

Arizona Assurance Scholars Program (AZA)

Program Review & Recommendations



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Arizona Assurance Scholars Program Review | 2013-2019

Arizona Assurance Scholars Program Overview

[Arizona Assurance Scholars Program](#) (AZA) is a comprehensive student support program at the University of Arizona for low-income undergraduate students. This innovative program set a vision to create a pathway for upward social mobility and improve educational attainment in the State of Arizona by making college education accessible and financially feasible for low-income first-year students. The program provides scholarship and grant aid to qualified Arizona resident high school students who have been accepted to the University of Arizona, renewable for four years based on continued academic and financial eligibility.

Mission: The Arizona Assurance Program provides academic, financial, and social support for low-income Arizona residents as a way to ensure success, retention, and graduation from the University of Arizona.

Vision: We seek to empower low-income students to become independent scholars and contributing members of society therefore improving the educational demographics in the State of Arizona.

Literature Outlining AZA Social Impacts

Direct student aid targeted at low-income students has been championed as a way to reduce educational inequality in higher education access, quality, and completion rates (Bloome, Dyer, & Zhou, 2018; Haveman & Smeeding, 2006). The impetus for the AZA program was to meet these outcomes while also lessening the burden of loans following graduation.

Obtaining a four-year college degree has additional benefits following graduation. A bachelor's degree has been shown to disrupt cycles of intergenerational poverty allowing economic mobility for children of low-income parents (Torche, 2011). In addition to financial gains, college graduates are happier, more engaged in civic life, have more stable family lives, and have better health than high school graduates (Hout, 2012).

There is also evidence that an educated workforce has societal benefits of increased collective productivity and higher regional wages, and that public funding of higher education results in a net positive through lower use of welfare resources, lower crime, and higher tax yields (Hout, 2012).

Purpose and Scope of the Review

The following review applies a program review model to understand the AZA scholar experience and impact on student success with a cost-effectiveness perspective. The program supports additional student learning and development and broader social impact among students who complete their degree due to participation, but these impacts were outside of the review's scope. The analysis takes an organizational lens at the university-level with a focus on retention and completion. The review also recognizes trends with respect to enrollment, financial aid patterns, debt, and post-graduation outcomes.

This impact review examines AZA data from fall cohorts 2013-2019 which reflect years with consistent programming and data tracking conducive to evaluation efforts. While the program selection criteria, financial award strategy, and participation requirements have undergone substantial changes over time in response to university strategic plans and budgetary allocations, the core tenets of the program remained the same during this time period.

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Summary of Key Findings

Enrollment

- AZA financial aid awards support the enrollment of undergraduate low-income Arizona residents. The enrollment yield rate for selected AZA scholars was 85% compared to 71% who were not selected but applied with supplemental information and did not receive the financial aid award.

Demographics

- AZA has a wide reach with 1 of 3 low-income resident first-years over 2013-2019 cohorts being scholars.

Financial Aid

- AZA recruits residents with higher financial need. 82% of AZA scholars reported an EFC of \$0 compared to 52% of eligible peers who did not participate, and AZA aid reduced their unmet need by \$3,718 in the first year.
- Scholars received \$27 of every \$100 disbursed in their first year from AZA award aid which reduced a merit-aid deficit between scholars and eligible peers who did not participate.
- AZA reduces the loan debt among participants, with just \$5 out of every \$100 for AZA Scholars in their first year funded from loans, compared to \$19 in loans taken by eligible peers who did not participate.

First Year Program Participation Patterns

- AZA FTFT Scholars who participated in an affiliated program during their first year reported slightly higher retention rate (88%) compared to AZA Scholars who did not engage in a program (83%).
- AZA FTPT Scholars had the same retention rate of 80% regardless of additional program or Schedule for Success participation.

Retention, Graduation, and Cost-Effectiveness:

- AZA participants experienced a 9.2% retention rate lift, resulting in an increase of 190 additional students retained. The cost per additional student retained is estimated at \$61,485. AZA was particularly impactful for increasing retention among first generation students.
- AZA participation produced graduation rate lifts of 12.8% (4-Year), 16.7% (5-Year), and 18.8% (6-Year) resulting in an increase of 121 additional students who completed their degree within six years. The cost per additional student who graduated at 6-Years is estimated at \$73,636.
- AZA is an equity driven program with consistently demonstrated higher lifts for scholar completion for first generation, Hispanic, and BIPOC students. The lift of AZA participation on 6-Year graduation was highest for first generation Latinx females (+23.2) and male students (+22.3) compared to matched peers.

Drivers of AZA First Year Retention

- Scholar first year FTFT participation in affiliated programs is not a significant driver of retention after holding for other controls, indicating AZA scholars retain regardless of their selection of affiliated program. Similarly, first year FTPT scholar participation in affiliated programs and Schedule for Success is not a significant factor in predicting retention.
- Living on campus during the first year of college decreases AZA scholar likelihood to retain. First year FTFT AZA scholars have 71% and FTPT scholars 80% lower odds of retaining compared to AZA scholars who lived off campus.
- Taking out loans during the first year negatively predicts AZA scholar retention to their sophomore year. First year FTFT AZA scholars have 61% and FTPT scholars 69% lower odds to retain compared to AZA scholars who did not take out loans.
- AZA first year FTFT and FTPT scholars had an average increase of 2% odds to retain for every \$100 of total aid received, indicating reducing unmet need supports student retention.

Graduate Loan Debt

- AZA graduates had an average of \$5,932 less in student loans than eligible peers. The loan accumulation of scholar graduates was \$14,006 and eligible peers (\$19,938) compared to a national average of \$28,600.
- Just 4% of AZA Scholar graduates who took loans graduated with high debt burdens, compared to 10% of eligible peers, though the total amount of loans was not different.

Post-Graduate Career and Continuing Education

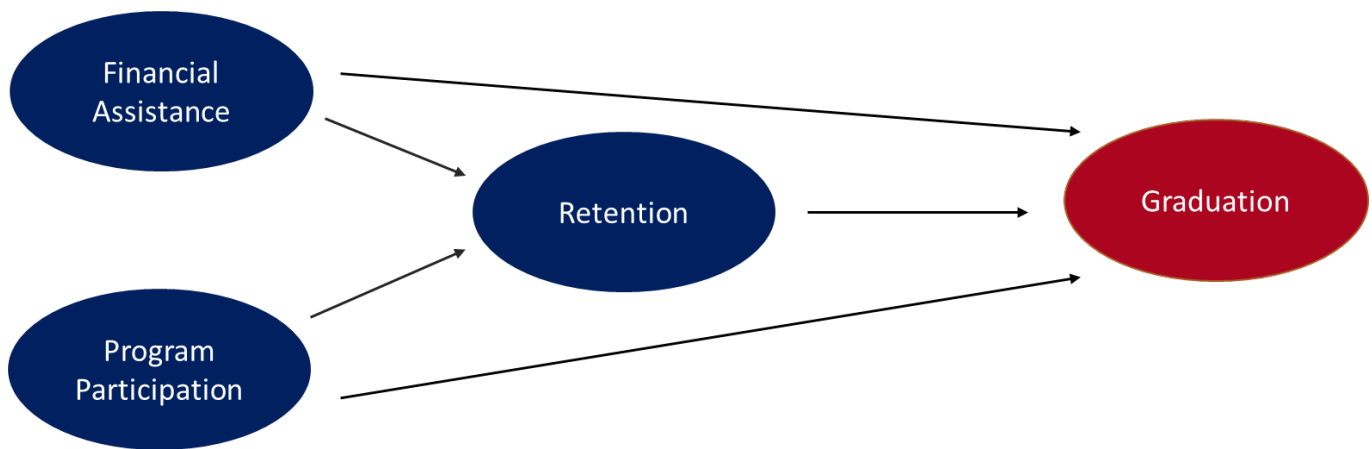
- More AZA graduates report plans for graduate school following graduation (35%) compared to Pell residents who were non-participants (26%). These scholars also reported slightly higher acceptance rates into graduate school programs at the time they completed the survey (AZA Scholars: 44%; Pell Resident Non-Participants: 44%). Among those pursuing employment as a goal after graduation, scholars were slightly less likely to have full-time employment (AZA Scholars: 47%; Pell Residents Non-Participants: 51%)

“Without the help of AZA my family and I wouldn’t have been able to afford college. I’m so grateful I had the opportunity to attend the University of Arizona. During my time at the University of Arizona I was able to attain two degrees, Criminal Justice and Psychology. I was also given the wonderful opportunity to study abroad in Italy. AZA has impacted my life tremendously and I’ll be forever thankful for all the experiences, knowledge and education I received.”

