

Wayne State University COVID-19 Vaccination Survey Second Administration - July 2021

July 23, 2021

Purpose and Methodology

- ❑ The study's purpose is to estimate the WSU community's COVID-19 vaccination status.
 - A short, anonymous, online survey was developed in consultation with the Provost, Chief of Staff, and in consultation of the U.S. Census' Household Pulse Survey.
 - The survey was initially deployed in May 2021. This is the second administration. The invitation (July 7, 2021) and reminders (July 12, July 14) were sent by President Wilson to the entire campus community.
 - The survey was available from July 7 through July 16. Reminders were sent on July 12 and July 14. The completion deadline was extended to July 16, as noted in the July 14 reminder.

- ❑ A total of 9,106* people responded to the survey, an approximately **29.5%** response rate with an overall margin of error of $\pm 0.86\%$ (at a 95% confidence level). This is higher than the May vaccination survey final response rate of 24.9%.

* The total number of respondents (**9,106**) presented in summary charts and tables is based on weighted data. Though it is the same as un-weighted data, the distribution of each group are different after weighting. [See next slide.]

Purpose and Methodology (*continued*)

- ❑ When compared to the Wayne State population,* some respondents were statistically significantly underrepresented or overrepresented:
 - ❑ *Primary role at WSU*: Undergraduate students were underrepresented, whereas Graduate students and faculty were overrepresented;
 - ❑ *Age group*: the youngest age groups (18-24 and 25-34) were underrepresented, whereas older age groups (35-44, 45-54, 55-64 and 65+) were overrepresented;
 - ❑ *Gender*: Respondents who identified as male were underrepresented, whereas respondents who identified as female were overrepresented; and
 - ❑ *Race/ethnicity*: Respondents who identified as Black/African American or White/Caucasian were underrepresented, whereas respondents who identified as multiracial were overrepresented.
- ❑ Given these instances of over/under-representation, the response data are weighted to make it representative of the WSU population. The results presented in the next section are weighted results, adjusting for differences in survey responses by respondents' primary role at WSU, age group, gender, and race/ethnicity. [*Details about the weighting procedures are included in the demographic section; see slide 31.*]
- ❑ We further estimated bracketed results to adjust for probable response bias. See Conclusions on slide 16.

* We extend our appreciation to the Office of Institutional Research and Analysis (OIRA) for providing the Winter 2021 HR and Student data.

Key Survey Findings

(data presented in this section are weighted)

Vaccination Status

As noted previously, all results reported in this section are weighted.

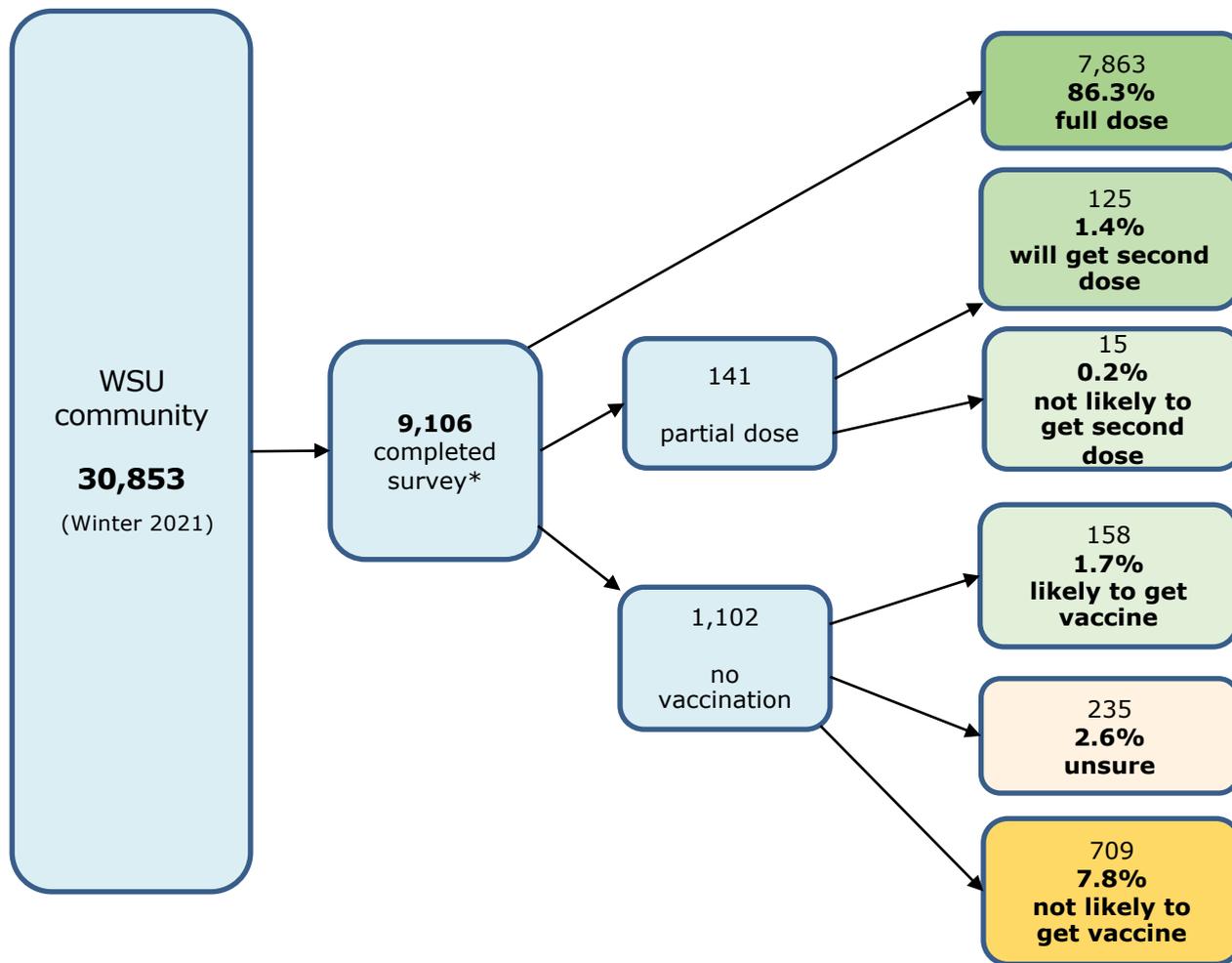
- **86.3%** of all respondents reported that they are fully vaccinated.*
 - The rate of full vaccination for employees (91.5%) is statistically significantly higher than that for students (84.3%).
- **87.9%** of all respondents reported that they have received at least one dose of the COVID-19 vaccine.
 - Students (8.9%) are statistically significantly more likely be vaccine-hesitant than employees (4.9%).

