

A vibrant campus scene featuring a large, dark bronze statue of a Native American figure in the background. In the foreground, two students with backpacks walk along a path. The area is surrounded by lush greenery, including trees and colorful flower beds with red and yellow blooms. A modern university building with large windows is visible in the background.

**SOUTHERN ILLINOIS UNIVERSITY
EDWARDSVILLE**

Work Harder, Stay Longer? Student Work and Retention

Student Affairs Leadership Council:
December 3, 2024

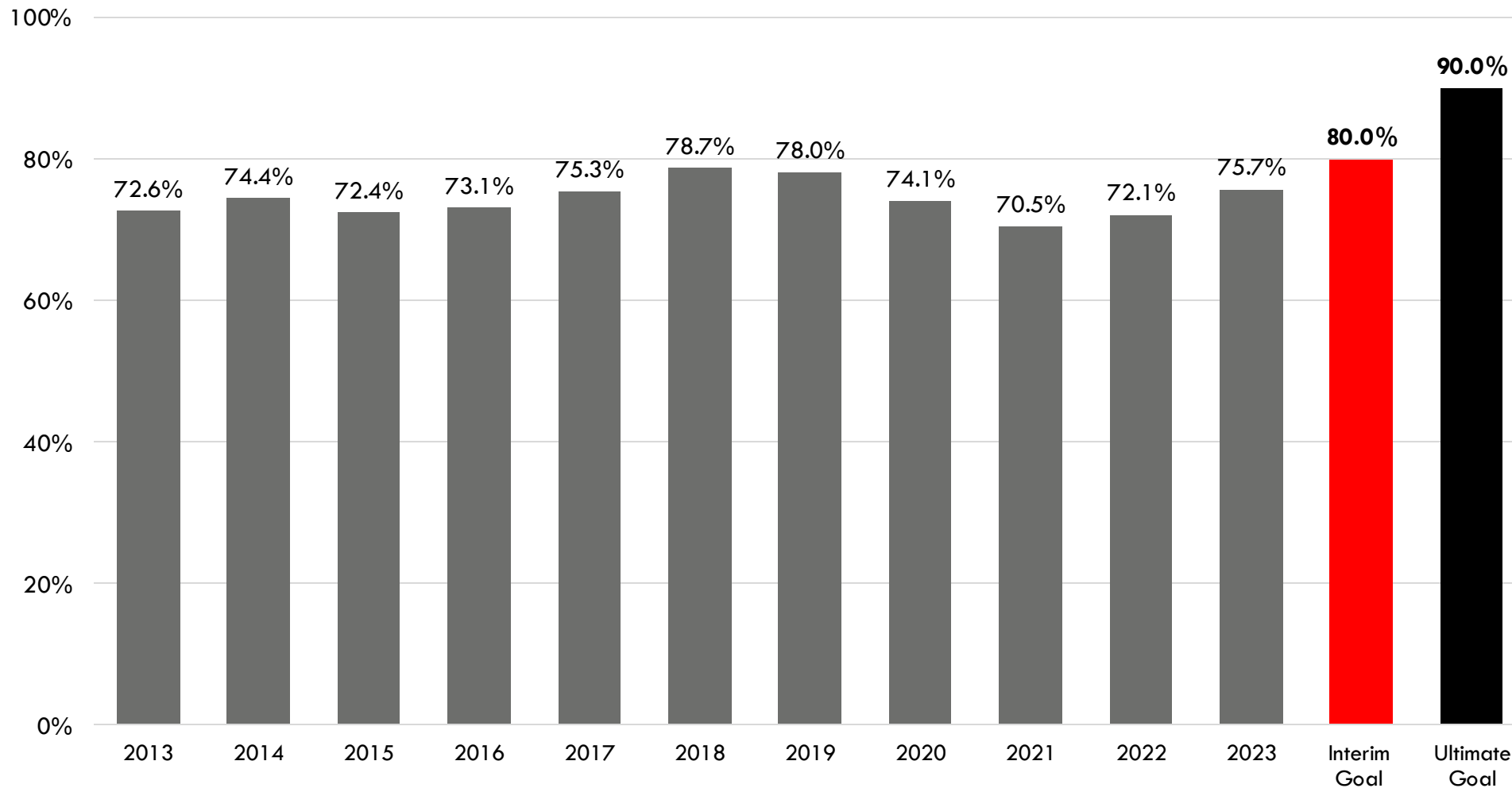
Overview of Student Work

- It has been argued that student work (generally in the form of federal work study) shows promise for enhancing student persistence and deserves more institutional and public policy attention.
- Federal work study (FWS):
 - Provides opportunity and structure including guidance on acceptable duties and establishing a cap on the amount of time students can work per week
 - Requires that the work is related to the student's educational goal
 - Can be considered a high-impact practice
- Unfortunately, little attention has been paid to the effects of on-campus employment that is not funded by the federal work study program.
- Student work (in all forms) may strengthen students' attachment to the institution (social integration), which may increase retention ([Tinto, 1975](#)).
- Obvious financial benefits associated with student work, which augment traditional financial aid

Retention Trends at SIUE

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Fall to Fall Retention among First-Time Full-Time Cohorts