-Gabriela, AZA Alumni

Program Logic Model

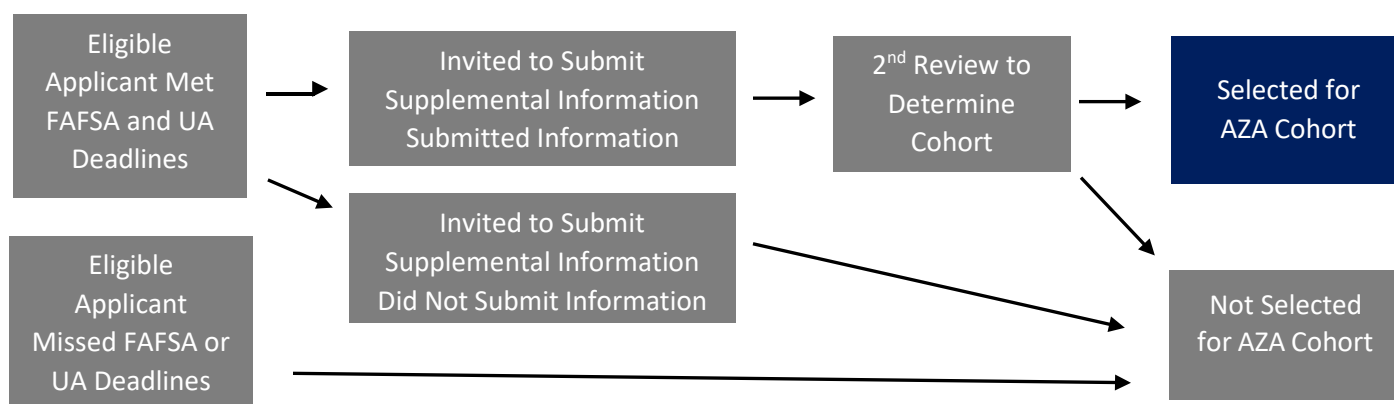
The logic model or theory of change that underpins the program is to award financial aid coupled with program support targeted to year in academic career. This increases bachelor's degree attainment for low-income students who are residents of Arizona. A detailed logic model ([See Appendix A](#)) documents the resource, activities, outputs, short and mid-term outcomes, and long-term societal impacts of the Arizona Assurance model. Notably, the programmatic supports Arizona Assurance Scholars receive are targeted based on academic class standing through the four years.



Resources & Inputs	Activities	Outputs	Short and Mid-term Outcomes	Long-Term Outcomes & Societal Impacts
AZA Staff	Invite eligible students	Distributed funds to AZA scholars	Increased Retention	Increased graduation
Operational Partners	Award financial support	Program participation	Increased financial, social, academic support	Less debt at graduation
Program Partners	Engage AZA Scholars in affiliated programs	Advisor meetings	Greater sense of belonging on campus & engagement	Better job and graduate school placement
Funding	Renew AZA participation based on program, financial, and academic requirements	Academic outcomes (GPA 2.0 or greater)		Upward mobility
		FAFS completed		Invest in Arizona and communities

Eligibility Criteria and Program Selection Process

Selection for Arizona Assurance is a two-phase process among Arizona residents who apply as incoming first-time, first-year students. In the first phase, students must meet the following criteria/deadlines: 1) Intend to enroll directly following high school as a first-time, full-time freshman, 2) Complete the application for admission by the stated deadline, 3) File the Free Application for Federal Aid (FAFSA) by the stated deadline; and 4) Meet initial financial eligibility criteria based on AGI and EFC. A detailed history of eligibility and awards allocation is located in [Appendix B](#). Students who meet the eligibility criteria are invited to the second phase of the selection process which is described by the flow chart below. This requires submission of supplemental information. The Office of Scholarships and Financial Aid packages students with AZA aid based on the supplemental financial information submitted by students and a target cohort size dictated by the budget.



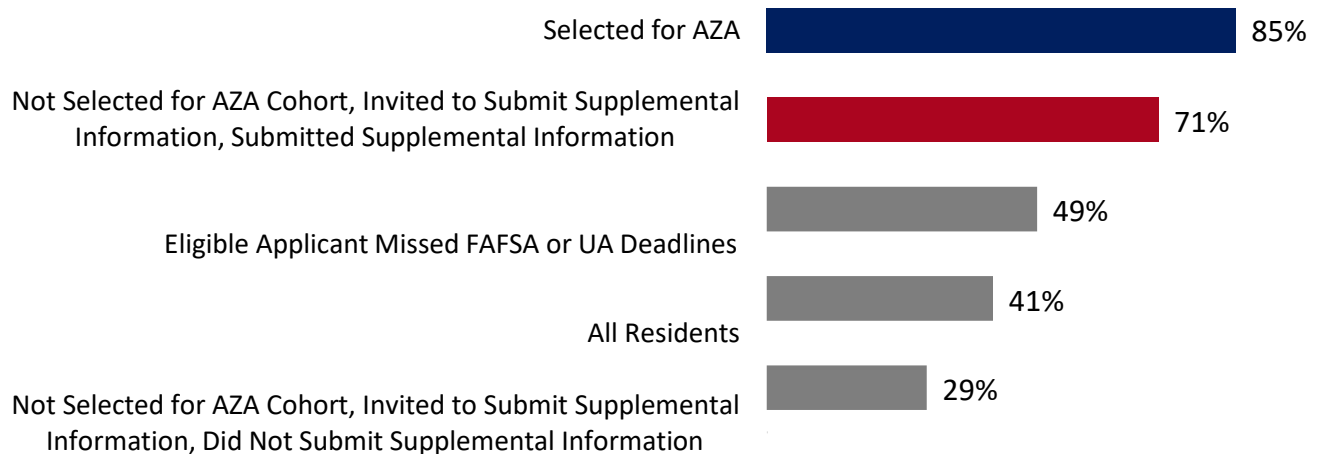
Eligibility Criteria for AZA Consideration							
Cohort	AZ Res.	Pell Eligible	Family AGI	GPA	Enrollment	Supplement Information	Deadlines
2013	Y	Y	\$42,400 or less	3.0 six semester HS GPA	Enroll at UA main campus	CSS Profile	March 1 UA App. & FAFSA deadlines
2014	Y	Y	\$42,400 or less	3.0 six semester HS GPA	Enroll at UA main campus	CSS Profile	March 1 UA App. & FAFSA deadlines
2015	Y	Y	\$42,400 or less	3.0 six semester HS GPA	Enroll at UA main campus	CSS Profile	March 1 UA App. & FAFSA deadlines
2016	Y	Y	\$42,400 or less	3.0 six semester HS GPA	Enroll at UA main campus	CSS Profile	March 1 UA App. & FAFSA deadlines
2017	Y	Y	\$42,400 or less	3.0 six semester HS GPA	Enroll at UA main campus	Resource Evaluation (UA internal)	March 1 UA App. & FAFSA deadlines
2018	Y	Y	\$42,400 or less	3.0 six semester core GPA	Enroll at UA main campus	Resource Evaluation (UA internal)	Jan UA App. & FAFSA deadlines
2019	Y	Y	\$60,000 or less & EFC <\$4,000	3.0 six semester core GPA	Enroll at UA main campus	Resource Evaluation (UA internal)	Jan UA App. & FAFSA deadlines

Enrollment Yield Trends and Insights

Yield represents the percentage of students who enroll, divided by the number of students who were offered admission. From 2013 – 2019, 85% of students admitted to the University of Arizona who were selected for AZA enrolled, a yield rate 14 percentage points higher than students who were invited to apply for AZA consideration and completed their supplemental information but were not selected.