Vaccination Status	Students (n=6,598)	Employees (n=2,233)	All Respondents (n=9,106)**
Full dose	84.3%	91.5%	86.3%
Received 1 st dose, and will get 2 nd dose	1.7%	0.7%	1.4%
Received 1 st dose, but not likely to get 2 nd dose	0.2%	0.1%	0.2%
No vaccination, but likely to get vaccine	2.1%	0.8%	1.7%
No vaccination, but likely to get vaccine by 7/30	0.7%	0.5%	0.6%
No vaccination, and unsure	2.8%	2.0%	2.6%
Not likely to get vaccine	8.9%	4.9%	7.8%

*Fully vaccinated: respondents who received the Johnson & Johnson vaccine, both doses of the Pfizer, Moderna, or AstraZeneca vaccines, or who reported receiving all required doses if unsure.

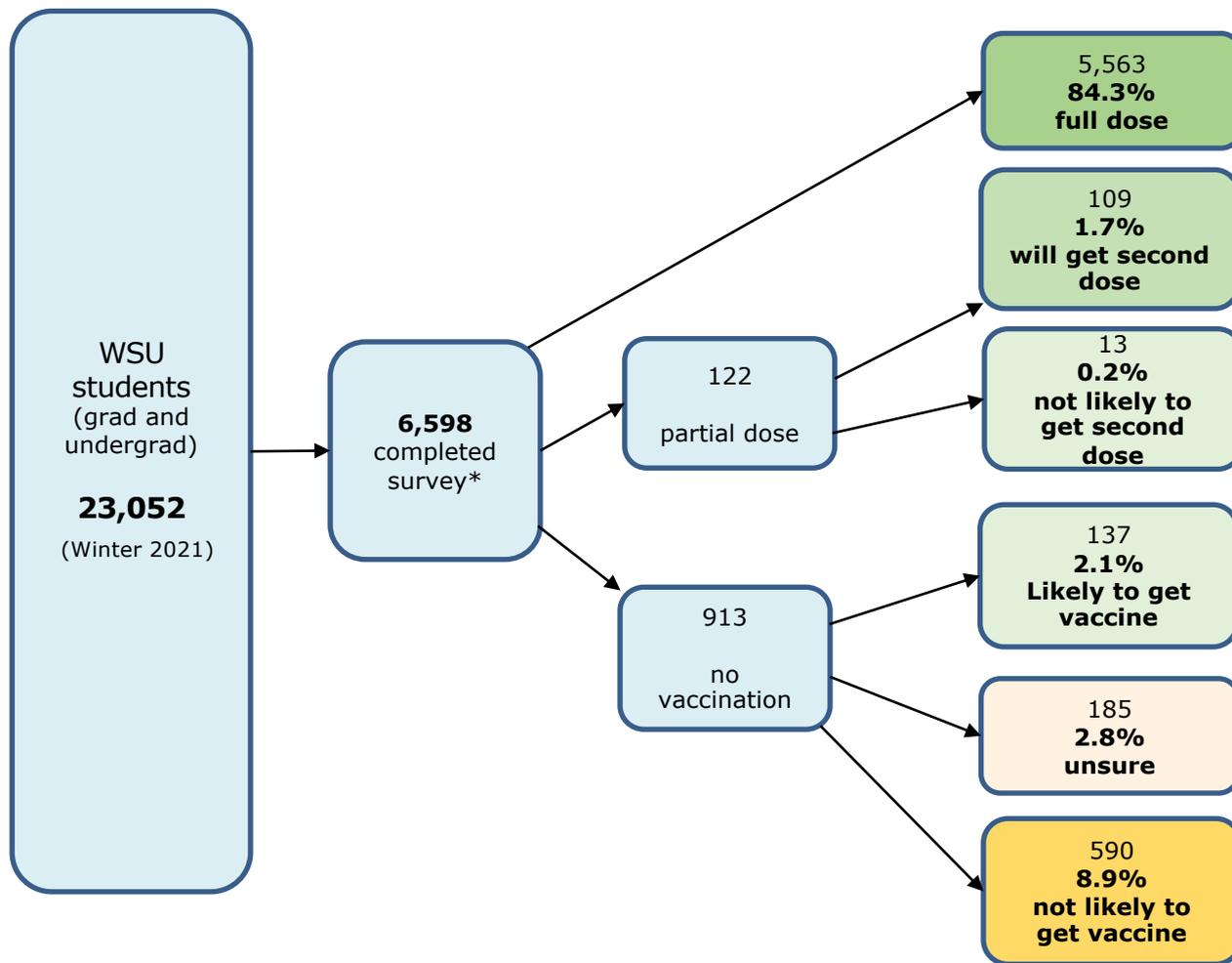
** Some respondents chose other or did not answer the primary role question; thus, the total of students and employees does not add up to 9,106.