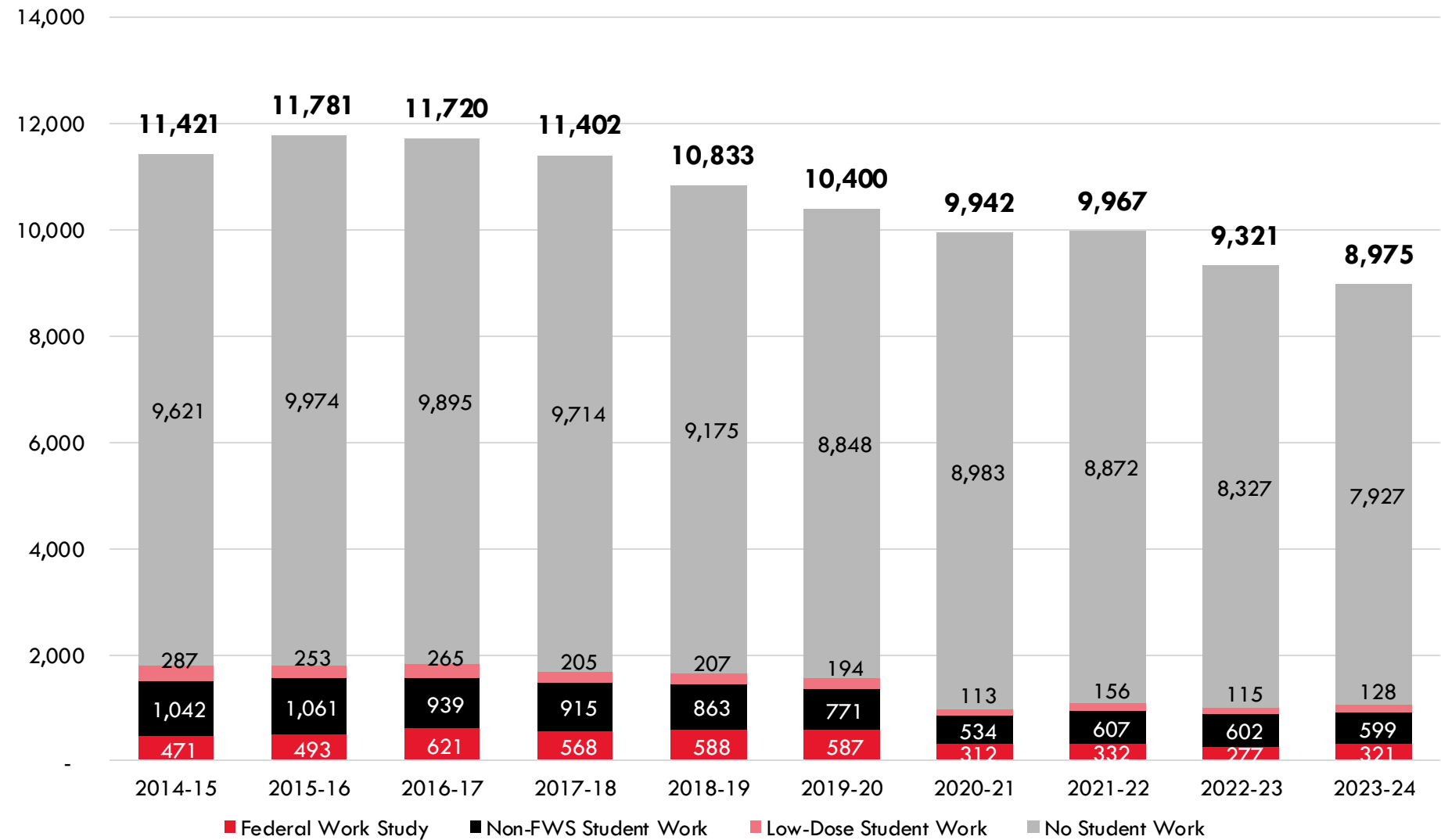


Operational Definition of Student Work Status among SIUE Undergraduates

- **Student worker:** student employees with any on-campus employment their first year of attendance.
- **Federal work study:** student employees whose wages are primarily subsidized by the federal work study program and work for at least half the payrolls of a fall or spring term in the students' first year of attendance (high dose).
- **Non-FWS student worker:** student employees whose wages are primarily paid through funds apart from the federal work study program and work for at least half the payrolls of a fall or spring term in the students' first year of attendance (high dose).
- **Low-dose student worker:** student employee who worked for fewer than half of the payrolls of a normal term in the students' first year of attendance.

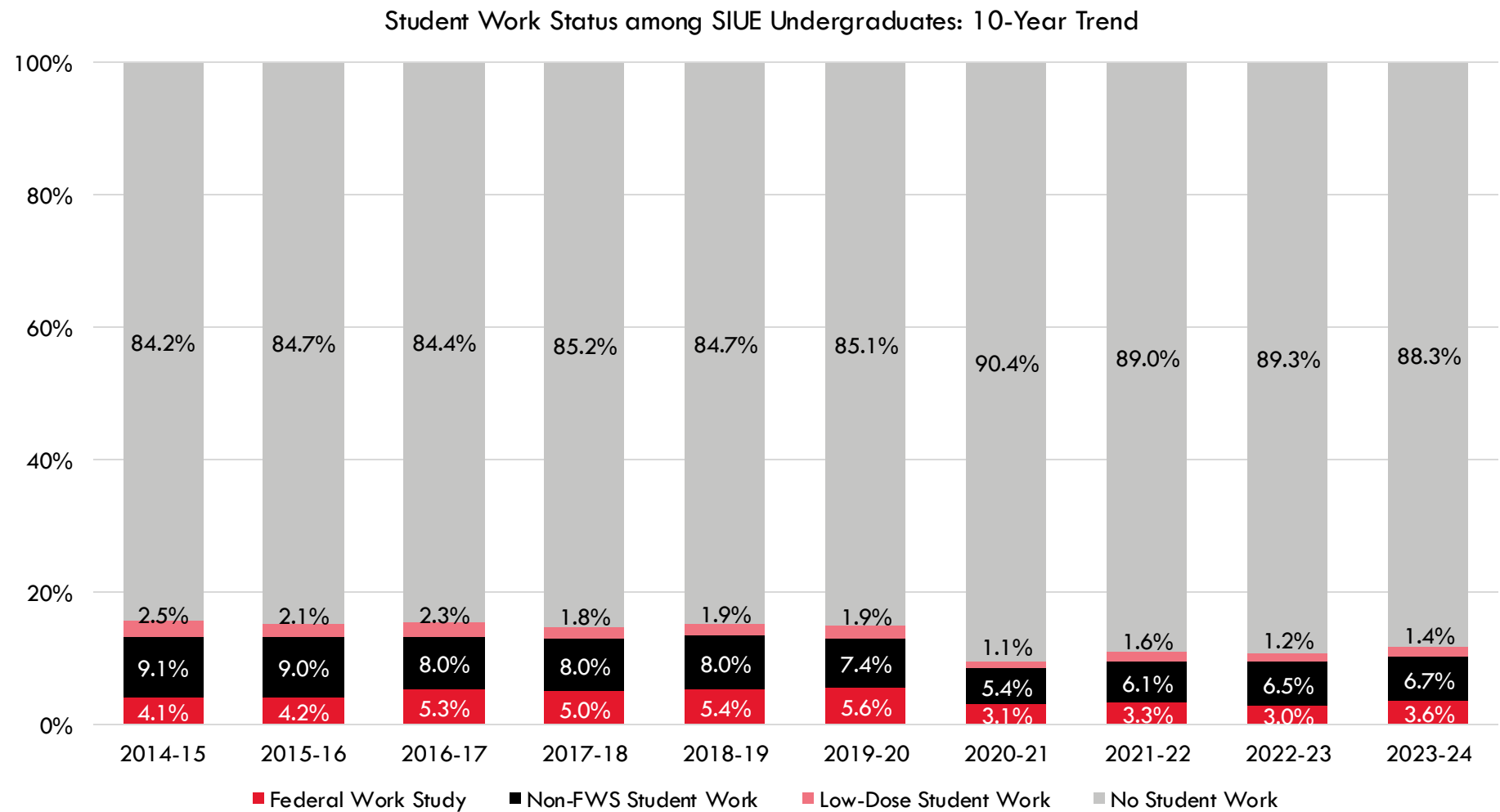
The number of undergraduate student workers at SIUE had been trending downward, slight increase in 2023-24

Student Work Status among SIUE Undergraduates: 10-Year Trend



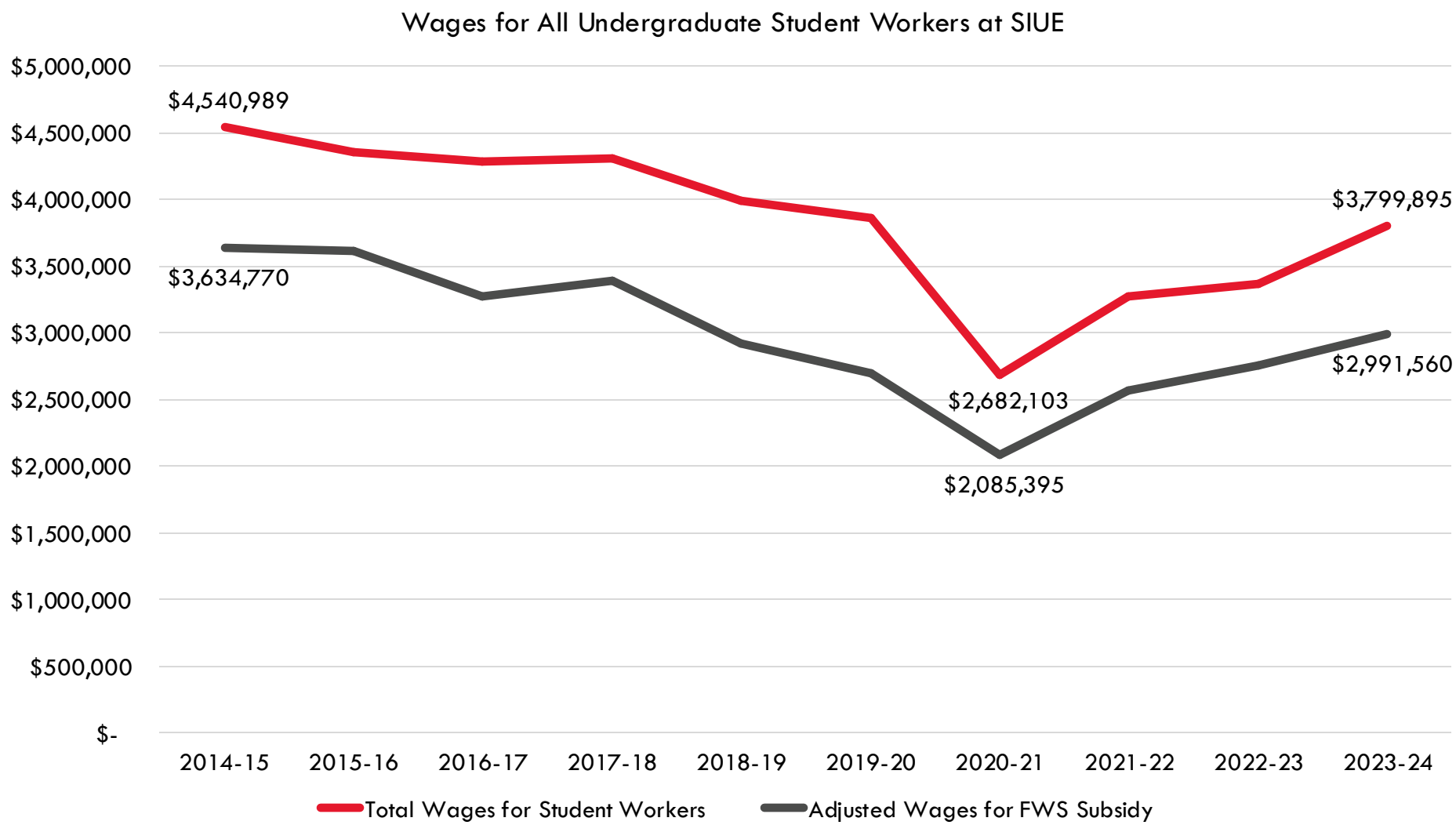
Source: Southern Illinois University Edwardsville Office of Institutional Research and Studies.