- ✓ AZA financial awards support the enrollment of low-income Arizona residents. Yield rate for selected AZA scholars was 85% compared to 71% among those who were not selected but applied.
- ✓ Yield rate has decreased since 2014 (92%) to 2020 (80%) which correlates with the decrease in offered AZA award.

Percent of Admitted Students Who Enrolled (2013 - 2019)



Yield Rate of AZA Cohorts (2014 – 2020) and Comparison Groups

Aid Yr	Selected for AZA	Not Selected for AZA Invited to Submit Submitted Info	Not Selected for AZA Invited to Submit Did not Submit Info	Eligible Applicant Missed FAFSA or UA Deadlines	All Residents
	Yield Rate	Yield Rate	Yield Rate	Yield Rate	Yield Rate
2014	92%	89%	44%	58%	44%
2015	90%	100%	41%	55%	43%
2016	90%	38%	35%	48%	38%
2017	90%	30%	30%	50%	41%
2018	77%	79%	16%	41%	42%
2019	73%	65%	17%	45%	42%
2020	80%	65%	21%	47%	41%
Total	85%	71%	29%	49%	41%

Demographics and Financial Aid Trends and Insights

The table reports the number of participating AZA scholars compared to eligible non-participant peers from cohorts 2013-2019. We operationalized AZA participation based on cohort records maintained by Thrive Center tracking first-year program participation¹.

- ✓ From 2013 – 2019, 1 in every 3 low-income, academically eligible Main campus first-year resident participated in AZA, demonstrating the wide reach of student support as a program.

Count of AZA vs. Eligible Peers 2013-2019				
Fall Cohort Term	AZA Participant	Eligible Peers	Total	% AZA
2013	363	623	986	36.8%
2014	282	694	976	28.9%
2015	335	597	932	35.9%
2016	346	593	939	36.9%
2017	275	676	951	28.9%
2018	216	727	943	22.9%
2019	258	171 ²	429	60.1%
Total	2,075	4,081	6,156	33.7%

Methods Note on Eligible Peers

The Office of Scholarships and Financial Aid (OSFA) provided a complete list of all enrolled students in the study years who met Arizona Assurance invitation criteria at the time of admissions but did not participate in AZA. This eligible peer group includes students who may have missed the administrative deadlines for FAFSA or university application precluding invitation to be considered for AZA, those who were invited to apply for AZA consideration, but did not complete the follow up financial verification process, and those who did complete follow up verification but were not selected for AZA. From this list, we excluded peer comparison students who were later identified as non-resident at first fall census since that impacted the total cost of attendance and financial aid packages disbursed resulting in a total number of 4,081 eligible peers.

¹ Thrive Center rosters were used rather than disbursed aid to measure participation in AZA since most but not all of the AZA participants had an AZA grant or scholarship. Nearly 9% of AZA participants did not receive a financial aid disbursement for AZA in their first year of enrollment because they 1) were not enrolled in enough units at the time of disbursement, 2) had sufficient aid from other sources or 3) did not complete all the required financial aid verification steps.

² Invitation criteria changed in this year as reflected in the lower eligible peer counts.

Demographic Characteristics at Entry

The table below shows student demographic and academic characteristics of low-income, Arizona resident students deemed eligible for AZA consideration. Demographics are reported by this overall population and by AZA and Eligible Peers to understand how AZA relates to student characteristics.

- Compared to other low-income resident students, AZA Scholars were more likely to be Hispanic (62% vs. 47%), first-generation (80% vs. 62%) and live on campus (45% vs. 34%) their first year and were less likely to be White (19% vs. 32%) and involved in Greek life (3% vs. 6%).
- Academically, AZA Scholars had the same average high school GPA and enrollment in Schedule for Success as eligible peers, but fewer were in the Honor's College (12% vs. 14%).

✓ Results suggest the AZA program supported the recruitment of a higher percent of first generation and Hispanic students than were represented in peer non-participants, embodying our commitment to servingness as a HSI and Land Grant institution. There was no difference in average high school GPA between groups.

Student Characteristics AZA vs Non-Participants 2013-2019				
Demographic		AZA (n=2,075) %	Eligible Peers (n=4,081) %	Overall AZA and Eligible Peers (n=6,165) %
Gender	Women	67.5	64.8	65.7
	Men	32.5	35.1	34.2
Race/Ethnicity	African American	6.2	4.2	4.9
	Asian	7.1	7.5	7.4
	Hispanic	61.6	46.5	51.6
	Native American	1.8	3.2	2.7
	Pacific Islander	<1	<1	<1
	Two or more races	3.4	4.9	4.4
	Unknown / Other	<1	<1	<1
	White	19.1	32.9	28.3
Background	First Gen***	79.7	61.7	67.8
	Veteran	1.3	1.2	1.3
	HS GPA (Avg)	3.5	3.5	3.5
	Schedule for Success	12.3	10.7	11.3
Entry Term	Lived on Campus***	45.3	33.7	37.6
Academics	Greek Life ***	2.8	6.3	5.1
	Honors College*	11.7	13.7	13.0
	Full Time at Census	83.0	84.0	84.0
	Part Time at Census	17.0	16.0	16.0

Notes: * p <.05, **p <.01, *** p<.001 for Pearson's chi-square test between groups

Financial Need and Total Amount of Aid Distributed at Entry

There were statistically significant differences in financial need and the type of financial aid disbursed in year one between AZA participants and their non-participant peers. Detailed tables in the [Appendix C](#) show the type and amount of aid awarded to students in their first year of enrollment.

AZA successfully served low-income students with greater financial need, a result of the additional verification process.

- 8 of every 10 AZA participants had an Estimated Family Contribution (EFC) of \$0 compared to 57% of peers.

AZA Scholars received more financial aid, resulting in less unmet need, than non-participant peers.

- On average, AZA Scholars received \$21,520 disbursed aid from all sources, which was \$4,625 more than the average among non-participant peers.
- While the majority of students had unmet need (96%), the rate was lower for AZA Scholars (93% vs. 98%).
- Among those with unmet need, the average amount was \$3,718 lower for AZA Scholars.

✓ The AZA program successfully served resident students with higher financial need and provided financial support that reduced average unmet need by \$3,718 in the first year.

**Financial Need and Financial Aid Packages in Year 1 of Enrollment
AZA vs. Eligible Peers 2013-2019**

Year 1 Need and Aid	AZA (n=2,075)	Peers (n=4,081)	Overall (n=6,156)	T-Test or Chi-Square
Avg. Cost of Attendance (COA)	\$26,518	\$25,817	\$26,054	p<.000
Avg. Adjusted Gross Income (AGI)	\$17,648	\$18,604	\$18,281	NS
Estimated Family Contribution (EFC) = \$0	82%	57%	66%	p<.000
Avg. Amount if EFC >\$0	\$789	\$1,251	\$1,169	p<.000
Avg. Total Aid Package Distributed	\$21,520	\$16,895	\$18,454	p<.000
Unmet Need of >\$0	93%	98%	96%	p<.000
Avg. Unmet Need	\$5,451	\$9,169	\$7,958	p<.000

Types of Financial Aid Disbursed at Entry

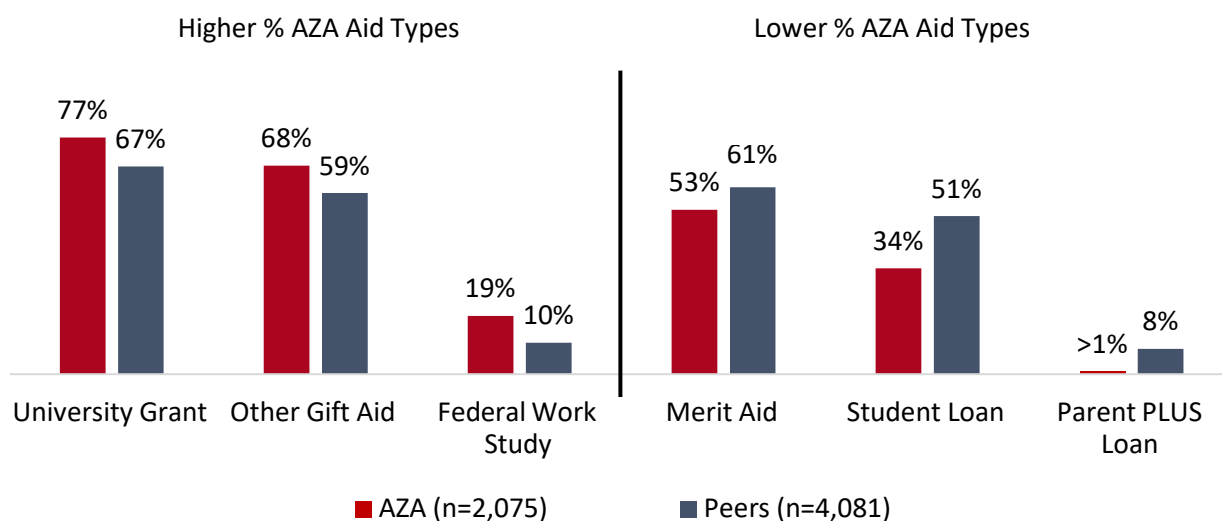
There were statistically significant group differences in the types of non-AZA aid that students received.