All Respondents



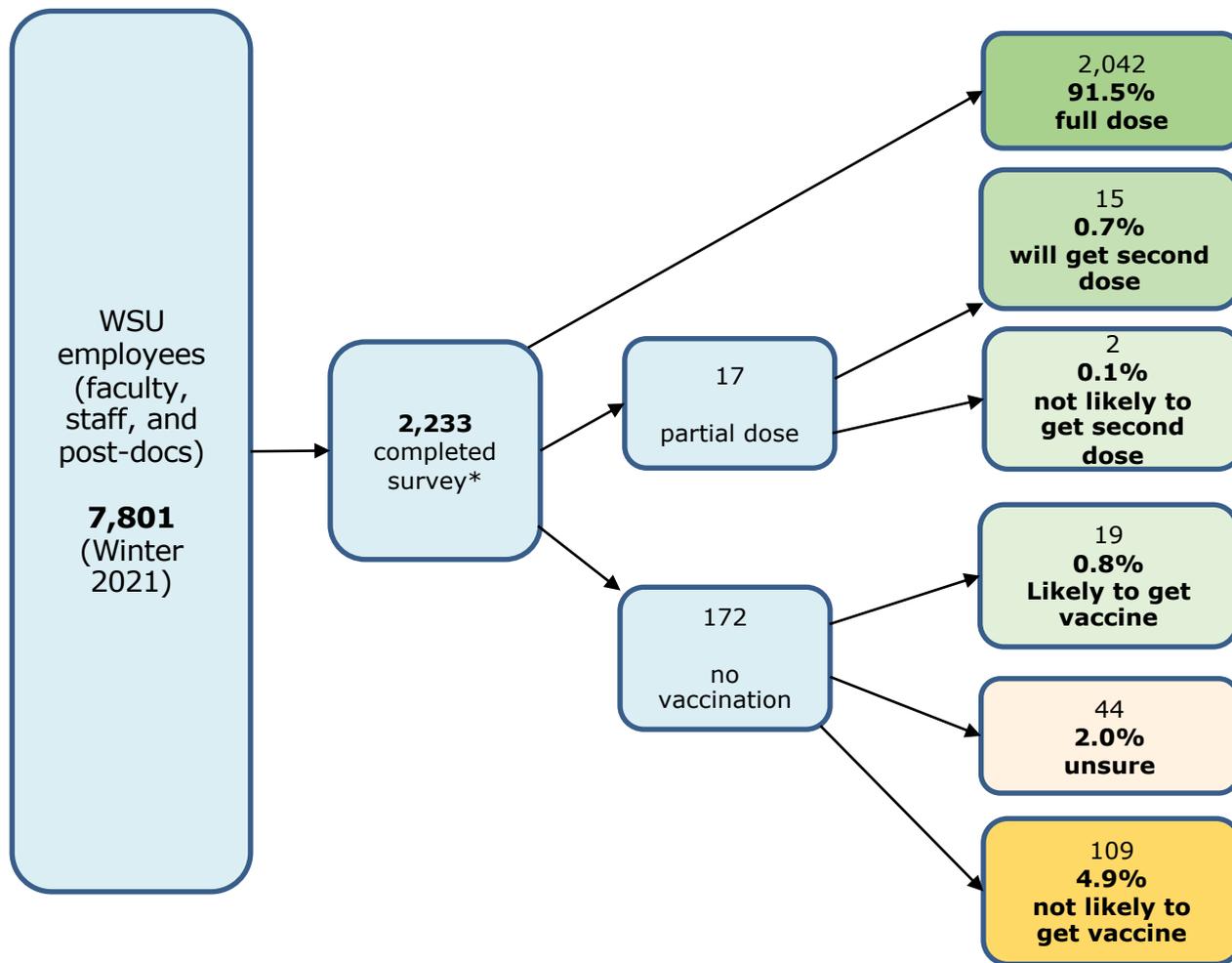
*The numbers in this chart are weighted, so some of the numbers may not add up to 100% and may not match the demographics reported later.

Students



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Employees



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Vaccination rates by WSU primary role

Primary role at WSU	Total	At least one dose		Fully vaccinated	
Undergraduate	4,451	3,705	83.2%	3,617	81.2%
Graduate	2,146	1,979	92.2%	1,947	90.7%
Post-Doctorate	33	30	91.6%	28	86.6%
Faculty	434	421	96.8%	417	96.1%
Staff	1,765	1,610	91.2%	1,596	90.4%
Other	276	259	93.8%	257	93.3%
All Respondents	9,106	8,004	87.9%	7,863	86.3%

NOTE: These results are based on weighted data to make it representative of the WSU population; therefore, adding or dividing these numbers may not necessarily yield the totals and percentages shown.