The proportion of undergraduates involved in student work was mostly steady until the pandemic, with slight increases the last three academic years



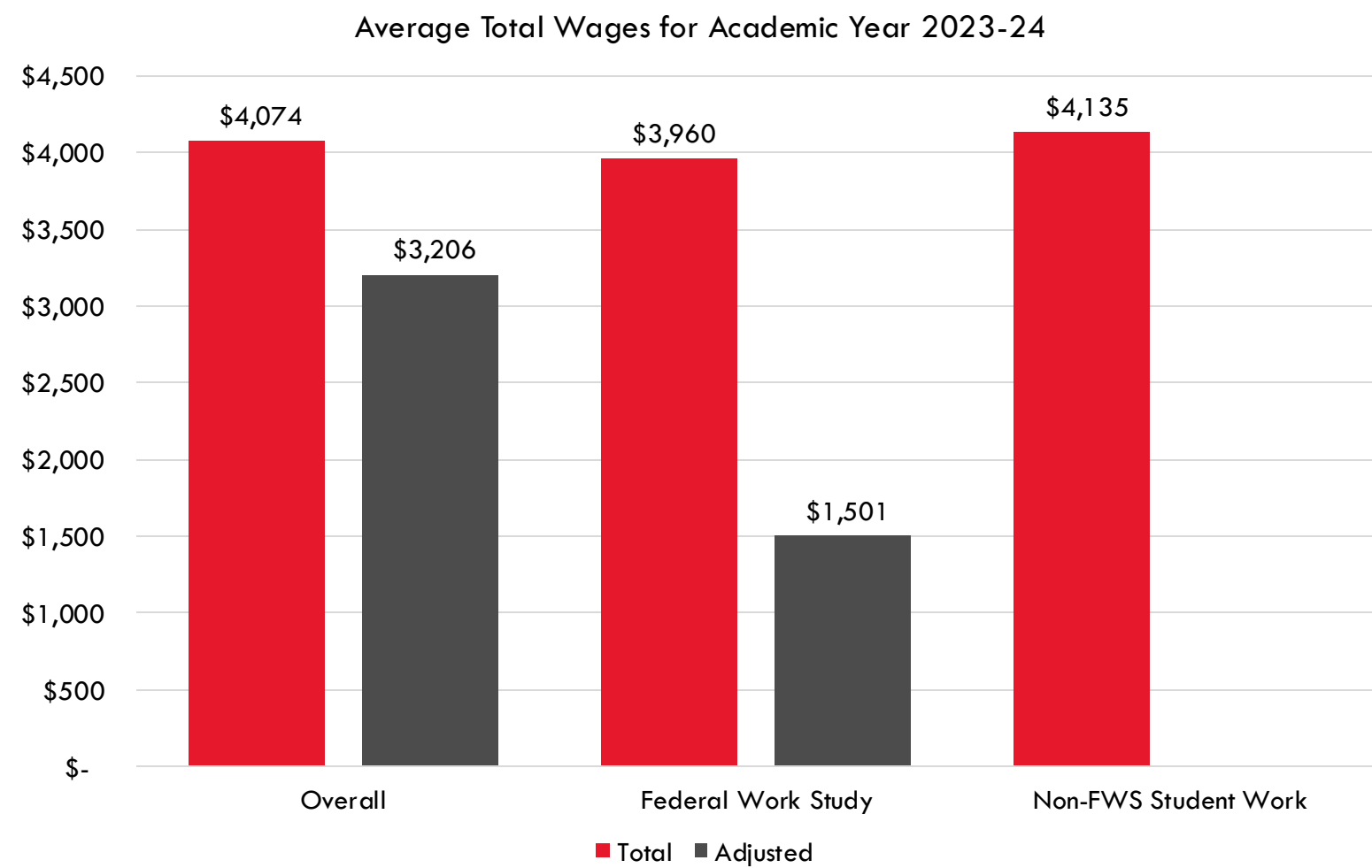
Source: Southern Illinois University Edwardsville Office of Institutional Research and Studies.

Total wages for all SIUE student workers has been trending higher since the pandemic, but still well below 2014-15 levels



Source: Southern Illinois University Edwardsville Office of Institutional Research and Studies.

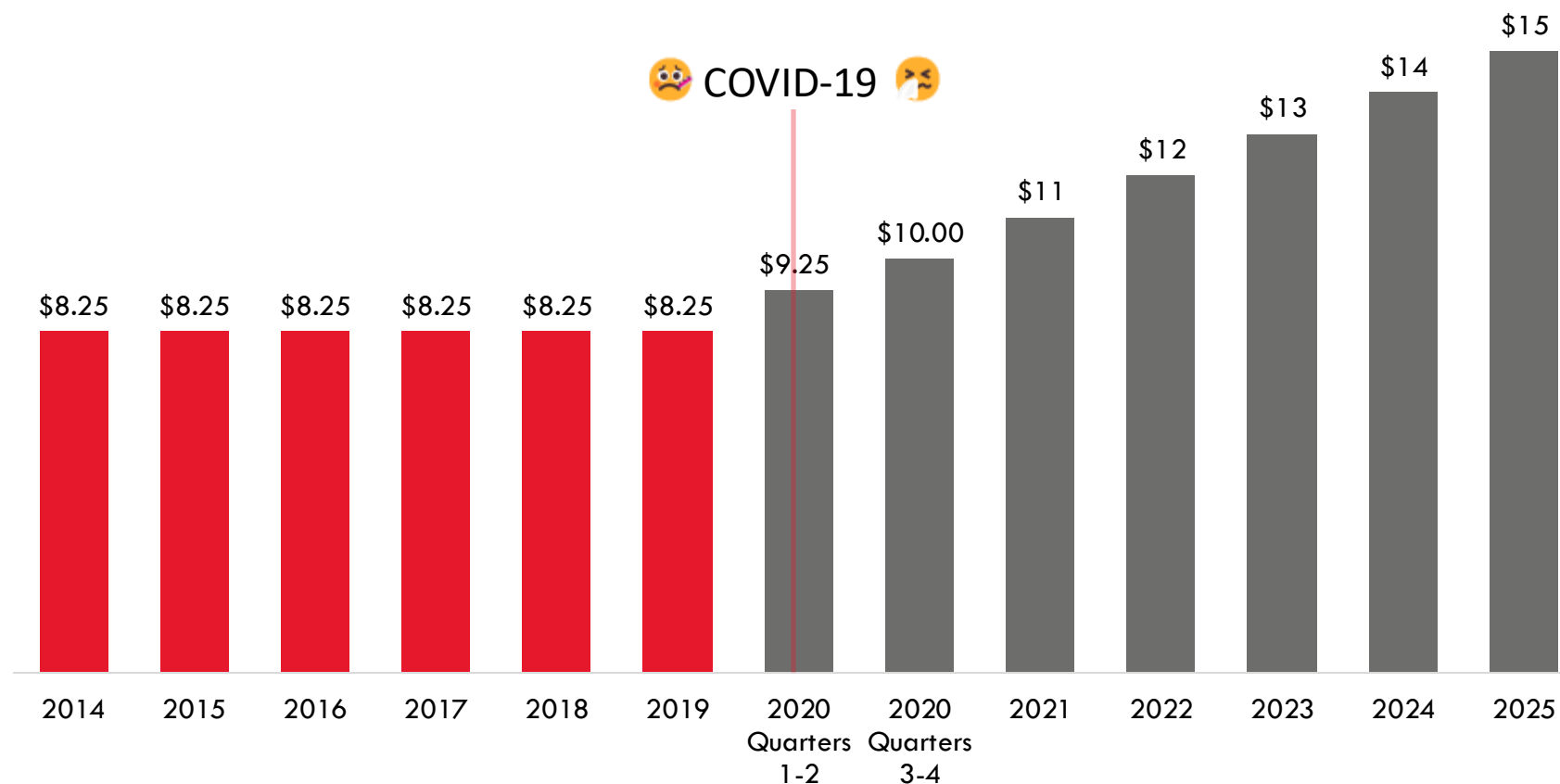
With the large federal subsidy, what SIUE pays to students on Federal Work Study is substantially lower than their overall wages.



