Confidence, classroom preferences, and future plans among Informatics students

December 12, 2020

Executive Summary

This report provides findings from the survey entitled "Confidence, classroom preferences, and future plans among Informatics students." The poll surveyed students on what they value in their informatics classes, the opportunities that students have been taking, future areas, and specific areas of interest, and particularly how they vary by class year and gender. The topic was chosen to better understand informatics students' aspirations as a sample of one of the country's largest dedicated schools in the field, and as a basis for future comparative study with other fields of study at the University of Washington.

The survey was open from November 17, 2020 at 8:00am PST to November 24, 2020 at 8:00am PST, and was administered through Catalyst WebQ. To ensure that respondents were enrolled UW students and could only submit up to one response, the application was configured to require a UW NetID login.

This survey was circulated through an email list to all enrolled undergraduate students at the University of Washington's Information School. 42 students responded. In this report, we explore the demographics of respondents (graduation year, gender identity, and transfer/non-transfer status) and analyze individual responses.

Table 1. Sample Demographics

Characteristic	Subgroup	n	% of Sample
Graduation year	2021	24	57.14
	2022	9	21.43
	2023	6	14.29
	2024	3	7.14
Gender Identity	Male	21	50.00
	Female	19	45.24
	Non-binary	2	4.76
	Other	0	0.00
Transfer Student	Yes	5	11.90
	No	37	88.10



Question	Answer Choices	n	% of Sample
Which Informatics degree option are you	Biomedical & Health Informatics	1	2.38
	Data Science	8	19.05
pulsung.	Human-Computer Interaction	7	16.67
	Information Architecture	0	0.00
	Information Assurance and Cybersecurity	6	14.29
	Custom	17	40.48
	Undecided	3	7.14
Are you double	No	33	78.57
majoring?	Undecided	1	2.38
	Yes	8	19.05
Are you minoring?	No	24	57.14
	Undecided	7	16.67
	Yes	11	26.19
Which of the following influenced your choice of selecting Informatics as your major? Select all that apply.	Family encouragement or example	17	40.48
	Peers in the program	18	42.86
	Professors or mentors in the department	13	30.95
	Natural ability	16	38.10
	Introductory classes	22	52.38
	Challenging	8	19.05
	Job/career opportunities	38	90.48
	Social Impact	21	50.00
	Other (write-in)	2	4.76

Table 2.1. Survey Questions – Proportions



Which of the following do you have working proficiency in? Select all that apply.	Python	17	40.48	
	R	27	64.29	
	Java	29	69.05	
	JavaScript	27	64.29	
	SQL	26	61.90	
	I do not program	2	4.76	
	Other (write-in)	3	7.14	
What is your favorite	Power BI	2	4.76	
data visualization	Tableau	16	38.10	
software!	Datawrapper	0	0.00	
	I do not use data visualization software	22	52.38	
	Other (write-in)	2	4.76	
Have you had a job or internship related to Informatics (excluding TA positions) during college?	No	21	50.00	
	Yes	21	50.00	
Have you conducted	Yes	15	35.71	
research related to Informatics during college?	No	27	64.29	
In which area of Informatics did you conduct your research?	Biomedical & Health Informatics	3	7.14	
	Data Science	2	4.76	
	Human-Computer Interaction	7	16.67	
	Information Architecture	1	2.38	
	Cybersecurity	1	2.38	
	Business Analytics	0	0.00	
	Not Applicable	27	64.29	
	Other (write-in)	1	2.38	



Which of the following would you like to do after college? Select all that apply.	Work in information technology	39	92.86
	Work in education	8	19.05
	Work in a nonprofit organization	8	19.05
	Work in a field unrelated to informatics	7	16.67
	Travel abroad	16	38.10
	Pursue service abroad	1	2.38
	Pursue a Master's degree	19	45.24
	Pursue a PhD	3	7.14
	Other (write-in)	1	2.38
If you would like to	Not applicable	3	7.14
work in information	Freelance	0	0.00
would you rather work	Startup	1	2.38
at?	Private company	4	9.52
	Public company	17	40.48
	No preference	12	28.57
	Undecided	5	11.90
	Other (write-in)	0	0.00
If you would like to	Not applicable	22	55.38
pursue a Master's degree or a PhD, what is your top-choice graduate degree?	Computer science or related	4	9.52
	Engineering, applied sciences or related	0	0.00
	Information Systems or related	12	28.57
	Design	1	2.38
	Medicine	0	0.00
	Business Administration	0	0.00
	Law	0	0.00
	Education	1	2.38
	Other (write-in)	2	4.76