Vaccination rates by Age

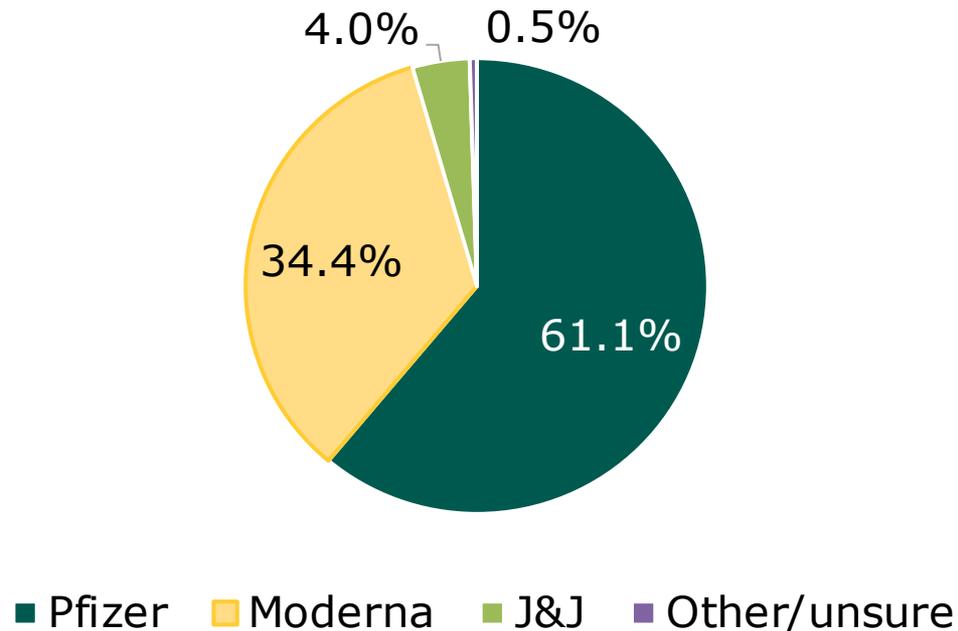
Age group	Total	At least one dose		Fully vaccinated	
18-24	4,571	3,896	85.2%	3,801	83.2%
25-34	2,247	1,988	88.5%	1,965	87.4%
35-44	901	810	89.9%	798	88.5%
45-54	606	554	91.4%	547	90.2%
55-64	501	482	96.2%	479	95.6%
65+	278	272	98.1%	272	98.1%
All Respondents	9,106	8,004	87.9%	7,863	86.3%

NOTE: These results are based on weighted data to make it representative of the WSU population; therefore, adding or dividing these numbers may not necessarily yield the totals and percentages shown.

Vaccine Type

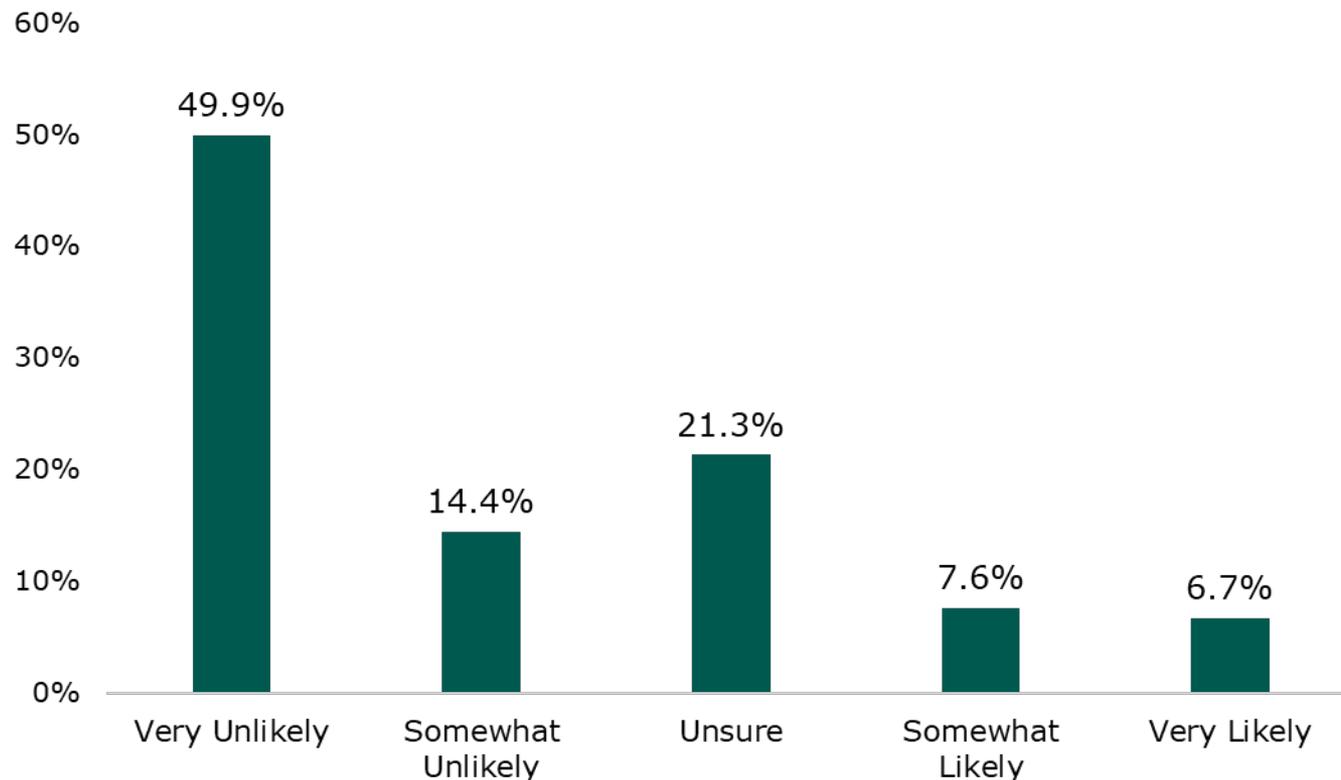
About 8,000 respondents answered the question about which vaccine they received. Of these respondents:

- over three fifths (61.1%) reported that they had received the Pfizer vaccine;
- over one third (34.4%) reported the Moderna vaccine;
- 4% reported receiving the Johnson & Johnson vaccine; and
- the remaining 0.5% indicated another vaccine, or were unsure.



