AAP STUDENT EXPERIENCES - LIFE SCIENCES & PHYSICAL SCIENCES

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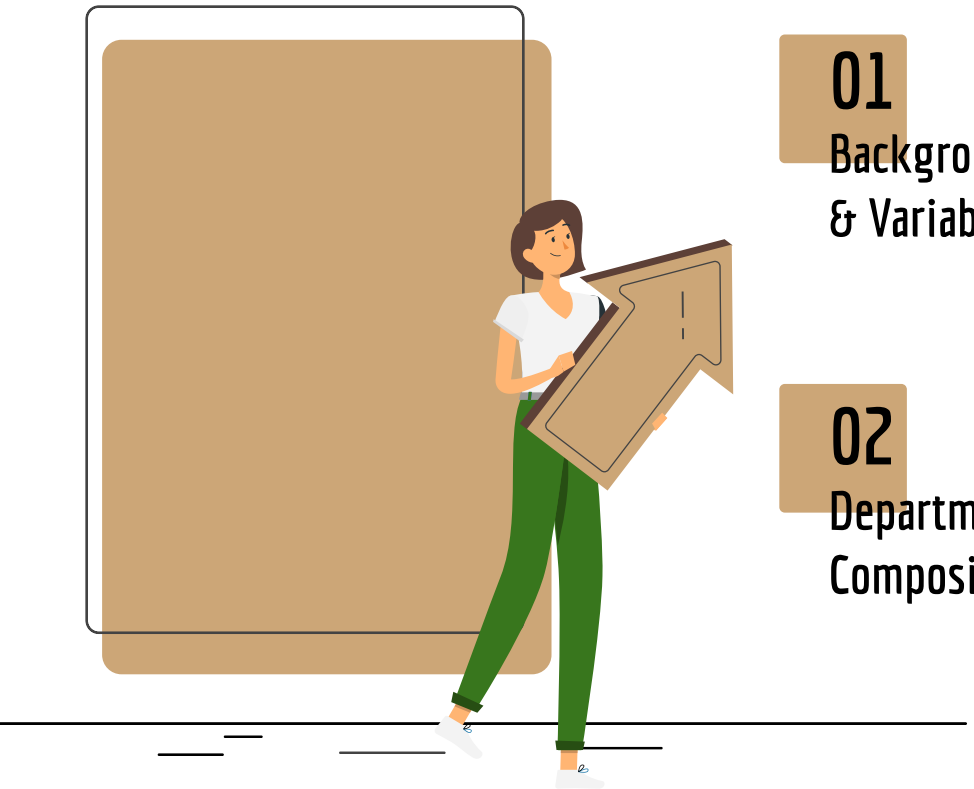

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SURVEY/STUDY BACKGROUND & MOTIVATION

- Data was gathered from the AAP Annual Survey, a survey distributed by the Research, Assessment, and Evaluation unit in AAP to learn about AAP student experiences in both AAP and the UCLA campus

AAP Student Breakdown (top 5 fields)

Life Science Students (AAP)	42%
Social Science Students (AAP)	29%
Physical Science Students (AAP)	8.5%
Humanities Students (AAP)	5.7%
Engineering Students (AAP)	2.9%

*From RAE AAP Student Factsheet

SURVEY/STUDY BACKGROUND & MOTIVATION

- Drawing from my own personal experiences as a Physical Science student in AAP, the intent of the study was to examine students' participation in AAP services aimed to provide academic support while building community, such as AAP Peer Learning. In addition, the study also aimed to compare the experiences of AAP students in the Physical Sciences and those in the Life Sciences by examining their academic confidence and sense of belonging