Source: Southern Illinois University Edwardsville Office of Institutional Research and Studies. Based on a 75% subsidy.

The onset of COVID coincided with the ramp up of the minimum wage in Illinois

Minimum Wage in Illinois Over Time



Where do undergraduate students work on campus?



The College of Arts and Sciences, Housing, and Campus Recreation employed the most undergraduate student workers at SIUE last fall.

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	Federal Work Study	Non-FWS Student Work	Low-Dose	Total	% FWS	% Non-FWS Student Work
College of Arts and Sciences	41	90	31	162	25%	56%
Housing	51	87	7	145	35%	60%
Campus Recreation	35	52	13	100	35%	52%
MUC Food Service	32	48	9	89	36%	54%
Learning Support Services	9	76	1	86	10%	88%
Intercollegiate Athletics	14	33	26	73	19%	45%
Student Financial Aid	47	4	4	55	85%	7%
MUC Administration	13	20	4	37	35%	54%
Early Childhood Center	14	16	1	31	45%	52%
Student Affairs	3	17	2	22	14%	77%
College of Engineering	9	12		21	43%	57%
Admissions	5	7	8	20	25%	35%
Library	5	13	1	19	26%	68%
Graduate Studies and Research	4	12	2	18	22%	67%
Information Technology	4	12	2	18	22%	67%
Foundation Call Center	2	14	2	18	11%	78%
Equity, Diversity, & Inclusion	4	9	2	15	27%	60%
Textbook Service	6	8		14	43%	57%
Kimmel	2	11		13	15%	85%
School of Business	1	9	1	11	9%	82%
Facilities Management	2	8	1	11	18%	73%
Provost	1	9	1	11	9%	82%

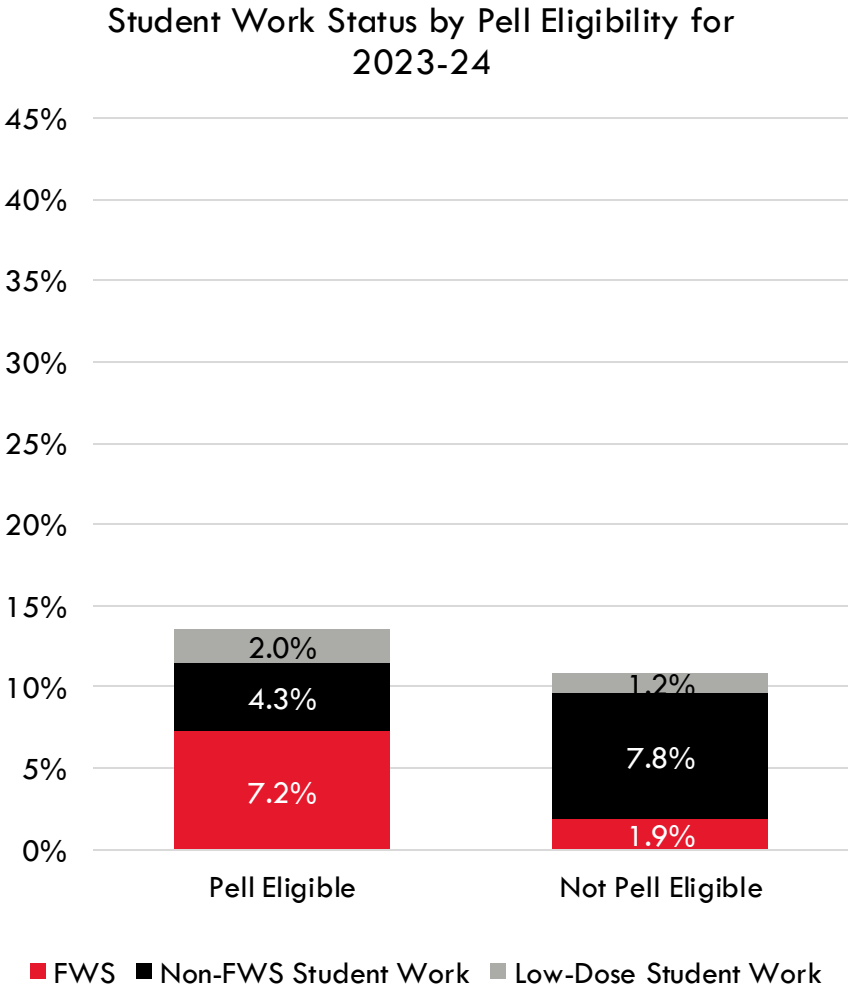
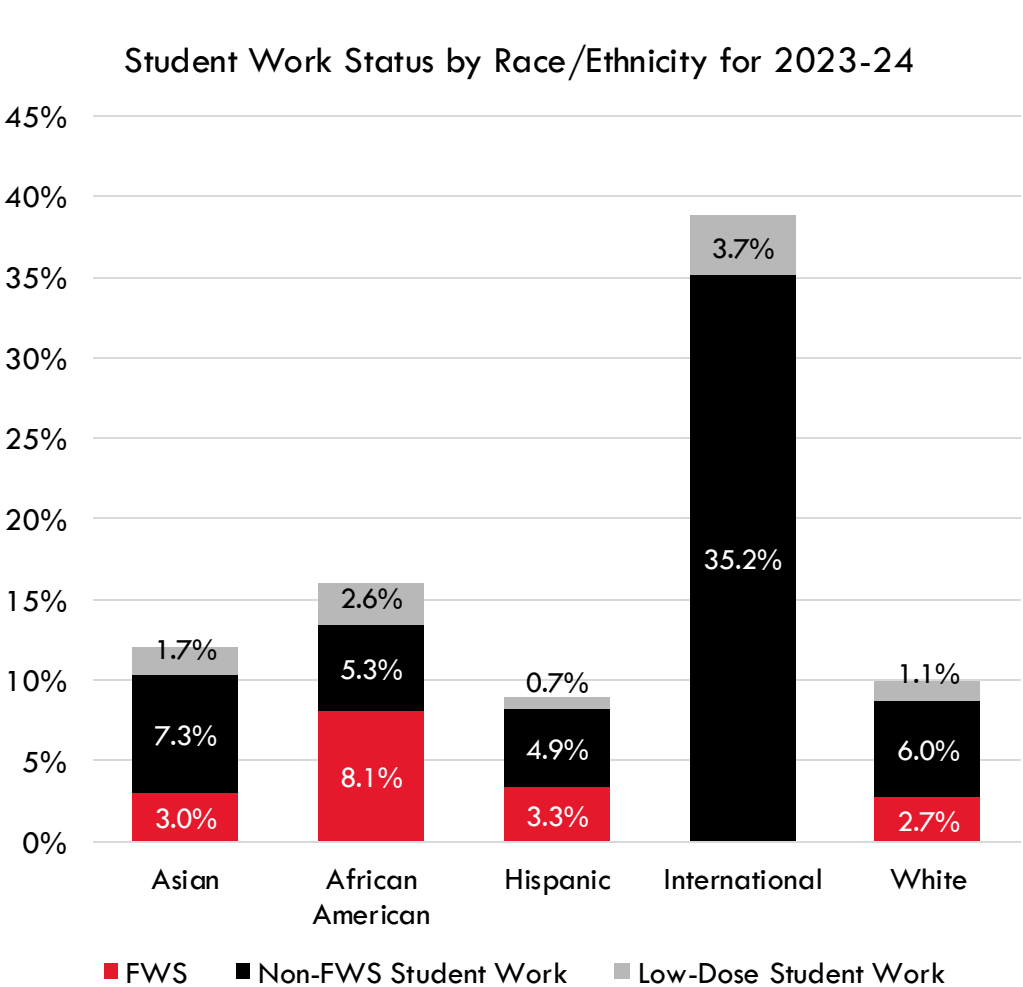
Source: Southern Illinois University Edwardsville Office of Institutional Research and Studies.