COVID-19 Vaccine Hesitancy

Of the respondents who said they have not received a COVID-19 vaccine (n=1,102 or 12.1% of all respondents), nearly two thirds indicated that it was either somewhat unlikely or very unlikely that they would get the vaccine (64.3%).



COVID-19 Vaccine Hesitancy (*continued*)

- The percentage of respondents by group who reported that they were either somewhat unlikely or very unlikely to get the vaccine differs by primary role at WSU and by age group. For example, 8.9% of all student respondents (N=6,598) reported vaccine hesitancy, statistically significantly higher than the reported hesitancy in WSU employees (4.9%, N=2,233). See slides 7 and 8.
- Undergraduate students or those under 25 years old have the highest level of vaccine hesitancy.

Primary role at WSU	Percent hesitancy
Undergraduate	10.6%
Graduate	5.4%
Post-Doctorate	6.1%
Faculty	1.9%
Staff	5.6%
Other	3.5%

Age group	Percent hesitancy
24 or under	9.3%
25-34	8.1%
35-44	7.3%
45-54	4.7%
55-64	1.4%
65+	0.8%

Estimating Positive Response Bias

The WSU survey indicated that 87.9% of respondents received at least one dose of the COVID-19 vaccine. This high level may be a result of positive response bias - that is, those who have the vaccination being more likely to respond.

- To assess this possibility, we sought to bracket the results, treating the 87.9% as the high end of the bracket.
- To assess the low end of the range, we examined the U.S. Census Household Pulse Survey and vaccination tracking data released by Michigan Department of Health and Human Services (MDHHS).

Per the U.S. Census Household Pulse Survey COVID-19 Vaccination Tracker,* for the collection period ending on 7/5/2021:

- 80.9% of adults 18 years and older nationally self-reported receiving at least one dose of a COVID-19 vaccine; and
- the self-reported rate for Michigan was 79.2% (per the same U.S. Census Household Pulse Survey report).

(Continued on the next slide)

*<https://www.census.gov/library/visualizations/interactive/household-pulse-survey-covid-19-vaccination-tracker.html>

Estimating Positive Response Bias (*continued*)

- As of 7/5/2021, the MDHHS* reported that 58.6% of Michigan residents 16 years and older had received at least one dose. Therefore, the U.S. Census Household Pulse Survey for Michigan of 79.2% was approximately 20.6 percentage points higher than the MDHHS records. This can be seen as an estimate of positive response bias.
- The difference between self-reported first vaccinations in the U.S. Census Household Pulse Survey and the MDHHS data suggests that the self-reported estimate of 87.9% from the WSU survey could be approximately 20.6 percentage points high. This indicates an estimated vaccination rate of 67.3% as the lower end of the bracket.
- We conclude the WSU **vaccination rate lies between 67.3% and 87.9%**. Given that some WSU respondents intend to get vaccinated, and our respondents are more educated and have higher incomes, it is likely the percentage partially vaccinated is in the middle of this range.
 - The bracket for the May survey was estimated at 61.4% to 84.6%.

*https://www.michigan.gov/coronavirus/0,9753,7-406-98178_103214-547150--,00.html

Conclusion

- Overall, respondents to the WSU COVID-19 July survey revealed a high vaccination rate, with 86.3% (7,863 out 9,106) reported being fully vaccinated.
 - The reported full vaccination rate was significantly higher for employees (91.5%) than for students (84.3%). Within these groups, the result was 81.2% for undergraduates and 96.1% for faculty.
- Of all survey respondents, the vast majority (87.9%) reported receiving at least one dose of the vaccine. Another 1.7% of respondents intend to get the vaccination, and among them, 0.6% plan to get the vaccine by July 30, 2021.
- Based upon these estimates, we provide a bracketed estimate from 67.3% (estimated based on possible U.S. Census Household Pulse Survey response bias) to 87.9% (the high estimate based on the survey sample).

Change in Vaccination Rates from May to July (*all respondents*)

Vaccination Status	May Final Results (N=7,404)	July Final Results (N=9,106)	Change from May to July
Full dose	75.2%	86.3%	+11.1%*
Received at least one dose	84.6%	87.9%	+3.3%*
No vaccine and unlikely to get vaccine	9.0%	7.8%	-1.2%*

* Difference is statistically significant ($p < .05$)

Change in Vaccination Rates from May to July (*by primary role*)

Vaccination Status	Primary Role	May Final Results (N=7,404)	July Final Results (N=9,106)	Change from May to July
Full dose	Student	71.7%	84.3%	+12.6%*
	Employee	84.1%	91.5%	+7.4%*
Received at least one dose	Student	82.4%	86.2%	+3.8%*
	Employee	90.1%	92.3%	+2.2%*
No vaccine and unlikely to get vaccine	Student	10.5%	8.9%	-1.6%*
	Employee	5.1%	4.9%	-0.2%

* Difference is statistically significant ($p < .05$)