Variables

- Peer Learning Engagement (Self-reported)
  - I decided to study Peer Learning engagement because Peer Tutoring has been shown to improve grades (Carver et al., 2017), and because AAP Peer Learning helped me improve my grades in my lower division classes, I wanted to see how the students that responded to the survey were utilizing this resource
- Academic Confidence
  - Second, I decided to investigate Academic Confidence because there are associations between lower Academic Confidence and minority student status in STEM (MacPhee et al., 2017). Within AAP, I wanted to narrow down the scope within STEM and test the differences in Academic Confidence between physical and life science students in AAP
- Sense of Belonging
  - Lastly, I wanted to study Sense of Belonging because belonging has been associated with interest across STEM disciplines (Xu et al., 2022). More specifically, I wanted to test whether there was a difference in sense of belonging between AAP life science and physical science students
- Gender
  - Previous research has learned that women tend to have lower Academic Confidence (MacPhee et al., 2017), and lower Sense of Belonging in the Bio/Med field (Smith et al., 2013). Within this research, I wanted to investigate if these results transferred over to women in the physical sciences and compare that to women in the life sciences, as well as males in both of those fields

MAJORS THAT COMPOSE LIFE/PHYSICAL SCIENCES

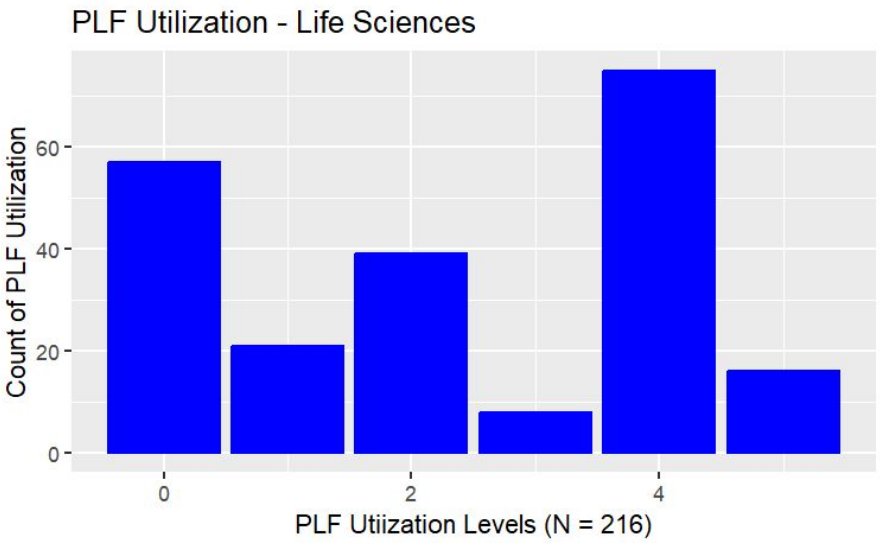
Physical Science

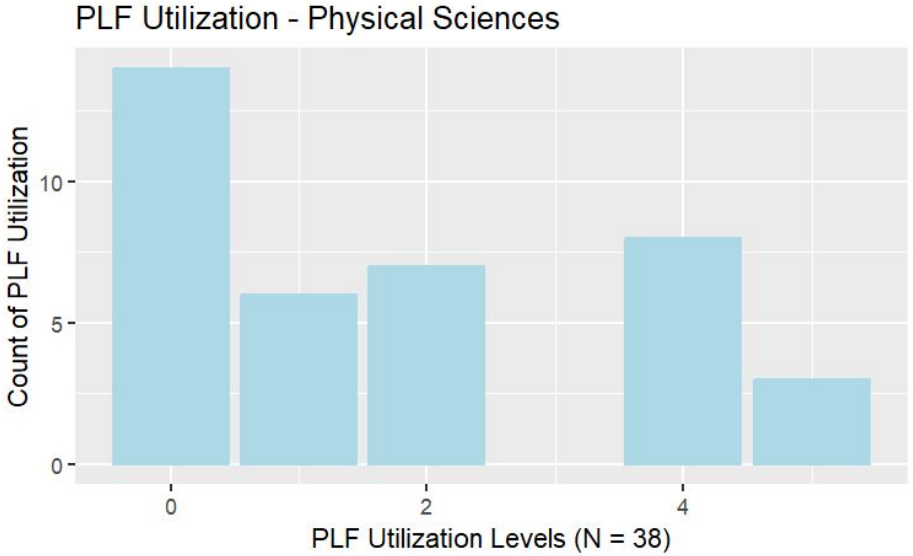
- Applied Mathematics
- Pre Mathematics
- Pre-Data Theory
- Mathematics of Computation
- Pre Mathematics/Economics
- Biochemistry
- Mathematics for Teaching
- Pre Mathematics/Economics
- Astrophysics
- Statistics
- Chemistry
- Biophysics
- Atmospheric and Oceanic Sciences
- Pre Statistics
- Pre Applied Mathematics