Table 2.2 Survey Questions – Numerical

Question	Mean	Median	Standard Deviation
Relative to other Informatics students, how confident are you in your programming ability? On a scale from 0-10, responses above 5 are "above average" and below 5 are "below average."	5.60	5.00	2.53
On a scale from 1 to 5, 1 being not important and 5 being most important, rate professor/quality of teaching on its impact in determining your favorite Informatics class.	4.36	5.00	0.91
On a scale from 1 to 5, 1 being not important and 5 being most important, rate amount of work on its impact in determining your favorite Informatics class.	3.26	3.00	1.19
On a scale from 1 to 5, 1 being not important and 5 being most important, rate interesting peers on its impact in determining your favorite Informatics class.	3.12	3.00	1.35

On a scale from 1 to 5, 1 being not important and 5 being most important, rate relevance to job and career opportunities on its impact in determining your favorite Informatics class.	3.98	4.00	1.02
On a scale from 1 to 5, 1 being not important and 5 being most important, rate interest in course content on its impact in determining your favorite Informatics class.	4.74	5.00	0.45
On a scale from 1 to 5, 1 being not important and 5 being most important, rate class length and schedule on its impact in determining your favorite Informatics class.	3.07	3.00	1.26



Analysis

Factors in Selecting Informatics Major

The survey requested respondents to select the factors that influenced their choice of selecting Informatics as their major. The choices provided were "family encouragement or example." "peers in the program," "professors or mentors in the department," "natural ability," "introductory classes," "challenging," "job/career opportunities," "social impact," and "other," which allowed respondents to input their own text response.

Overall distribution

The most frequently selected factor was "job/career opportunities," with an overwhelming majority (n=38, 90.48%) of respondents indicating that it influenced their choice of selecting Informatics as their major. This was followed by "introductory classes" (n=22, 52.38%), and "social impact" (n=21, 50.00%).

Differences based on gender

Respondents who identify as "male," were more likely to select "natural ability." 47.62% (n=10) of the respondents who identify as "male" (n=21) selected "natural ability," while only 26.32% (n=5) of the respondents who identify as "female" (n=19) selected "natural ability."

Factors in Selecting Favorite Informatics Class

The survey asked respondents to enter their favorite Informatics class. In the following question, students were asked to rate the following factors on a scale from 1-5 based on its impact in the selecting their favorite Informatics class, 1 being not important and 5 being most important: "professor/quality of teaching," "amount of work," "interesting peers," "relevance to job and career opportunities," "interest in course content," and "class length and schedule."

Overall average ratings

The factor with the highest average rating was "interest in course content," with an average rating of 4.74 and a standard deviation of 0.45. This was followed by "professor/quality of teaching," with an average rating of 4.36 and a standard deviation of 0.91.

Future Academic and Career Plans upon graduation

The survey requested respondents to indicate their future plans after graduation. Respondents could choose from a range of options, from "pursuing a PhD" to "traveling abroad." If their plans were not listed, they could specify their plans in the "Other" answer.

Post-graduation plans among iSchool students

Unsurprisingly, 92.86% (n=39) of the respondents reported that they are interested in "working in information technology". The next popular choices were "pursuing a Master's Degree" with 45.24% (n = 19) and "travel abroad" with 38.10% (n=16).



Interests within the field of Information Technology among iSchool students

For the respondents who indicated their interest in working in information technology, the survey asked the respondents (n=39) to specify the type of job and/or company they would prefer to work at. The most popular choice was "Public company", with 43.59% (n=17) of the respondents preferring to work in one. After "public company," almost a third of the respondents have no preference in where they work, with 30.77% (n=12) of the respondents answering "No preference."

