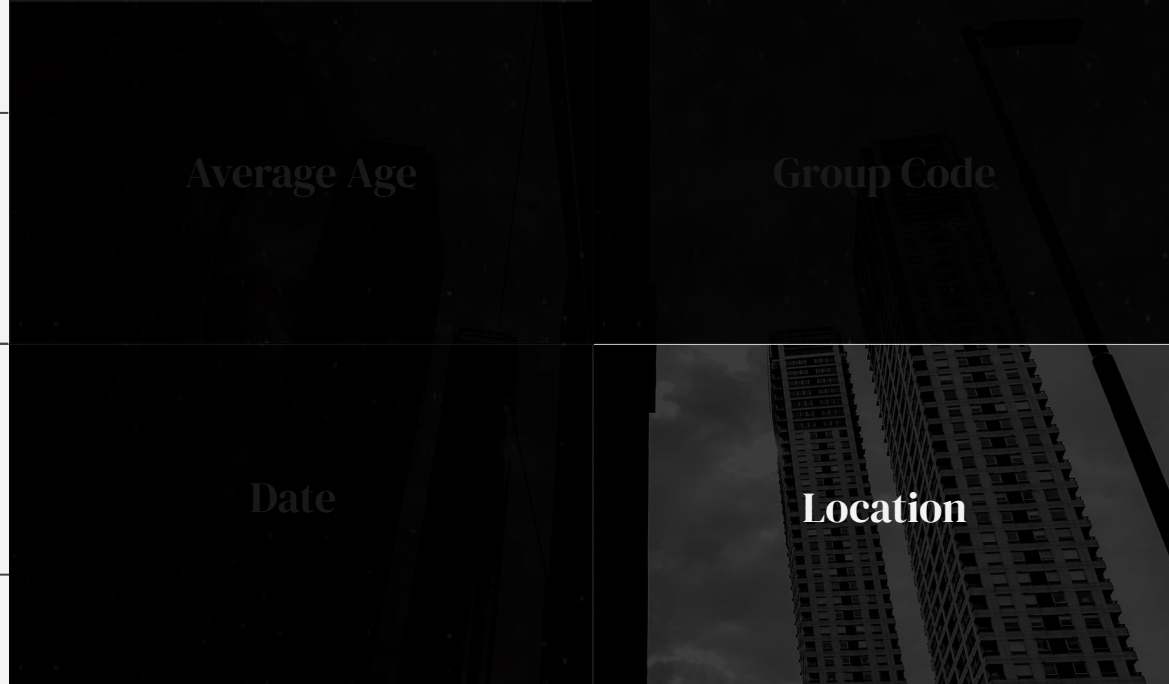


Mission 2: Percentage Major Prospects vs Group Code and Average Age

From our results, we can see the average ages among events within each group code and the percentage of major prospects.

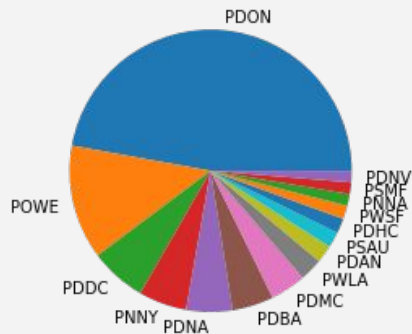
Events under group code PA9, for example, have a wide age range among first time attendees. Events with more major prospect attendees tend to have a higher average age.

Variables of Interest

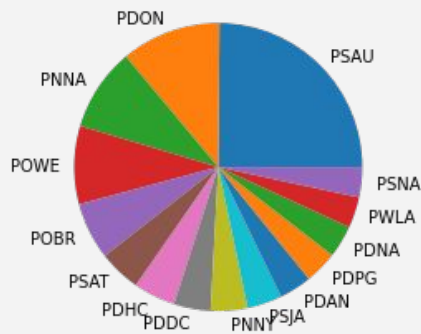


Mission 1: First Time Attendees vs Location

Top 15 Locations for First Time Attendees (Sum)



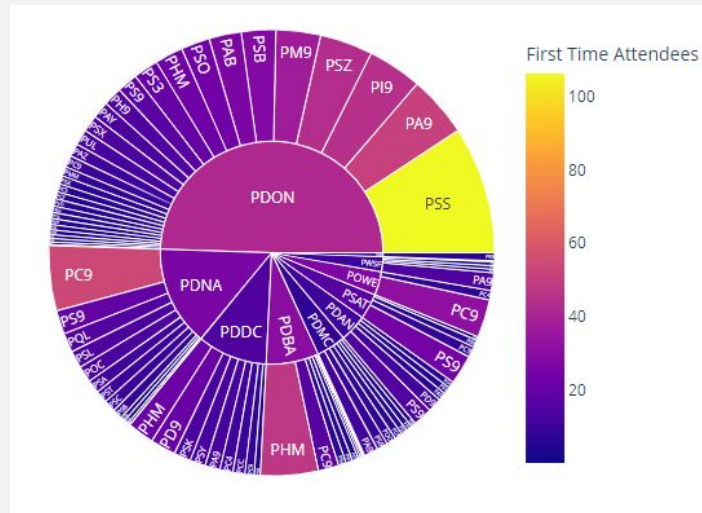
Top 15 Locations for First Time Attendees (AVG)