- A higher percentage of AZA Scholars received a university grant (77% vs. 67%), or other gift aid (68% vs. 59%), and federal work study (19% vs 10%) as part of their first-year financial aid package than their peers.

AZA Scholars were less likely to receive merit aid or incur student loans debt than their peers.

- Fewer AZA Scholars received merit aid than their peers (53% vs 61%).
- Two-thirds (66%) of AZA Scholars did not take out a student loan in their first year, compared to nearly half of peers (49%). AZA participants also had lower rates of Parent PLUS loan acceptance (<1% vs. 8%).

✓ AZA Scholars were less likely to receive merit aid or take on loans compared to eligible peers; but more likely to have Federal Work Study.



Comparison of Type of Aid Disbursed in Year 1 AZA vs. Eligible Peers 2013-2019				
Type of Aid Received	AZA (n=2,075)	Peers (n=4,081)	Overall (n=6,156)	Chi-Square p-value
AZA Award	91% ¹	<1%	31%	p<.000
Pell Grant	100%	98%	98%	p<.000
University Grant	77%	67%	71%	p<.000
Other Gift Aid	68%	59%	62%	p<.000
Merit Aid	53%	61%	58%	p<.000
Student Loan	34%	51%	46%	p<.000
Federal Work Study	19%	10%	13%	p<.000
Parent PLUS Loan	<1%	8%	6%	p<.000
QTR/3rd Party	1%	3%	2%	p<.000

1. Students may not receive AZA award if Cost of Attendance is reached with other aid sources.

Financial Aid Dollars Awarded at Entry Year to First-Year Cohorts

From 2013-2019, the AZA scholars and their eligible peers (N= 6,156) were awarded a combined \$113.6 million in financial aid disbursed in their first year ([Appendix C](#)).

- Around 44% of the aid came from external sources including Federal Pell Grants (\$33.6M) and student/parent loans (\$15.9M), 45% of aid dollars came from institutional internal sources in the form of merit aid (\$21.3M), university grants (\$17.0M) and AZA funding (\$12.2M), with the remaining 11% from mixed sources including other gift aid, qualified tuition reduction for employee dependents, and third-party contributions.
- The AZA grants, which represented 27% of the aid dollars AZA Scholars received in their first year, appeared to close the merit aid gap between AZA and non-AZA scholars (14% vs. 22%) and reduce the need for loans. Only 5% of the aid dollars disbursed to AZA Scholars came from loans compared to 19% of the aid disbursed to non-AZA participants which came from student and parent loans.

- ✓ \$27 of every \$100 disbursed to AZA Scholars in their first year came from AZA grant aid which reduced the 8% merit-aid deficit between AZA scholars and peers.
- ✓ Results indicate AZA reduces the loan debt among participants, contributing to the goal of upward social mobility among graduates. Just \$5 out of every \$100 disbursed to AZA Scholars in their first year came from loans, compared to \$19 in loans among peers.

Amount of Financial Aid Dollars Disbursed in Entry Year (Cohorts 2013-2019)							
Source	Description	AZA (n=2,075)	% of Total \$	Non-AZA (n=4,081)	% of Total \$	Overall (n=6,156)	% of Total \$
External	Pell Grant & FWS	\$12.4M	28%	\$21.2M	31%	\$33.6M	30%
	Student & Parent Loans	\$2.4M	5%	\$13.4M	19%	\$15.9M	14%
Internal	UA Merit	\$6.2M	14%	\$15.1M	22%	\$21.3M	19%
	UA University Grant	\$6.3M	14%	\$10.7M	15%	\$17.0M	15%
	UA AZA	\$12.2M	27%	\$19,200	0%	\$12.2M	11%
Mixed	Other Gift Aid	\$4.9M	11%	\$7.7M	11%	\$12.7M	11%
	QTR/3rd Party	\$119,000	<1%	\$834,000	1%	\$953,000	<1%
Grand Total		\$44.6M	100%	\$68.9M	100%	\$113.6M	100%

Note: Totals may not sum to 100 due to rounding.

Financial Aid Dollars Awarded Overall to First-Year 4-Year Graduation Cohorts (2013-2016)

There were 3,833 low-income, resident students who enrolled in cohorts 2013-2016 and would have been eligible for a 4-year graduation outcome since time of first enrollment. The table below calculates the amount of financial aid disbursed to these cohorts from first enrollment year to 2019-2020, while students enrolled as undergraduates.

- Half (51%) of the total \$211.6 million in aid came from external sources including Federal Pell Grants and work study and parent and student loans, while 35% came from internal sources such as merit aid, university grant and AZA funding, and 14% came from other gift aid, QTR, and third-party contributions.
- Differences in loan aid and merit aid between AZA participants and non-participant peers continued over reenrollment years. Among non-AZA student aid, 20% derived from merit awards, compared to 11% of the total aid dollars disbursed to AZA participants. Student and parent loans made up 26% of the aid awarded to non-AZA participants, compared to just 12% among AZA participants.

✓ AZA Scholars had more years of enrollment, on average, but less funding sourced from loans and merit aid. \$12 of every \$100 disbursed to AZA scholars came from loans, compared to \$26 for non-participants over the seven-year period.

Amount of Financial Aid Dollars Disbursed from Entry Year to 2019-2020 (Cohorts 2013-2016)							
Source	Description	AZA (n=1,326)	% of Total \$	Non-AZA (n=2,507)	% of Total \$	Overall (n=3,833)	% of Total \$
External	Pell Grant & FWS	\$27.5M	31%	\$38.0M	31%	\$65.5M	31%
	Student & Parent Loans	\$11.1M	12%	\$31.4M	26%	\$42.5M	20%
Internal	UA Merit	\$9.5M	11%	\$24.3M	20%	\$33.8M	16%
	UA University Grant	\$9.7M	11%	\$10.1M	8%	\$19.8M	9%
	UA AZA	\$20.9M	23%	\$16,741	<1%	\$20.9M	10%
Mixed	Other Gift Aid	\$10.5M	12%	\$16.1M	13%	\$26.6M	13%
	QTR/3rd Party	\$0.5M	<1%	\$1.9M	2%	\$2.4M	1%
Grand Total		\$89.6M		\$121.9M		\$211.6M	
Avg # of Aid Years		3.7 Years		3.3 Years		3.4 Years	

Note: Totals may not sum to 100 due to rounding.

First Year Program Participation Patterns

As part of the AZA Scholars program, participants are expected to participate in a first-year engagement program affiliated with the Arizona Assurance experience, including peer mentoring, Blue Chip, college-specific classes, and the TRiO ASEMS program. Program descriptions are located in [Appendix D](#). The below two tables report the selection of affiliated programs and demographic breakouts of program selection.