Interests in pursuing graduate degrees among iSchool students

For the respondents who indicated their interest in pursuing a Master's degree and/or PhD, the survey asked the respondents (n=20) to specify their top-choice graduate degree. From our results, 60.00% (n=12) of the respondents desired to further their studies in Information System and related fields (e.g. data science, UX/UI). Next, 20.00% (n=4) of the respondents desired to earn a graduate degree within Computer Science or related fields.

Popular Interests Outside of Informatics

The survey requested respondents to indicate their interest in a second major or minor. Respondents answered with the subject that they are considering or already pursuing, with "None" for no plans and "Undecided" for unsure.

Majors that INFO students are pursuing or considering in addition to Informatics

Overall, of the respondents that responded to the question about a second major (n=42), "None" was the most common answer, reported by 78.57% (n=33) of respondents. 19.05% (n=8) of respondents responded with a subject of interest and 2.38% (n=1) responded with "Undecided". Of the six subjects that students were interested in double majoring in, the most common was Psychology, with 7.14% (n=3) of students selecting that option.

Minors that INFO students are pursuing or considering

Of the students that responded to the question about a minor (n=42), "None" was the most common answer, reported by 57.14% (n=24) of respondents. More students were interested in a minor than a second major, with 26.19% (n=11) of students responding with a subject of interest and 16.67% (n=7) of students responding with "Undecided". Of the 9 subjects that students were interested in minoring in, the most common was Mathematics and Entrepreneurship, with 4.76% (n=2) students each.

Internship and Research Experience

The survey asked respondents to indicate whether or not they have had a job or internship related to the field of informatics, excluding TA positions, and if applicable, to specify the name of their employer.

Overall frequency of work experience among iSchool students

Overall, 50% (n=42) of respondents indicated that they had a job or internship related to informatics.



Relationship between work experience and graduation year

However, this percentage varied across students of different graduation years. As expected, the number of respondents who had work experience increased with grade level. 0.00% of respondents from the class of 2024 (n=3) reported work experience related to their field. 16.67% (n=6) of respondents from the class of 2023, 44.44% (n=9) of respondents from the class of 2022, and 66.67% (n=24) of respondents from the class of 2021 reported work experience related to their field.

100



Research experience related to Informatics

The survey asked respondents to indicate whether or not they have conducted research related to the field of informatics, during their time in college.

Overall frequency of research experience among iSchool students

Of all the respondents, 35.71% (n=15) indicated that they have conducted research related to informatics during college. The survey also had respondents choose which area of informatics they conducted research in, if applicable. Of the 15 respondents who did have research experience, the most popular area they conducted research in was Human-Computer Interaction (n=7).

Research experience among students planning to attend graduate school

The percentage of respondents who have research experience related to informatics differed based on whether or not they planned to attend graduate school. Of those who did participate in research (n=15), 73.33% plan to attend graduate school while 29.63% of those who did not participate in research (n=27) plan to attend graduate school.



Confidence in programming abilities within the iSchool department

The survey requested respondents to rate their confidence in their programming abilities, relative to their informatics peers. The scale ranged from 0 to 10, with above 5 being "above average" and below 5 being "below average".

Overall confidence in programming abilities within the iSchool

Overall, the mean response was 5.60, the median response was 5.00, and the standard deviation was 2.53. The most common responses were 7 and 8. 16.7% (n=7) of reported a confidence rating of 7 and 16.7% (n=7) of respondents reported a confidence rating of 8.

Bivariate Cross Tabulation between the confidence in programming ability and gender

Ratings varied based on gender. Male respondents, on average, reported a higher confidence rating than that of female respondents. Of the male respondents (n=21), the mean response was 6.05 and the median response was 5.00. Of the female respondents (n=19), the mean response was 5.00 and the median was 6.00. Since there were less than five non-binary responses (n=2), we are unable to report mean and median for that group, but they are accounted for in the total population.



Because there were fewer than 5 total Non-Binary respondents, we were unable to visualize their responses directly, rather they were accounted for in the total population.

POlling and Open Data Initiative at the University of Washington

This survey and analysis were created by the Polling and Open Data Initiative at the University of Washington (PODUW). For more information about PODUW, please visit poddata.org. For feedback or comments, please visit poddata.org/feedback or email poduw@uw.edu.

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