Race/Ethnicity Distribution of Undergraduate Student Workers by Department

Race/Ethnicity for All Undergraduate Student Workers in 2023-24					
	Grand Total	% African American	% White	% International	% Hispanic/Latinx
All Student Workers	1047	20.2%	56.7%	8.1%	4.9%
College of Arts and Sciences	162	8.6%	67.3%	4.9%	7.4%
Housing	145	33.1%	46.9%	4.8%	5.5%
Campus Recreation	100	24.0%	58.0%	3.0%	5.0%
Food Services	89	28.1%	33.7%	30.3%	2.2%
Learning Support Services	86	3.5%	66.3%	4.7%	7.0%
Intercollegiate Athletics	73	13.7%	54.8%	12.3%	6.8%
Student Financial Aid	55	41.8%	43.6%	0.0%	0.0%
Student Center Administration	37	13.5%	67.6%	2.7%	5.4%
Early Childhood Center	31	25.8%	58.1%	6.5%	0.0%
Student Affairs, VC	22	0.0%	81.8%	13.6%	4.5%
School of Engineering	21	14.3%	66.7%	9.5%	0.0%
Admissions	20	65.0%	25.0%	0.0%	0.0%
Library	19	0.0%	63.2%	26.3%	5.3%
Graduate Studies and Research	18	0.0%	88.9%	0.0%	5.6%
Information Technology Services	18	27.8%	50.0%	5.6%	0.0%
Foundation Call Center	18	27.8%	44.4%	22.2%	0.0%
Equity, Diversity & Inclusion	15	60.0%	26.7%	0.0%	0.0%
Textbook Service	14	14.3%	78.6%	0.0%	7.1%
Kimmel Student Involvement Ctr	13	0.0%	76.9%	0.0%	23.1%
School of Business	11	18.2%	72.7%	0.0%	0.0%
Facilities Management	11	9.1%	27.3%	27.3%	27.3%
Provost	11	9.1%	63.6%	9.1%	0.0%

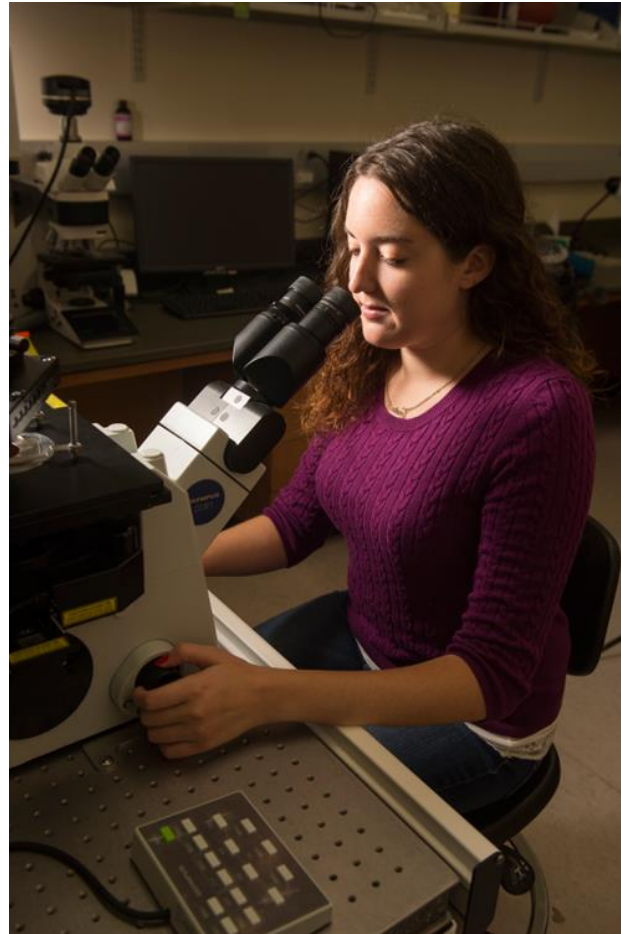
Source: Southern Illinois University Edwardsville Office of Institutional Research and Studies.

Nearly 40% of undergraduate international students worked on campus in 2023-24. African Americans had the highest % working in federal work study positions.



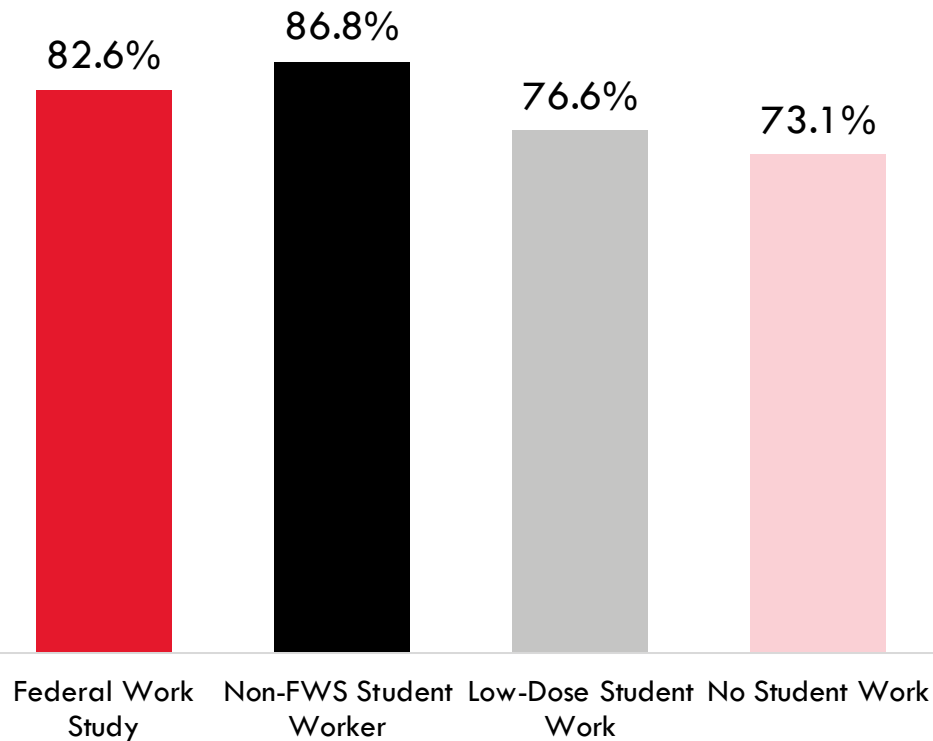
Source: Southern Illinois University Edwardsville Office of Institutional Research and Studies.

What is the relationship between student work and retention?