Life Science

- Psychobiology
- Pre Psychobiology
- Neuroscience
- Molecular, Cell, and Developmental Biology
- Microbiology,Immunology & Molecular Genetics
- Marine Biology
- Biology
- Physiological Science
- Human Biology and Society (BS)
- Cognitive Science
- Pre Cognitive Science
- Ecology,Behavior,and Evolution
- Environmental Science
- Pre Human Biology and Society (BS)
- Linguistics and Psychology
- Geography/Environmental Studies
- Pre computational and Systems Biology
- Computational and Systems Biology
- Pre Human Biology and Society
- Psychology
- Pre Psychology

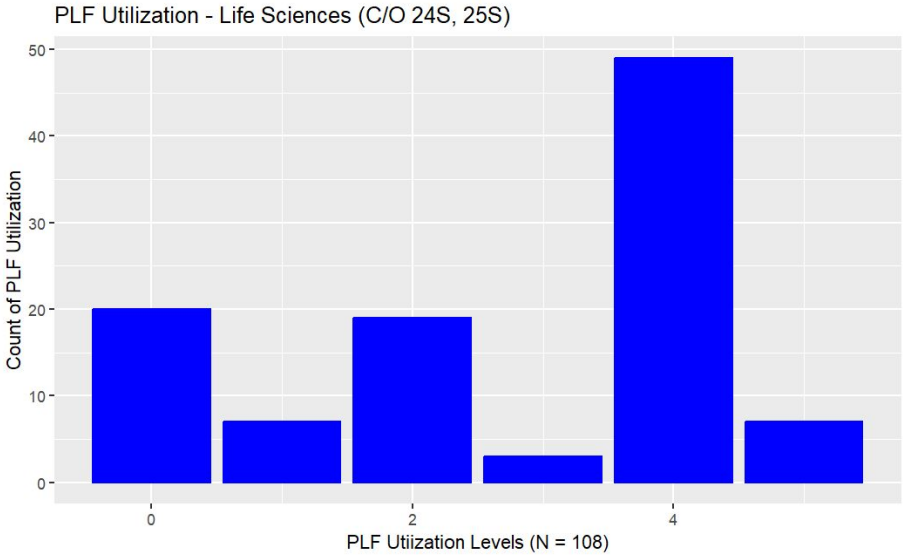
RESULTS: AAP PEER LEARNING ENGAGEMENT

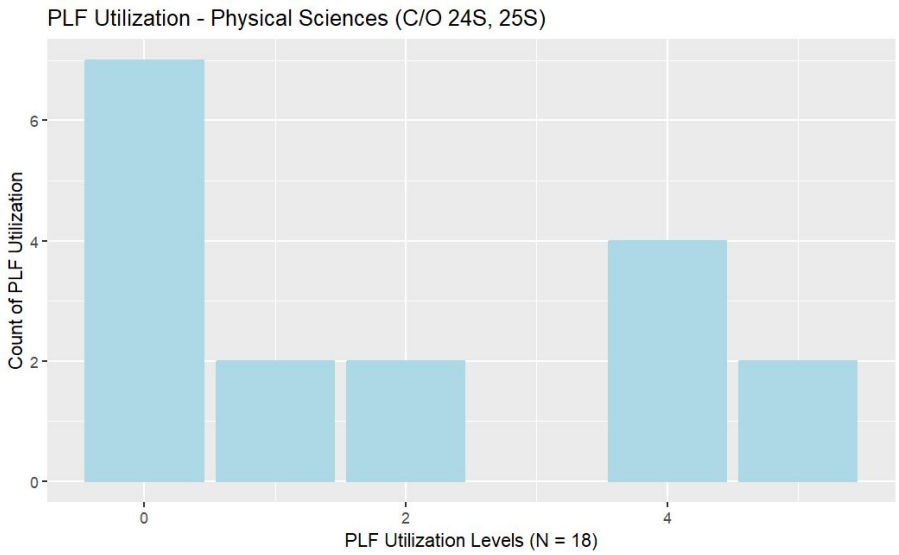




Key: 0 (Did not utilize), 1 (Yearly), 2 (Quarterly), 3 (Monthly), 4 (Weekly), 5 (Daily)