- ✓ Nearly all (96%) of AZA Scholars participated in an affiliated first-year program, with nearly 7 in 10 engaged in peer mentorship.
- ✓ AZA FTFT Scholars who participated in an affiliated program during their first year reported a higher retention rate (88%) compared to AZA scholars who did not engage in a program (83%).
- ✓ AZA FTPT Scholars had the same retention rate of 80% regardless of additional program or Schedule for Success participation.
- ✓ AZA 2019-2020 First Year Scholars had significant higher rates of participation in Schedule for Success, Blue Chip, First Cats, THINK TANK (5+ visits), and Writing Center (3+ visits) compared to non-participant eligible peers and first year main campus resident students overall.
- ✓ Nearly twice as many First Year AZA Scholars in 2019-2020 participated in at least one program (51%) compared to eligible peers (26%).

AZA Scholars First Year Program Choice Cohorts 2013-2019		
Program	%	N
Peer Mentoring	68%	1,401
Blue Chip	17%	344
College-Specific Class	8%	168
No Program	4%	83
TRiO ASEMS	4%	78
Total	100%	2,074

AZA Scholars First Year Program Choice by Student Characteristics | Cohorts 2013-2019

Program	BIPOC (n=1,666)	White/Other Unknown (n=408)	First Gen (n=1,562)	Continuing Gen (n=422)	Female (n=1,400)	Male (n=674)
Peer Mentoring	69%	61%	70%	57%	68%	66%
Blue Chip	16%	20%	15%	24%	16%	17%
College-Specific Class	7%	13%	7%	12%	7%	10%
No Program	4%	4%	4%	5%	4%	4%
TRiO ASEMS	4%	2%	4%	1%	4%	3%
	Pr<0.05 (Pr=0.018)		Pr<0.05 (Pr=0.000)		N.S., Pr=0.276	

Significance determined with Chi Square measures of association, confidence level of 95% (p<0.05).

First Year AZA Scholars Affiliated Program and S4S Participation Patterns and Retention

The table below reports descriptive statistics of participation in affiliated first year programs and Schedule for Success along with retention rates. Due to limitations in historical data availability, we cannot make comparisons in outcomes or participation between AZA Scholars and their non-participant peers.

AZA Scholars First Year Program Participation and Retention | Cohorts 2013-2019

AZA Scholar Participation (2013-2019)	AZA Full-Time (n=1,712)			AZA Part-Time (n=355)			AZA Overall (n=2,067)		
Program	%	N	YR1 Retain	%	N	YR1 Retain	%	N	YR1 Retain
AZA Only	4	65	83%	<1	2	50%	3	67	82%
AZA + Affiliated Program	96	1,652	88%	95	337	80%	96	1,992	87%
AZA + S4S	n/a	n/a	n/a	72	255	80%	12	256	78%
AZA + Affiliated Program + S4S	n/a	n/a	n/a	67	239	80%	12	240	80%

Notes: Affiliated first-year programs include ASEMS, Blue Chip, College Specific Class, Peer Mentoring, and one case of New Start; ASEMS and First Cats include participation data starting with AZA 2016 cohort; Summer Bridge includes participation data with one student.

First Year Cohort (19-20) Program Participation Relationship with Retention

More detailed participation data are available for the 2019-2020 first year cohort using the [Student Program & Services Census Data File](#). Program participation rates by demographics are reported and tested for significant differences between AZA Scholars and Eligible Peers. All First Year Main Residents and their participation rates by demographics are reported for additional context. A second table describes participation in programs through a lens of Schedule for Success.

First Year AZA Scholars 2019-2020 and Eligible Peers Program Participation Demographics

2019-2020 Program Participation by Group	AZA Scholars (n=257)		Eligible Peers (n=171)		First Year Main Resident (n=4,388)	
	%	N	%	N	%	N
Summer Transition						
Summer Transition (Bear Down Camp)	9%	23	10%	17	5%	198
Student Engagement						
Fraternity or Sorority Programs	2%*	5	6%	11		
Blue Chip Leadership Experience	22%***	56	6%	10	12%	515
First Cats Mentoring	19%***	49	1%	2	5%	214
First Cats Outreach Initiatives	21%***	55	4%	6	2%	67
Cultural Learning Communities					3%	116
Thrive Guides	5%	14	2%	4	1%	39
Academic Support						
THINK TANK (5+ Visits)	32%*	83	22%	38		
THINK TANK Supplemental Instruction (3+)					21%	917
THINK TANK Tutoring (3+)	17%	22	19%	32	14%	614
THINK TANK Writing Center (3+)	17%	44	11%	18	10%	448
Schedule 4 Success Participant	7%**	17	1%	2	3%	127
	25%*	64	16%	27	19%	842
Campus Recreation						
Moderate to High User (26+ visits)	49%	126	53%	91	49%	2,141
<i>Any Program Participation</i>	51%***	130	26%	45	23%	996
<i>Any Program + Think Tank 5 or more Visits</i>	18%**	46	8%	14	7%	291

Note: Percentages are rounded. * p <.05, ** p <.01, *** p<.001 for Pearson's chi-square test between AZA participants and non-participant eligible peers.

Schedule for Success AZA Cross Program Participation

2019-2020 Cross Program Participation	AZA Scholars (n=257)		Eligible Peers (n=171)	
	%	N	%	N
S4S	25%	64	16%	27
S4S + First Cats	5%	12	0%	1
S4S + Summer Transition	2%	4	0%	1
Summer Transition + First Cats	4%	11	0%	1
S4S + First Cats + Summer Transition	<1%	2	0	0

Retention and Graduation Trends and Insights

Thrive Center data has consistently shown that AZA Scholars have strong retention and graduation outcomes, compared to peers, in year-by-year comparisons. These findings are consistent when we compare AZA Scholars to the entire pool of eligible peers overall and by full time/part time status data on entry cohorts 2013-2019³.

- ✓ AZA Scholars are more likely to persist and graduate compared to eligible peers.

Descriptive Outcomes: Pooled Cohorts 2013-2019						
Cohorts	Outcome	AZA		Eligible Peers		Insight
		N	Rate	N	Rate	Lift
2013-2019	Year 1 Retention	2,067	86.7%	4,068	79.3%	7.4%
2013-2018	Year 2 Persistence	1,810	78.7%	3,896	67.7%	11.0%
2013-2017	Year 3 Persistence	1,595	72.2%	3,173	61.8%	10.4%
2013-2016	Year 4 Grad	1,322	47.2%	2,498	38.2%	9.0%
2013-2015	Year 5 Grad	978	64.5%	1,911	52.2%	12.3%
2013-2014	Year 6 Grad	645	69.4%	1,312	55.6%	13.8%

Descriptive Outcomes: AZA and All Eligible Peers <u>Full Time</u> at First Census						
Cohorts	Outcome	AZA		Eligible Peers		Insight
		N	Rate	N	Rate	Lift
2013-2019	Year 1 Retention	1,712	88.1%	3,429	82.0%	6.1%
2013-2018	Year 2 Persistence	1,520	81.0%	3,284	71.1%	9.9%
2013-2017	Year 3 Persistence	1,365	74.7%	2,758	64.9%	9.8%
2013-2016	Year 4 Grad	1,129	50.3%	2,165	42.0%	8.3%
2013-2015	Year 5 Grad	854	67.0%	1,679	55.9%	11.1%
2013-2014	Year 6 Grad	588	72.1%	1,158	59.1%	13.0%

Descriptive Outcomes: AZA and All Eligible Peers <u>Part Time</u> at First Census						
Cohorts	Outcome	AZA		Eligible Peers		Insight
		N	Rate	N	Rate	Lift
2013-2019	Year 1 Retention	355	79.7%	415	65.0%	14.7%
2013-2018	Year 2 Persistence	290	66.6%	612	49.4%	17.2%
2013-2017	Year 3 Persistence	230	57.8%	415	41.5%	16.4%
2013-2016	Year 4 Grad	193	29.0%	333	13.8%	15.2%
2013-2015	Year 5 Grad	124	47.6%	232	25.4%	22.2%
2013-2014	Year 6 Grad	57	42.1%	154	29.9%	12.2%

³ Students without an IPEDS retention flag are excluded from reported retention and graduation rates.

Methods: Propensity Score Matching

Propensity score matching (PSM) creates a statistical comparison group with similar characteristics to program participants to better assess the effectiveness of intended outcomes. Propensity scores are calculated with logistic regression, which accounts for student characteristics influencing self-selection in a program and the outcome(s) of interest. Propensity score values therefore reflect the likelihood of students participating in a program and are used to match participants with non-participants to estimate a program's effect.