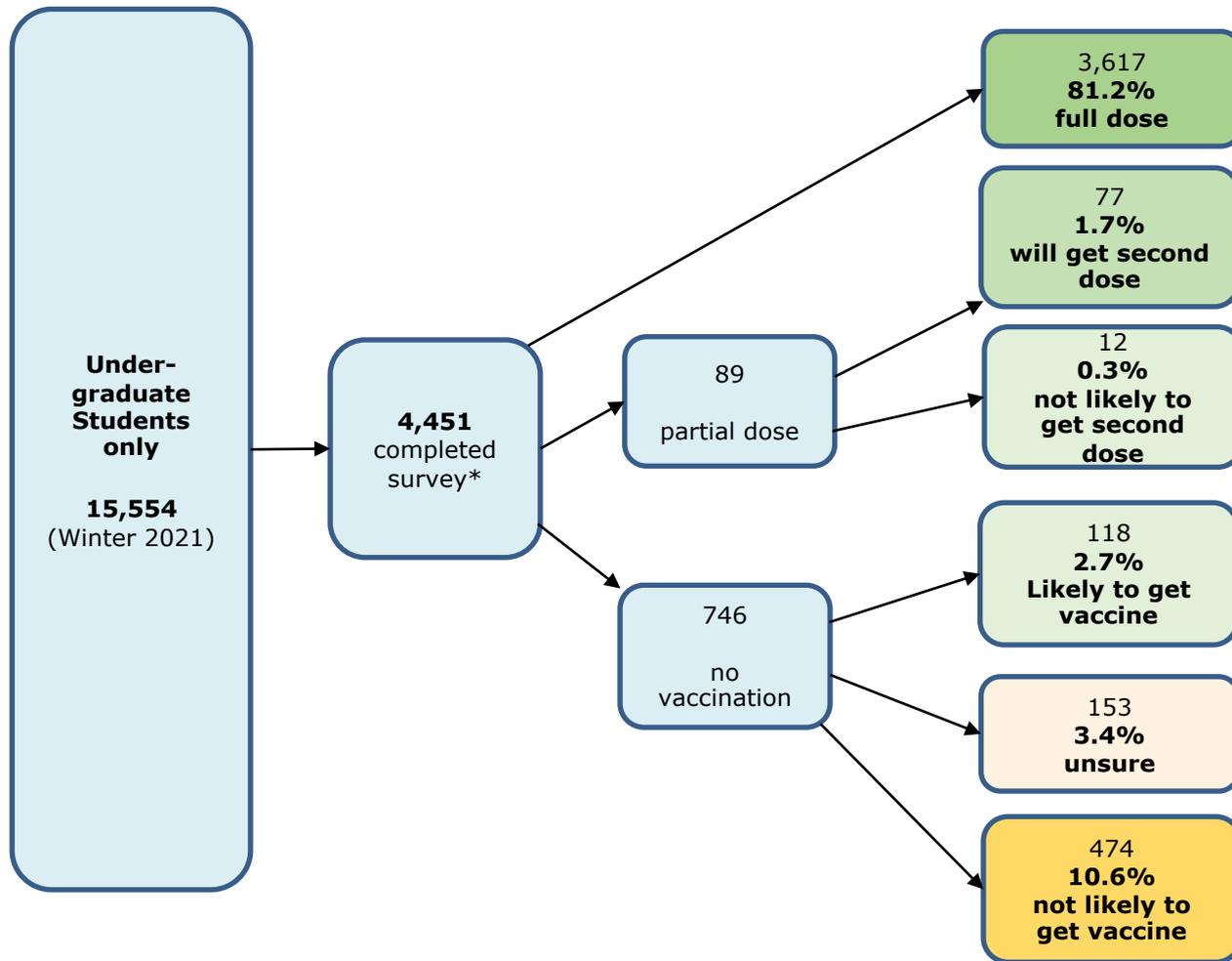
Ideas for outreach

- Engage in targeted outreach to the groups with the lowest vaccination rates.
 - For example, a targeted email and postcard to the youngest male undergraduates.
 - Open up a hotline for people to call through which the vaccine hesitant can get specific information relative to their concerns.
 - Ask the vaccine-hesitant to discuss their decision with their physician. There is some indication that this has an effect.
 - Stories offered by student volunteers who have had COVID-19 or “long haul” symptoms, urging vaccination, may have influence.
 - And perhaps engagement by coaches, undergraduate advisors, student group leaders, and others they may trust.
- Consider additional financial incentives, such as tuition credit, fee waivers, increased OneCard credits, etc. We endorse the incentives recently offered by the University.
- Inform or remind students that Uber and Lyft offer free rides to get the vaccines.