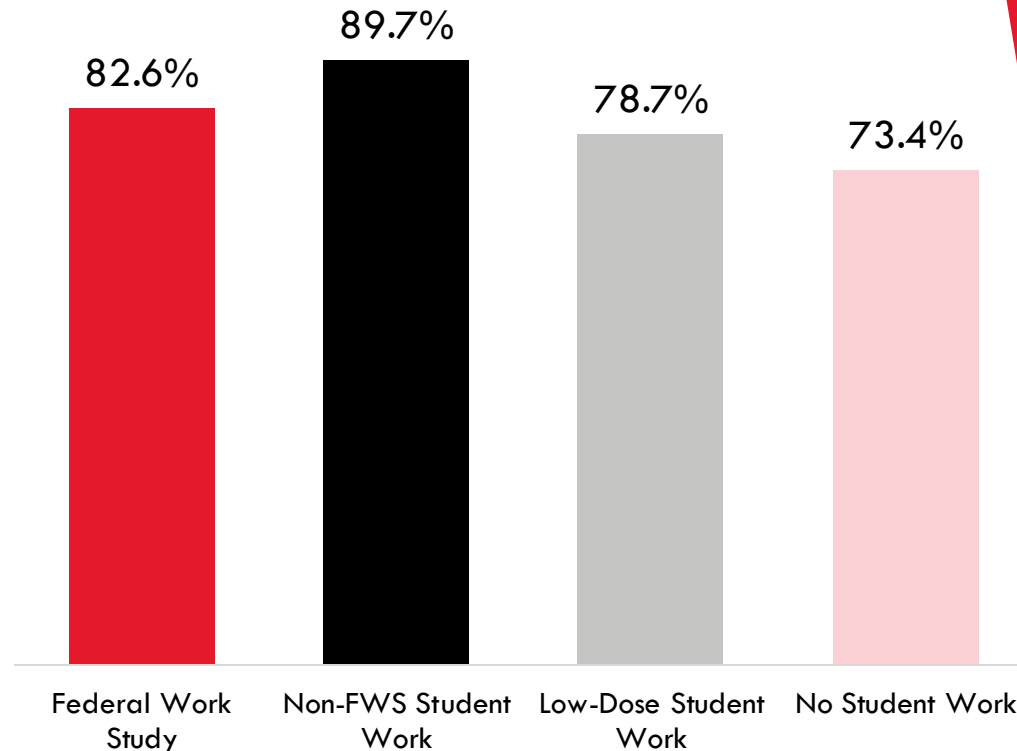


Across all cohorts, those in all student work categories had higher retention rates than those without student work

Retention by Student Work Status: All Undergraduates



Retention Rates by Student Work Status: Excluding International Students

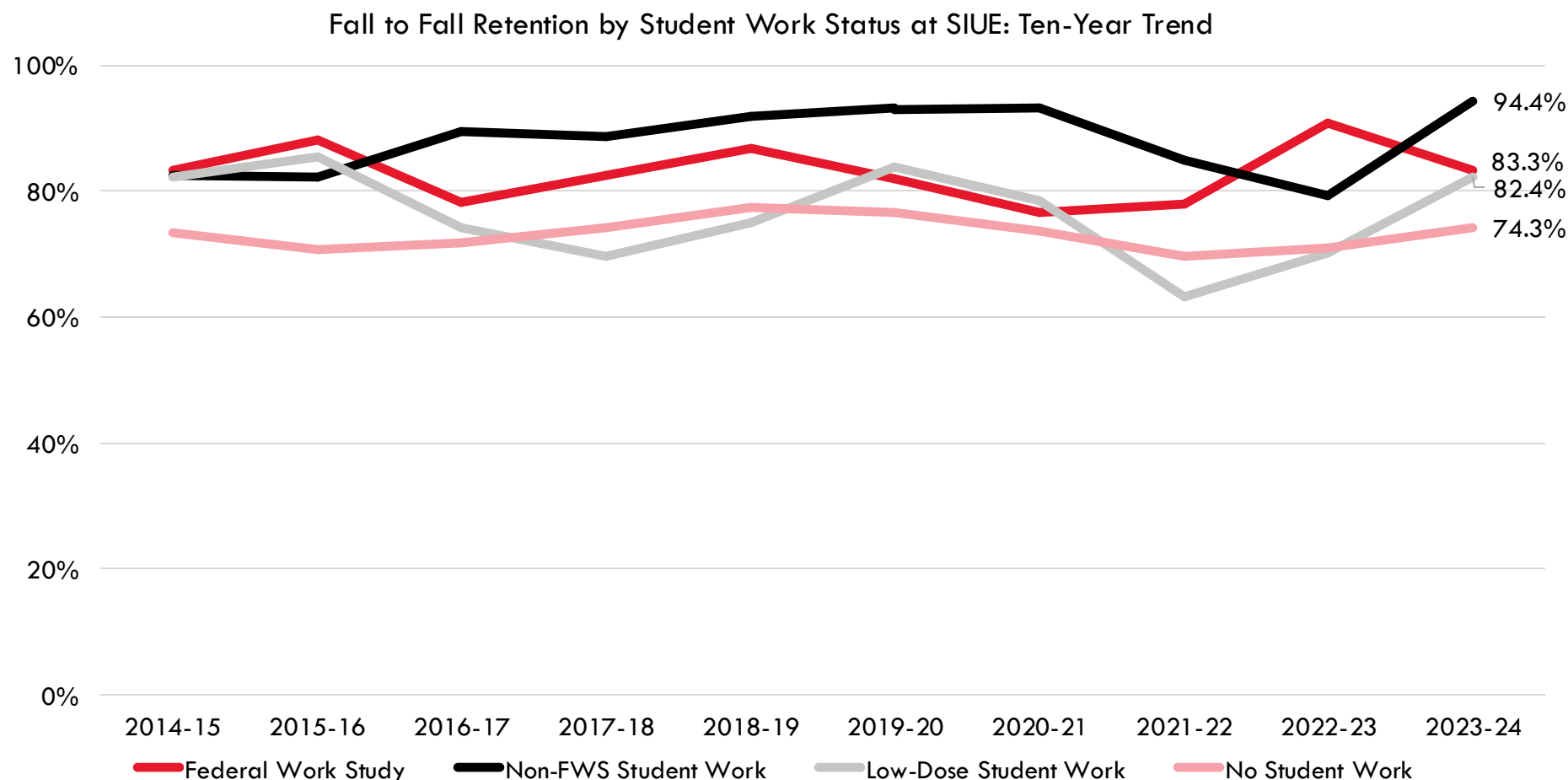


Note: this includes 10 cohorts: fall of 2014-15 through fall of 2023-24.

Source: Southern Illinois University Edwardsville Office of Institutional Research and Studies.