PSM was conducted to create a matched comparison group to evaluate the impact on retention and completion outcomes of AZA participants. Next, PSM was used to estimate the impact among student groups of AZA participants on retention and graduation outcomes. See [Appendix E](#) for method notes and details.

Student Characteristics Predicting AZA Program Participation

In the logistic regression model, the following covariates were statistically significant at the 95% confidence level in determining student characteristics at entry that predicted participation in AZA.

- Factors that positively predicted participation into Arizona Assurance include first-year students who are Hispanic, Black, first generation, and recipients of university grant and gift aid. The higher EFC among first-year students negatively predicated program participation. That is, students coming from more financially needy backgrounds were more likely to participate in AZA.
- First-year student gender, merit aid, honor's college affiliation, high School GPA, or academic year of program did not have a significant effect on program participation.

✓ First year students who are Hispanic, Black, first-generation, financially needy, and recipients of university grant and gift aid are more likely to participate in Arizona Assurance.

Student Characteristic Predicting Participation	
Student Characteristic	Direction of Impact
Estimated Family Contribution	↓
Underrepresented Minority (Hispanic, Black)	↑
First Generation	↑
Received University Grant	↑
Received Other Gift Aid	↑
Received Merit Aid	NS
Gender	NS
Year of Cohort	NS
Honors	NS
HS GPA	NS

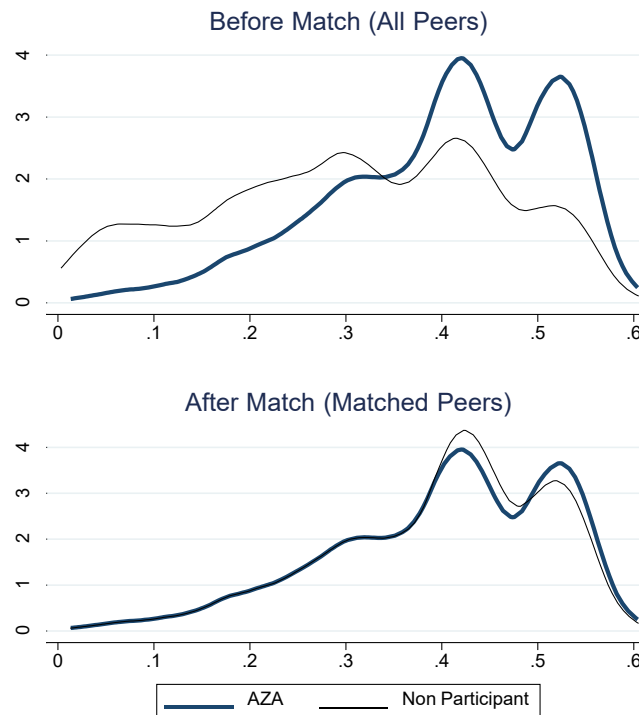
Propensity Score Matching Results of Matched Non-Participants

By visualizing the density distribution of propensity scores before and after the matching procedure, we see that the matched sample of non-participants is very similar to AZA participants on the characteristics associated with participation, effectively accounting for selection-bias in our models. A means comparison in [Appendix E](#) further confirms appropriate match with no statistically significant differences between groups.

- A visual examination of the propensity scores of all eligible peers before the matching process shows clear differences between student characteristics as they relate to program participation. After matching is performed, there is support in the matched peers as a comparison group based on similarity of likelihood to participate in AZA, thereby mitigating self-selection bias.
- There is no significance difference between the average propensity scores of AZA participants and Matched non-participants with a difference of .0033.

✓ Matched non-participants meet conditions that support a peer comparison group to estimate impact by reducing self-selection bias.

Propensity Score Before and After Match



Propensity Score Average Differences between AZA and Matched Peers

Group	P-Score Avg	P-Score Diff	T-Test p-value
AZA Participants	0.3999		
Matched Non-Participants	0.3966	.0033	.3568

Results: Program Impact on Retention

PSM was conducted with eligible peers to understand how AZA participation impacts retention varied by student populations⁴. Results indicate AZA Scholars have higher retention rates when compared to the statistical control group of non-participants. PSM results further indicate differential impact between student groups. AZA participation was particularly beneficial in retention outcomes among first generation students compared.

- ✓ AZA participation increased first-year retention by 9.2 percentage points, representing 190 additional low-income residents over the seven-year period retained to their sophomore year.
- ✓ The first-year FTFT retention lift was 7.7% with the FTPT cohort experiencing a greater lift in retention at 9.5%.
- ✓ AZA participation was particularly impactful for increasing retention among first-generation students overall (+8.7), first-generation white females (+15.5), first generation Latinx males (+13.6), and first-generation FTPT students (+12.8).

AZA Impact on First Year Student Retention Overall (Cohorts 2013 – 2019)			
Cohorts 2013-2019	Retention YR1-YR2	% Point Diff.	# of Students
AZA Participation (N=2,067)	86.7% (n=1,792)	+9.2***	+190
Matched Non-Participants (N=2,067)	77.5% (n=1,606)		

***p<.000

⁴ Statistical significance based on Pearson's χ^2 .

Retention Results: Demographic Breakouts

AZA Impact on First Year Student Retention (Cohorts 2013 – 2019) by Student Group

Cohort 2013-2019	FTFT	FTPT	Female	Male	White	BIPOC ¹	Hispanic/ Latinx	First Gen	Cont. Gen
AZA	88.1%	78.5%	86.3%	87.5%	85.9%	86.9%	86.7%	86.0%	89.3%
Non-AZA	80.4%	69.0%	78.6%	77.7%	76.7%	77.7%	77.0%	77.3%	85.5%
% Pt Diff.	7.7***	9.5**	7.7***	9.8***	9.2**	9.2***	9.7***	8.7***	3.8
AZA (N)	1,712	335	1,395	672	396	1,660	1,273	1,646	421
Non-Part (N)	1,712	335	1,395	672	396	1,660	1,273	1,646	421

1. BIPOC represents students who identify as Asian American, Black, Hispanic, Native American, Pacific Islander, Two or more races or

***p<.000, **p<.01, *p<.05

AZA Impact on First Year Student Retention (Cohorts 2013 – 2019) among First Generation Students

Cohort 2013-2019	First Gen FTFT	First Gen FTPT	First Gen BIPOC ¹ Female	First Gen BIPOC Male	First Gen White Female	First Gen White Male	First Gen Latinx Female	First Gen Latinx Male
AZA	87.6%	77.6%	85.5%	87.4%	86.2%	75.3%	85.1%	87.8%
Non-AZA	79.5%	64.8%	78.0%	75.6%	70.7%	83.8%	78.0%	74.2%
% Pt Diff.	8.1***	12.8**	7.5***	11.8***	15.5***	9.5	7.1***	13.6***
AZA (N)	1,341	281	935	447	181	91	738	353
Non-Part (N)	1,341	281	935	447	181	91	738	353

1. BIPOC represents students who identify as Asian American, Black, Hispanic, Native American, Pacific Islander, and Two or more races.

***p<.000, **p<.01, *p<.05

Drivers of First Year Scholar Retention

To better understand the factors that impact retention for AZA Scholars in the 2013-2019 cohorts, we undertook a multivariate logistic regression analysis considering demographic, academic, financial, and campus participation factors known to be associated to repeat enrollment. Given data limitations of historical data, we were unable to assess participation in a broad range of campus programs. Participation in Schedule for Success and the student's selected first year program participation on file with Student Success & Retention Innovation were included.

There are no significant interaction effects within the first year AZA cohorts which were examined between program selection and student demographics along with financial aid and student demographics.

- ✓ Scholar first year FTFT participation in affiliated programs is not a significant driver of retention after controlling for other variables, indicating AZA scholars retain regardless of their selection of affiliated program. Similarly, first year FTPT scholar participation in affiliated programs and Schedule for Success is not a significant factor in predicting retention.
- ✓ Living on campus during the first year of college decreases AZA Scholar likelihood to retain. First year FTFT AZA scholars have 71% and FTPT scholars 80% lower odds of retaining compared to AZA Scholars who lived off campus.
- ✓ Taking out loans during the first year negatively predicts AZA scholar retention to their sophomore year. First year FTFT AZA Scholars have 61% and FTPT scholars 69% lower odds to retain compared to AZA scholars who did not take out loans.
- ✓ AZA first year FTFT and FTPT Scholars had an average increase of 2% odds to retain for every \$100 of total aid received, indicating reducing unmet need supports student retention.