Additional Results

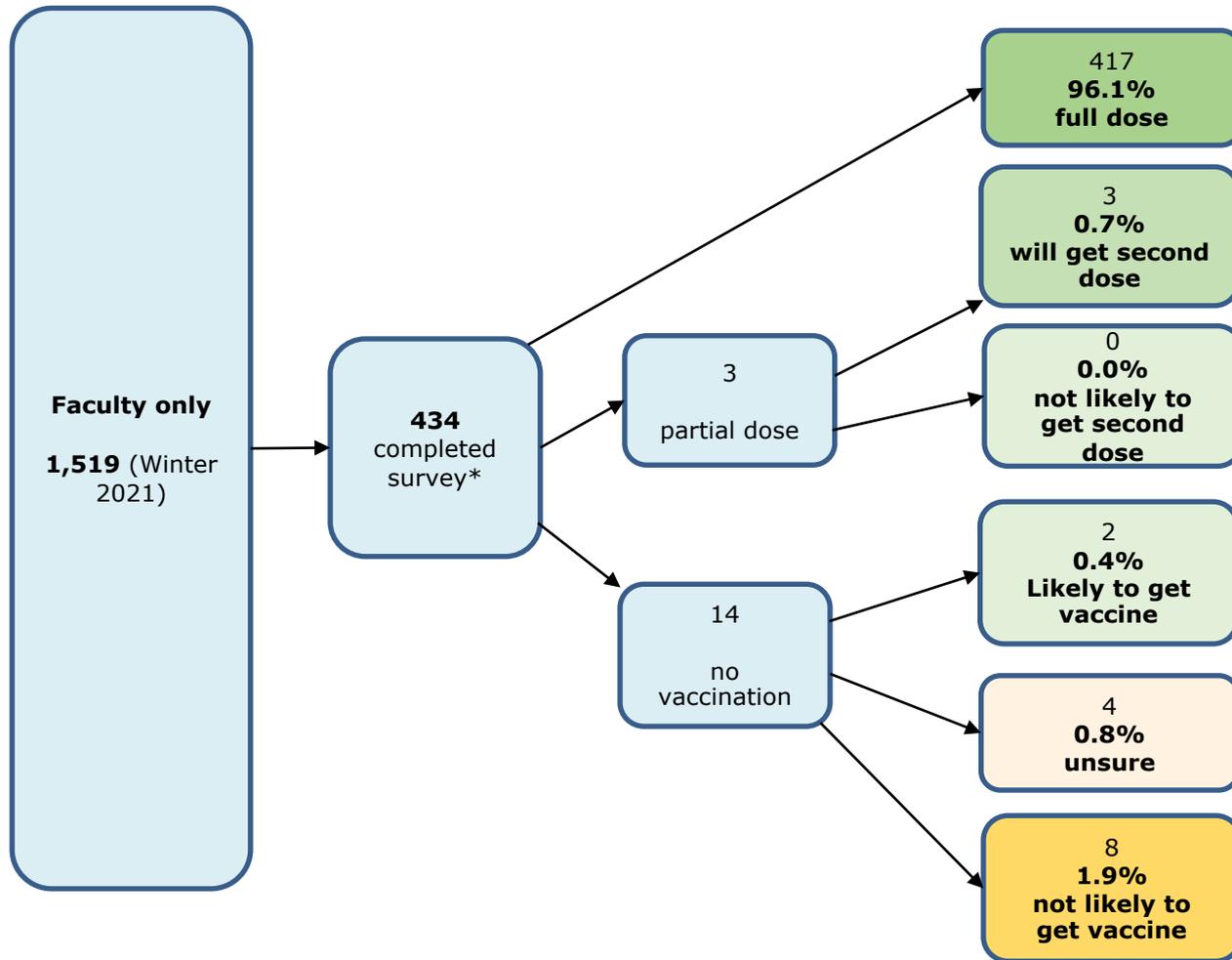
(data presented in this section are weighted)

Undergraduates Only



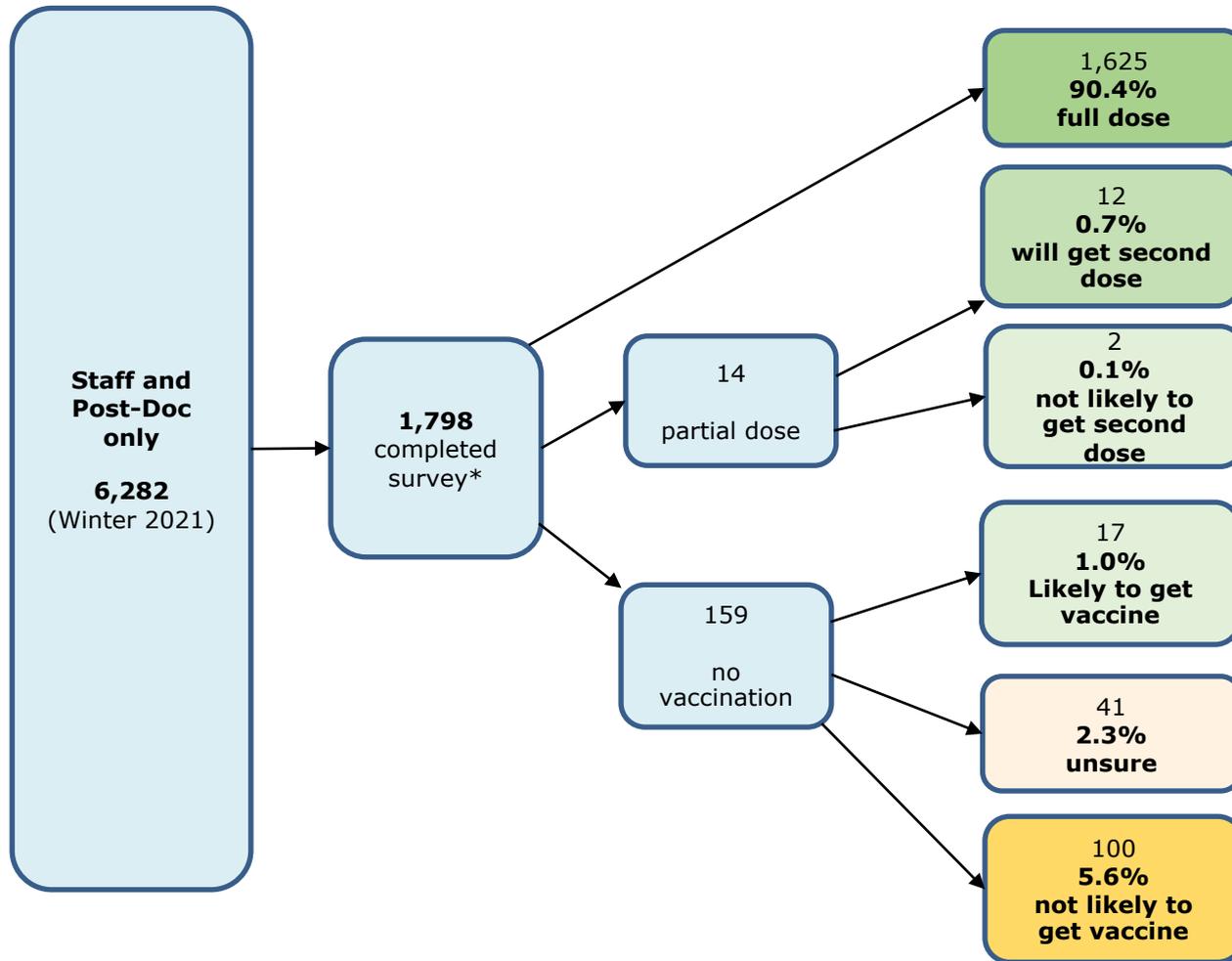
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Faculty Only