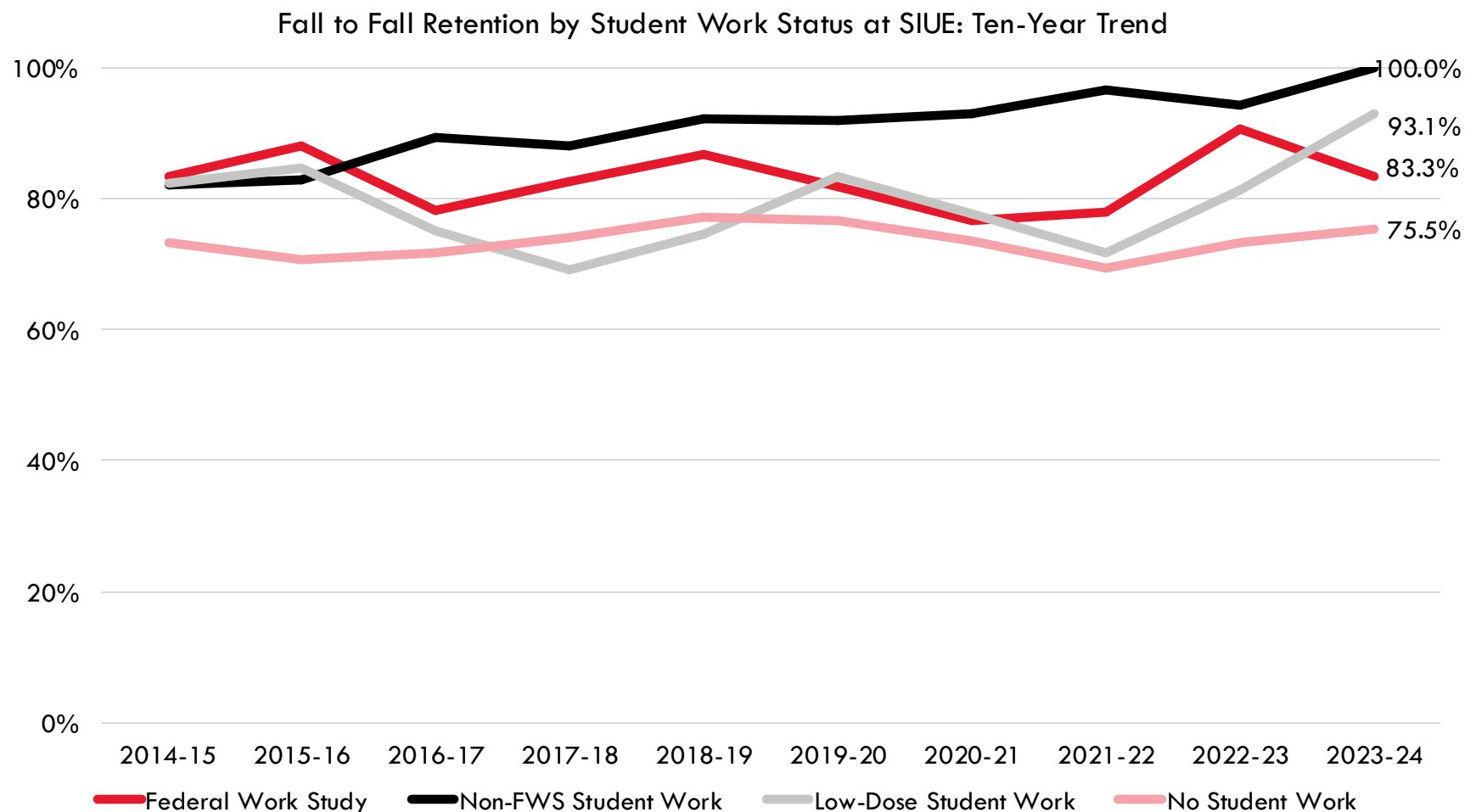
Student workers at SIUE consistently had higher retention rates

Nearly 95% of full-time freshmen with non-FWS student work in 2023-24 were retained this fall.



Same patterns hold when we exclude international students

All full-time freshmen with non-FWS student work in 2023-24 were retained this fall.



Source: Southern Illinois University Edwardsville Office of Institutional Research and Studies.

Modeling Fall to Fall Retention among First-Time Freshmen



- Previous work by the [SIUE Center for Predictive Analytics \(C-PAN\)](#) contributed to factor selection and modeling choices.
- Relevant factors to student persistence were included, such as student demographics and characteristics, socio-economic indicators, and institutional interventions.
- International students were excluded from the predictive modeling.
- Cohorts were aligned with when [SOAR program](#) cohort data became available (fall of 2014-15)
- We developed logistic regression models to predict the probability of retention.

Two predictive models (forward conditional stepwise) were developed

Variables in the Overall Model

- High school GPA
- Race/ethnicity (categorical)
- Pell eligibility
- Unmet need (categorical)
- First generation status (categorical)
- Social vulnerability index
- SOAR participant
- On-campus/Off-campus housing
- Received services from ACCESS
- Student work status: Federal Work Study, non-FWS student work, low-dose student work, no student work
- Attempted credit hours (fall-census)
- Declared major fall semester

Variables in the African American Model

- High school GPA
- Pell eligibility
- Unmet need (categorical)
- First generation status (categorical)
- SOAR participant
- On-campus/Off-campus housing
- Student work status: federal work study, non-FWS student work, low-dose student work, no student work
- Declared major fall semester

Overall Model

<u>Variable Name</u>	<u>Odds Ratio</u>	<u>Variable Name (continued)</u>	<u>Odds Ratio</u>
Unmet need = High	1.000	Race/Ethnicity = White	1.000
Unmet need = None	1.614	Race/Ethnicity = AMI/AK	0.625
Unmet need = Low	1.476	Race/Ethnicity = Asian	1.956
Unmet need = Mid	1.100	Race/Ethnicity = Black/AA	0.796
Social Vulnerability Index	0.812	Race/Ethnicity = NHI/OPI	1.031
Fall attempted hours	1.067	Race/Ethnicity = Hispanic/Lat	0.556
ACCESS participation	0.694	Race/Ethnicity = Multiple	0.556
On campus housing	1.113	Race/Ethnicity = Unknown	0.859
SOAR participation	1.328	Student work = No	1.000
High school GPA	3.106	Student work = Non-FWS	2.846
Pell eligibility	0.770	Student work = FWS	1.996
Major declared at fall census	1.285	Student work = low dose	1.386
First generation = No	1.000		
First generation = Unknown	0.845	Constant	0.018
First generation = Yes	0.864		

African American Model

<u>Variable Name</u>	<u>Odds Ratio</u>	<u>Variable Name (continued)</u>	<u>Odds Ratio</u>
Unmet need = High	1.000	High School GPA	2.107
Unmet need = None	1.805	Pell eligibility	0.675
Unmet need = Low	1.704	Student work = None	1.000
Unmet need = Mid	1.141	Student work = Non-FWS	2.587
On campus housing	1.290	Student work = FWS	1.947
First generation = No	1.000	Student work = low dose	1.431
First generation = Unknown	0.779	Major declared at fall census	1.634
First generation = Yes	0.848		
SOAR participation	1.704	Constant	0.081

Overall Model - Predictions

Variables in Model	Disadvantaged Case	Typical/Average Case
High School GPA	2.994	3.487
Pell Eligibility	Yes	No
Unmet Need	High	No
First Generation	Yes	No
Social Vulnerability Index	0.785	0.508
SOAR Participant	Yes	No
Race/Ethnicity	White	White
Housing	Off-Campus	On-Campus
Received ACCESS Services	Yes	No
Attempted Credit Hours (end of Fall)	12	15
Declared Major on 10th Day Fall	Undeclared	Undeclared

Non-SW retention chance:	37%	80%
Low-dose SW retention chance:	45%	85%
FWS retention chance:	54%	89%
SW, Non-FWS retention chance:	63%	92%

Impact of Student Work:	8-26% improvement	5-12% improvement
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African American Model – Predictions