Drivers of AZA First Year FTFT Scholar Retention

Results indicate that AZA first year FTFT scholars (2013-2019) who live on campus, take out student loans, and do not have other gift aid are less likely to retain. Scholars who join UA with higher high school GPAs and receive financial aid assistance overall are more likely to retain. Participation in affiliated programs and demographics such as sex and ethnicity were non-significant, meaning these characteristics and factors are not strong individual drivers to AZA student retention.

Logistic Regression Results of First Year FTFT Scholars (2013-2019) Retention	
Variable	Odds ratio
<i>Sex</i> (ref=female)	
Male	0.89
<i>Ethnicity</i> (ref = white)	
Latinx	1.14
Other Race/Ethnicity	1.19
<i>Living Situation</i> (ref = off-campus)	
Lives on-campus	0.29***
<i>Generation Status</i> (ref = continuing-generation)	
First-Generation	0.84
<i>First Year Financial Aid</i>	
Estimated Family Contribution	1.00
Total Aid in \$100	1.02***
Loan Aid (ref = no loan aid)	0.39***
Merit Aid (ref = no merit aid)	0.87
Other gift aid (ref = no other gift aid)	0.86*
<i>Honor's College</i> (base = not honor's enrolled)	
Enrolled in Honor's College	1.88
<i>Academic Preparedness</i>	
High School GPA	2.58**
<i>AZA Affiliated Program</i> (ref = no participation)	
Blue Chip	1.32
TRiO ASEMS	1.91
College-Specific Class	0.84
Peer Mentoring	1.74
<i>Cohort Year</i>	.86*
Constant	0.01**
N = 1,712	
* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$	

Drivers of AZA First Year FTPT Scholar Retention

Results reflect similar findings to the FTFT first year model. Results indicate that AZA first year FTPT scholars (2013 – 2019) who live on campus and take out student loans are less likely to retain. Scholars who join UA with higher high school GPAs and receive financial aid assistance overall are more likely to retain. Participation in affiliated programs, Schedule for Success, and demographics such as sex and ethnicity were non-significant, meaning these characteristics and factors are not strong individual drivers to AZA student retention.

Logistic Regression Results of First Year FTPT Scholars (2013-2019) Retention

Variable	Odds ratio
<i>Sex</i> (ref=female)	
Male	1.94
<i>Ethnicity</i> (ref = white)	
Latinx	3.01
Other Race/Ethnicity	2.32
<i>Living Situation</i> (ref = off-campus)	
Lives on-campus	0.20***
<i>Generation Status</i> (ref = continuing-generation)	
First-Generation	0.60
<i>First Year Financial Aid</i>	
Estimated Family Contribution	1.00
Total Aid in \$100	1.02***
Loan Aid (ref = no loan aid)	0.31***
Merit Aid (ref = no merit aid)	0.87
Other gift aid (ref = no other gift aid)	1.48
<i>Honor's College</i> (base = not honor's enrolled)	
Enrolled in Honor's College	1.88
<i>Academic Preparedness</i>	
High School GPA	1.01**
<i>Schedule for Success</i>	.64
<i>Affiliated Program Participation</i> (ref = no participation)	1.36
<i>Cohort Year</i>	.86*
Constant	0.01**

N = 355

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Results: Program Impact on Graduation

PSM results further demonstrate AZA Scholars have higher graduation rates due to their participation. Graduate rates at 4, 5, and 6 years by appropriate first year cohort years were evaluated with a matched peer comparison group to determine the impact of AZA participation. Student PSM demographic breakouts by group were also conducted to explain differential impact on completion.

- ✓ The AZA program resulted in graduation rate lifts among participants across 4-Year (12.8%), 5-Year (16.7%), and 6-Year (18.8%) outcomes.
- ✓ A 72% FTFT 6-Year graduation rate among AZA participants exceeded the overall FTFT Arizona resident retention rate of 67% for cohorts 2013-2014.
- ✓ AZA is an equity-driven program with demonstrated higher lifts for completion of first generation, Hispanic, and BIPOC students.
- ✓ The lift of AZA participation on 6-Year graduation was highest for first generation Latinx females (+23.2) and male students (+22.3) compared to matched non-participant peers.

AZA Impact on 4-Year Graduation (Cohorts 2013 – 2016)			
Cohorts 2013-2016	4YR Graduation	% Point Diff.	# of Students
AZA Participation (N=1,322)	47.2% (n=624)	+12.8***	+169
Matched Non-Participants (N=1,322)	34.4% (n=455)		

***p<.000

AZA Impact on 5-Year Graduation (Cohorts 2013 – 2015)			
Cohorts 2013-2015	5YR Graduation	% Point Diff.	# of Students
AZA Participation (N=978)	64.5% (n=631)	16.7***	+163
Matched Non-Participants (N=978)	47.8% (n=467)		

***p<.000

AZA Impact on 6-Year Graduation (Cohorts 2013 & 2014)			
Cohorts 2013 & 2014	6YR Graduation	% Point Diff.	# of Students
AZA Participation (N=645)	69.5%(n=448)	+18.8***	+121
Matched Non-Participants (N=645)	50.7% (n=327)		

Note: The FTFT 6-year graduation rate for the 2013-2014 cohort was 67%.

***p<.000

Four-Year Graduation Results: Demographic Breakouts

AZA Impact on 4-Year Graduation (Cohorts 2013 – 2016) by Student Group

Cohort 2013-2016	FTFT	FTPT	Female	Male	White	BIPOC ¹	Hispanic/Latinx	First Gen	Cont. Gen
AZA	50.3%	28.6%	50.4%	40.8%	53.3%	45.6%	46.4%	46.3%	50.5%
Non-AZA	37.9%	14.8%	37.4%	29.1%	44.8%	29.8%	31.7%	31.5%	41.9%
% Pt Diff.	12.4***	13.8**	13.0***	11.7***	8.5	15.8***	14.7***	14.8***	8.6*
AZA (N)	1,129	189	879	443	259	1,056	788	1,055	267
Non-Part (N)	1,129	189	879	443	259	1,056	788	1,055	267

1. BIPOC represents students who identify as Asian American, Black, Hispanic, Native American, Pacific Islander, Two or more races

***p<.000, **p<.01, *p<.05

AZA Impact on 4-Year Graduation (Cohorts 2013 – 2016) among First Generation Students¹

Cohort 2013-2016	First Gen FTFT	First Gen FTPT ²	First Gen BIPOC ³ Female	First Gen BIPOC Male	First Gen White Female	First Gen White Male	First Gen Latinx Female	First Gen Latinx Male
AZA	49.7%	27.8%	47.8%	39.1%	58.5%	40.8%	48.9%	38.5%
Non-AZA	35.7%	12.7%	31.8%	25.4%	48.3%	26.5%	34.4%	27.7%
% Pt Diff.	14.0***	15.1**	16.0***	13.7***	10.2***	14.3	14.5***	10.8*
AZA (N)	887	158	592	291	118	49	454	231
Non-Part (N)	887	158	592	291	118	49	454	231

1. All student groups include 3% or fewer unmatched AZA scholars to non-participants due to a > .2 caliper width of propensity scores

2. First Gen FTPT AZA Scholars include 6% (n=10) unmatched to eligible non-participants due to a > .2 caliper width of propensity scores

3. BIPOC represents students who identify as Asian American, Black, Hispanic, Native American, Pacific Islander, Two or more races