Criteria

Choose Locations with % of First Time Attendees > 0.30

Top locations for First Time Attendees with information of events hosted

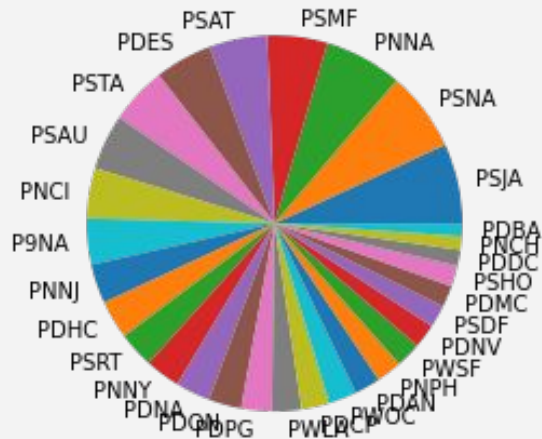


Insights

With an average of 32.9% of FTA, a large number of First Time Attendees attend events hosted on campus, especially Social events for Students.

Major Prospects vs Location

Top 30 Locations for Major Prospects (PCT)



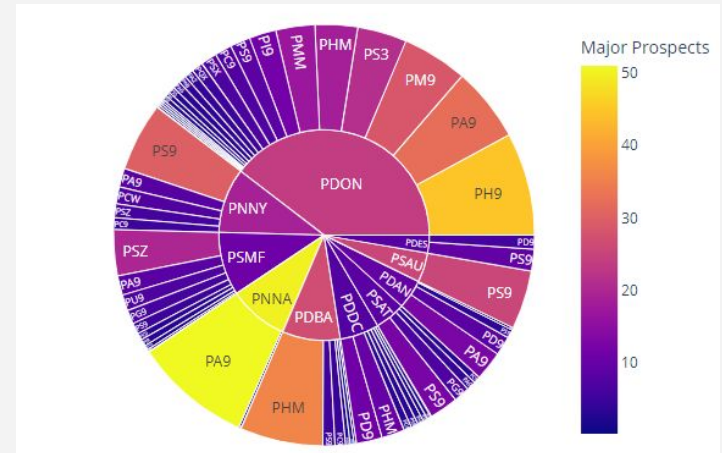
Criteria

Choose Locations with % of Major Prospects > 0.15

Insights

Events hosted on campus, in the DMV area, in Northeast region (NY or in general), and in Southeast (Florida) tend to attract Major Prospects the most, especially for Stewardship, Athletics, and Social events.

Top locations for Major Prospects with information of events hosted



An aerial, high-angle view of a university campus. The central feature is a large, rectangular quad with a grid-like pattern of paths. Surrounding the quad are numerous multi-story buildings, some with classical architectural features like columns and pediments. The campus is densely packed with greenery, including trees and lawns. The overall scene is captured in a dark, monochromatic style, with the text overlaid in white and red.

Recommendations

04

Recommendations

In order to attract more **first time attendees**, the Alumni Association should host **professional development**, **social**, and **athletic** events that take place **on campus** and **virtual**. First time attendees are younger, aged **less than 30 years old**, and are likely recent graduates of UMD.

To increase **major prospect** attendance, the Alumni Association should host **service/stewardship**, **athletic**, and **social** events. Major prospects are older, mainly **50-55 years old**, and attend events that take place **on campus** and in the **Northeast region**.

An aerial, grayscale photograph of a university campus. In the center is a large, open quad with a building at its far end. Radiating from the bottom of the quad are several paths or roads. The campus is surrounded by dense trees and other buildings. A large, bold red '05' is superimposed on the left side of the image, partially covering the quad and the surrounding campus.

05

Future Work



Future Work

1. **Marketing Information:**

- a. How are these two groups being informed about Alumni events?
 - i. Email marketing vs. social media marketing
 - ii. Are first time attendees, since they are younger, more likely to use social media?
 - iii. Do major prospects prefer a more personalized invitation since they are donating a large sum of money?

An aerial, grayscale photograph of a university campus. The image shows a large central quad with a building at its far end. Radiating from the bottom of the quad are several wide, straight paths. The campus is surrounded by dense trees and numerous other academic buildings of varying architectural styles. The overall tone is formal and institutional.

Thank you!
Questions?