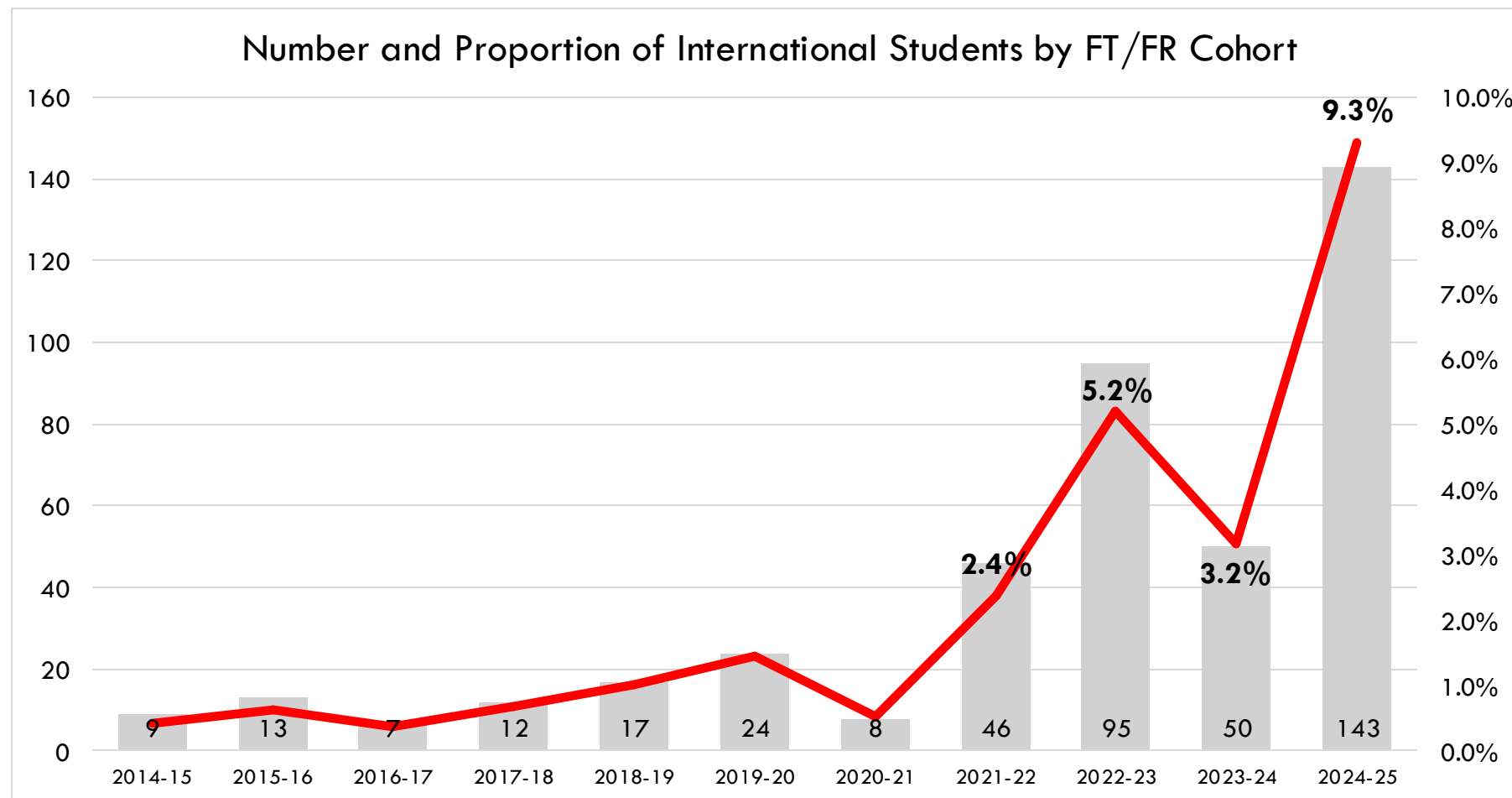
Variables in Model	Disadvantaged Case	Typical/Average Case
High School GPA	2.673	3.197
Pell Eligibility	Yes	Yes
First Generation	Yes	No
Unmet Need	High	No
SOAR Participant	Yes	Yes
On-Campus Housing	No	Yes
Declared Major on 10th Day Fall	Undeclared	Undeclared

Non-SW retention chance:	37%	69%
Low-dose SW retention chance:	45%	76%
FWS retention chance:	53%	81%
SW, Non-FWS retention chance:	60%	85%

Impact of Student Work:	8-23% improvement	7%-16% improvement
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Blind Spot in our Initial Analysis

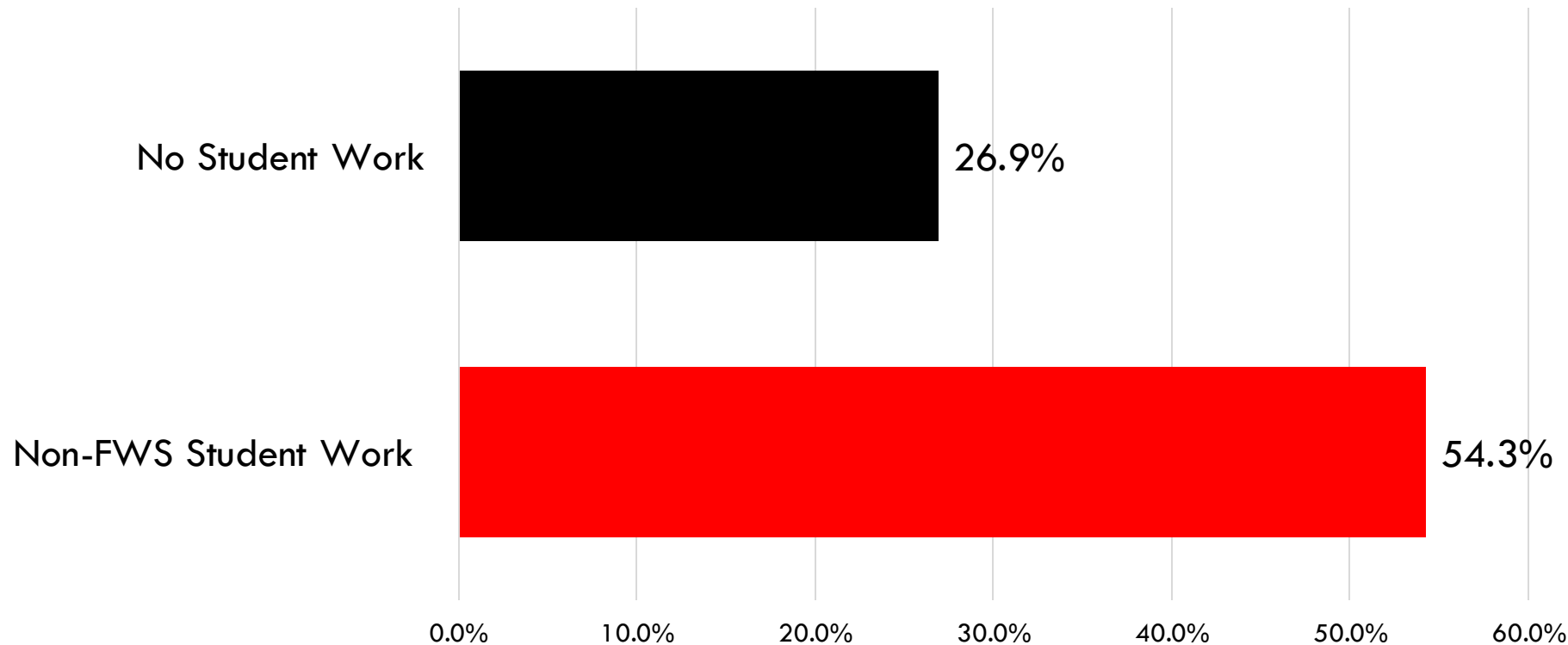
Substantial increase in the number and proportion of international students in the 2024-25 cohort



Student work also matters for international students

International students with student work had two times the rate of retention as their peers without campus-based employment.

Retention Rates for International Students by Student Work Status



This was based on the three-year combined average for the 2021-22, 2022-23, and 2023-24 cohorts.

Future Work

- Cost-benefit analysis-applying the model to the fall 2024 freshmen cohort
- Applying the same approach with new transfer cohorts
- Extending the time-horizon for the persistence outcome from fall-to-fall retention to include multiple years
- Off-campus work?
- Quasi-experimental approach (PSM)

Questions?



Eric Lichtenberger elichte@siue.edu
Joe Feigl jafeigl@siue.edu

Overall Model – Predictions: Direct Entry into Majors?

Variables in Model	Disadvantaged Case	Typical/Average Case
High School GPA	2.994	3.487
Pell Eligibility	Yes	No
Unmet Need	High	No
First Generation	Yes	No
Social Vulnerability Index	.785	0.508
SOAR Participant	Yes	No
Race/Ethnicity	White	White
Housing	Off-Campus	On-Campus
Received ACCESS Services	Yes	No
Attempted Credit Hours (end of Fall)	12	15
Declared Major on 10th Day Fall	Declared	Declared

Non-SW retention chance:	43%	84%
Low-dose SW retention chance:	52%	88%
FWS retention chance:	60%	91%
SW, Non-FWS retention chance:	63%	92%

Impact of Student Work:	9-20% improvement	4-8% improvement
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African American Model– Predictions: Direct Entry into Majors?

Variables in Model	Disadvantaged Case	Typical/Average Case
High School GPA	2.673	3.197
Pell Eligibility	Yes	Yes
First Generation	Yes	No
Unmet Need	High	No
SOAR Participant	Yes	Yes
On-Campus Housing	No	Yes
Declared Major on 10th Day Fall	Declared	Declared

Non-SW retention chance:	49%	78%
Low-dose SW retention chance:	57%	84%
FWS retention chance:	65%	88%
SW, Non-FWS retention chance:	71%	90%

Impact of Student Work:	8-22% improvement	6%-12% improvement
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