RESULTS: AAP PEER LEARNING ENGAGEMENT - Freshmen and Sophomores





Key: 0 (Did not utilize), 1 (Yearly), 2 (Quarterly), 3 (Monthly), 4 (Weekly), 5 (Daily)

RESULTS: SELF DOUBT

Overall	Life Science (n = 196)	Physical Science(n =35)
Mean(SD)	2.42 (0.75)*	2.75 (0.86)*

By Field	Female	Male
Life Science (n = 156, n = 35)	2.49 (0.73)*	2.14 (0.76)*
Physical Science (n = 25, n = 10)	2.94 (0.86)*	2.24 (0.77)*

By Gender	Life Science	Physical Science
Female (n = 156, n = 25)	2.49 (0.73)*	2.94 (0.83)*
Male (n = 35, n = 10)	2.14 (0.76)	2.24 (0.76)

Question Example:
"I often get discouraged about school."

1 = Strongly disagree
2 = Disagree
3 = Agree
4 = Strongly agree

Flowers, L. O., Raynor, J. E., & White, E. N. (2013). Investigation of academic self-concept of undegraduate in STEM courses. Journal of Studies in Social Sciences, 5(1), 1-11.

Note: Asterisk (*) indicates significant difference of $p<0.05$

RESULTS: SELF CONFIDENCE IN ACADEMICS

Overall	Life Science(n = 196)	Physical Science(n =37)
Mean(SD)	2.12 (0.64)	2.03 (0.71)

By Field	Female	Male
Life Science (n = 158, n = 33)	2.08 (0.64)	2.31 (0.62)
Physical Science (n = 27, n = 10)	1.93 (0.72)	2.33 (0.60)

By Gender	Life Science	Physical Science
Female (n = 158, n = 27)	2.08 (0.64)	1.93 (0.72)
Male (n = 33, n = 10)	2.31 (0.62)	2.33 (0.60)

Question Example:
"Most courses are very easy for me."

1 = Strongly disagree
2 = Disagree
3 = Agree
4 = Strongly agree

Reynolds, W. M. (1988). Measurement of academic self-concept in college students. Journal of Personality Assessment, 52(2), 223-240. https://doi.org/10.1207/s15327752jpa5202_4

RESULTS: SENSE OF BELONGING

Overall	Life Science(n = 197)	Physical Science(n =37)
Mean(SD)	6.51 (2.08)	6.69 (2.46)

By Field	Female	Male
Life Science (n = 157, n = 35)	6.63 (1.93)	6.36 (2.27)
Physical Science (n = 27, n = 10)	6.41 (2.55)	7.56 (2.06)

By Gender	Life Science	Physical Science
Female (n = 157, n = 27)	6.63 (1.93)	6.41 (2.55)
Male (n = 35, n = 10)	6.36 (2.27)	7.56 (2.06)

Question Example:
"I see myself as part of the campus community."

0 = 0. Strongly disagree
1 = 1
2 = 2
3 = 3
4 = 4
5 = 5. Neutral
6 = 6
7 = 7
8 = 8
9 = 9
10 = 10. Strongly agree

Hurtado, S., & Carter, D. F. (1997). Effects of college transition and perceptions of the campus racial climate on Latino college students' sense of belonging. Sociology of Education, 70(4), 324-345. https://doi.org/10.2307/2673270

DISCUSSION

- Students in the physical sciences self-reported they utilized Peer Learning less than life science students

Life Science AAP (Utilized PLF)	74%
Physical Science AAP (Utilized PLF)	64%

- Overall, we saw physical science students and female students in both life and physical sciences as the students that reported significant higher levels of self academic doubt