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Staff and Post-Doc Only



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Vaccination Rates (at least one dose) by School/College

School/College	Total number of respondents*	Percent with at least one dose
College of Liberal Arts and Sciences	2,165	87.7%
College of Engineering	854	83.6%
Mike Ilitch School of Business	759	79.7%
School of Medicine	630	97.6%
College of Fine, Performing & Communication Arts	557	89.9%
College of Education	533	86.2%
Eugene Applebaum College of Pharmacy and Health Sciences	406	89.3%
College of Nursing	381	80.8%
School of Social Work	221	87.5%
Graduate School	153	90.1%
Law School	122	89.9%
School of Information Sciences	91	93.3%
Irvin D. Reid Honors College	70	81.4%
Other Division	34	61.6%

* Based on weighted data; includes only students, faculty, post-doc respondents; small samples sizes limit generalization.

Respondents Demographics

(data presented in this section are **not** weighted)

Primary Role at WSU

	Population (WSU-OIRA)		Respondents (self-reported)		Response Rate
	Number	Percent	Number	Percent	
Undergraduate	15,554	50.4%	3,525	38.7%	22.7%
Graduate	7,498	24.3%	2,339	25.7%	31.2%
Post-Doctorate	114	0.4%	46	0.5%	40.4%
Faculty	1,519	4.9%	1,175	12.9%	77.4%
Staff	6,168	20.0%	1,745	19.2%	28.3%
Other/unknown	0	0%	276	3.0%	--
Total	30,853	100%	9,106	100%	29.5%

Age Group					
	Population (WSU-OIRA)		Respondents (self-reported)		Response Rate
	Number	Percent	Number	Percent	
18-24	15,487	50.2%	3,921	43.1%	25.3%
25-34	7,615	24.7%	1,924	21.1%	25.3%
35-44	3,055	9.9%	972	10.7%	31.8%
45-54	2,054	6.7%	852	9.4%	41.5%
55-64	1,698	5.5%	830	9.1%	48.9%
65+	942	3.1%	471	5.2%	50.0%
unknown	2	0.0%	136	1.5%	--
Total	30,853	100%	9,106	100%	29.5%

Gender

	Population (WSU-OIRA)		Respondents (self-reported)		Response Rate
	Number	Percent	Number	Percent	
Male	12,823	41.6%	3,063	33.6%	23.9%
Female	18,007	58.4%	5,665	62.2%	31.5%
Other	0	0%	202	2.2%	--
Unknown	23	0.1%	176	1.9%	--
Total	30,853	100%	9,106	100%	29.5%

Race/Ethnicity

	Population (WSU-OIRA)		Respondents (self-reported)		Response Rate
	Number	Percent	Number	Percent	
White	18,128	58.8%	5,020	55.1%	27.7%
Black	4,910	15.9%	1,146	12.6%	23.3%
Asian	3,634	11.8%	1,104	12.1%	30.4%
Hispanic	1,511	4.9%	410	4.5%	27.1%
Two or more races	1,038	3.4%	446	4.9%	43.0%
American Indian/ Alaska Native	77	0.2%	9	0.1%	--
Native Hawaiian/ Pacific Islander	18	0.1%	4	0.0%	--
Other	864	2.8%	732	8.0%	--
Unknown	673	2.2%	235	2.6%	--
Total	30,853	100%	9,106	100%	29.5%

Affiliated College/School	
	Total Responses (unweighted)
College of Liberal Arts and Sciences	2,091
School of Medicine	826
College of Engineering	705
School of Business	647
College of Education	529
College of Fine, Performing and Communities Arts	502
College of Pharmacy and Health Sciences	482
College of Nursing	368
School of Social Work	255
Graduate School	165
Law School	151
School of Information Science	113
Honor's College	60
Other	55

Notes on Weighted Data

- The respondents differed from WSU community in terms of primary role, age group, gender, and race/ethnicity. The differences were statistically significant.
- To address this, the findings (totals and statistics) have been *weighted* by primary role, age, gender, and race/ethnicity. Only the respondent demographics are presented as raw results.
 - When a respondent pool has under- or over-representation of certain subgroups in a sample population, weighting allows researchers to estimate the results that would be found if the respondents were representative of the overall population, in terms of variables used in weighting.
 - Each response was assigned a weight, based on how under- or over-represented the respondent's subgroup is in the data. Cases with unknown subgroup identification were held at the same percentage in the weighted data as they were in the raw data.