***p<.000, **p<.01, *p<.05

Five-Year Graduation Results: Demographic Breakouts

AZA Impact on 5-Year Graduation (Cohorts 2013 – 2015) by Student Group

Cohort 2013-2015	FTFT	FTPT ¹	Female	Male	White	BIPOC ²	Hispanic/Latinx	First Gen	Cont. Gen
AZA	67.0%	46.6%	66.8%	60.0%	63.6%	64.7%	66.5%	63.2%	69.8%
Non-AZA	52.5%	26.3%	51.6%	42.8%	55.9%	47.0%	45.9%	43.6%	59.4%
% Pt Diff.	14.5***	20.3**	15.2***	17.2***	7.7	17.7***	20.6***	19.6***	10.4*
AZA (N)	854	118	653	325	195	779	595	786	192
Non-Part (N)	854	118	653	325	195	779	595	786	192

1. FTPT AZA Scholars include 5% (n=6) unmatched to eligible non-participants due to a > .2 caliper width of propensity scores

2. BIPOC represents students who identify as Asian American, Black, Hispanic, Native American, Pacific Islander, Two or more races

***p<.000, **p<.01, *p<.05

**AZA Impact on 5-Year Graduation (Cohorts 2013 – 2015)
among First Generation Students**

Cohort 2013-2015	First Gen FTFT	First Gen FTPT	First Gen BIPOC ¹ Female	First Gen BIPOC Male	First Gen White Female	First Gen White Male	First Gen Latinx Female	First Gen Latinx Male
AZA	66.3%	44.4%	66.4%	58.5%	62.0%	56.3%	68.6%	61.3%
Non-AZA	49.0%	24.0%	47.5%	42.4%	55.4%	43.8%	48.1%	39.9%
% Pt Diff.	17.3***	20.4***	18.9***	16.1***	6.6	12.5	20.5***	21.4%
AZA (N)	673	108	438	217	92	32	347	173
Non-Part (N)	673	108	438	217	92	32	347	172

1. BIPOC represents students who identify as Asian American, Black, Hispanic, Native American, Pacific Islander, Two or more races
***p<.000, **p<.01, *p<.05

Six-Year Graduation Results: Demographic Breakouts

AZA Impact on 6-Year Graduation (Cohorts 2013 & 2014) by Student Group

Cohort 2013 & 2014	FTFT	FTPT	Female	Male	White	BIPOC ¹	Hispanic/ Latinx	First Gen	Cont. Gen
AZA	72.1%	40.7%	70.6%	66.8%	68.8%	69.6%	71.4%	67.8%	75.6%
Non-AZA	55.8%	31.5%	58.4%	45.9%	56.3%	50.3%	50.5%	49.4%	63.0%
% Pt Diff.	16.3***	9.2	12.2***	20.9***	12.5*	19.3***	20.9***	18.4***	12.6*
AZA (N)	588	54	421	220	144	497	370	510	135
Non-Part (N)	588	54	421	220	144	497	370	510	135

1. BIPOC represents students who identify as Asian American, Black, Hispanic, Native American, Pacific Islander, Two or more races
***p<.000, **p<.01, *p<.05

**AZA Impact on 6-Year Graduation (Cohorts 2013 & 2014)
among First Generation Students¹**

Cohort 2013 & 2014	First Gen FTFT	First Gen FTPT	First Gen BIPOC ² Female	First Gen BIPOC Male	First Gen Latinx Female	First Gen Latinx Male ³
AZA	70.7%	38.8%	70.0%	66.0%	73.0%	67.0%
Non-AZA	52.2%	18.4%	52.6%	44.7%	49.8%	44.6%
% Pt Diff.	18.5***	20.4*	17.4***	21.3***	23.2***	22.3**
AZA (N)	458	49	270	141	207	112
Non-Part (N)	458	49	270	141	207	112

1. White First-generation sample size was too small for analysis and was excluded

2. BIPOC represents students who identify as Asian American, Black, Hispanic, Native American, Pacific Islander, Two or more races

3. First generation scholars include 7% unmatched to eligible non-participants due to a > .2 caliper width of propensity scores

***p<.000, **p<.01, *p<.05

Methods: Cost-Effectiveness Analysis

We adopt a cost-effectiveness framework to further contextualize the costs of Arizona Assurance Program to achieve target outcomes of increased retention and graduation among low-income, resident students. A cost-effectiveness analysis seeks to identify and monetize costs of program implementation that allows for comparisons between alternate interventions designed to impact a similar target outcome (Cellini & Kee, 2015). This method distills costs and outcomes into a cost-effectiveness ratio. The resulting ratio would be interpreted as “dollars per dropout prevented,” if those are the program objectives of interest (Cellini & Kee, 2015 pp. 637).

Cost-Effectiveness Ratio = Costs/Units of Effectiveness

University of Arizona Costs to Support AZA Scholars

For this study, we adopt an organizational lens to identify costs and benefits to the University of Arizona. Bearing this scope in mind, we acknowledge there are a range of costs and benefits to a range of stakeholders (e.g., students, university leadership, State of Arizona, program staff) that are not accounted for in this model.

We utilized an itemized approach to generate financial costs to the university including direct costs from scholarship and grant allocations, as well as costs from the program administration through Thrive Center including staff salaries and employee related expenses, program implementation costs (i.e., materials, training)⁵. We initially considered indirect costs of other ancillary programs such as OSFA, Blue Chip who provide services to AZA Scholars. However, after consultation with the campus partners who administer these services, we excluded them from the cost analysis since they determined no cost savings would be made if the AZA program were to be curtailed. Each would still provide services at the same level (e.g., OSFA would manage the financial packages of students regardless of the composition of their financial aid awards AZA vs. none).

University of Arizona Revenue from Additional Persisting Pell Students

Nearly 100% of AZA Scholars received a federal Pell Grant. We see continued enrollment, assuming continued Pell Grant eligibility, translates into a tuition benefit due to the Federal Pell Grant monies directed at tuition. We obtained a figure of \$5,982 based on the average of the maximum Pell Grant amount from 2014-2020, corresponding to the years of first year retention for the study population. We reduced the total ‘costs’ for the university by this amount multiplied by the number of additionally retained students. We recognized there are additional revenue streams through increases in student persistence (i.e., SUMC, Housing & Residential Life, UA BookStores, Athletics), but these amounts are unknown and were not included in the revenue calculation.

University of Arizona Foundation Financial Support

Since the program’s inception in 2008, the University of Arizona Foundation has established thirteen Arizona Assurance endowments and collected over \$14 million dollars in support of the program. Twelve of the endowments are directly used to cover student scholarships.

⁵ We applied a simple conceptual approach. We do not consider opportunity costs and figures were not adjusted for inflation.

Results: Program Cost-Effectiveness Ratio for Retention

Contact AssessmentResearch@arizona.edu for cost-effectiveness results.

Results: Program Cost-Effectiveness Ratio for Graduation

Contact AssessmentResearch@arizona.edu for cost-effectiveness results.

Loan Debt among Graduates Trends and Insights

As of the end of AY 2019-2020, 56% of the 3,833 students from cohorts 2013-2016 who were AZA eligible had earned a degree. A higher proportion of AZA Scholars had achieved that goal compared to non-participant peers (62% vs. 52%). A majority of degree earning students (65%) had taken out student loans to fund their education, which is comparable to the national average among public school undergraduates (66%⁶).

The national average cumulative loan debt for bachelor's degree recipients at 4-year public universities in 2015-2016 as \$28,600⁷, compared to the overall average of \$17,688 for resident, low-income students at the University of Arizona.

The average cumulative student loan amount was lower for AZA Scholar graduates compared to eligible peers, a mean difference of \$5,932 (Eligible Peers: \$19,938; AZA: \$14,006). Just 4% of AZA Scholars graduates who took loans graduated with high debt burdens, compared to a rate of 10% among peers, though the amount of loans was not different by group (\$42,467: Overall). Average loan amounts were higher across all groups for students filing as an independent student on the FAFSA.

- ✓ AZA graduates had an average of \$5,932 less in student loans than eligible peers. The loan accumulation of scholar graduates was \$14,006 and eligible peers (\$19,938) compared to a national average of \$28,600.
- ✓ Just 4% of AZA scholar graduates who took loans graduated with high debt burdens, compared to 10% of eligible peers, though the total amount of loans was not different.

Estimated Loan Debt among Graduates from Cohorts 2013-2016			
Graduates from Cohorts 2013-2016	AZA Scholars N=821	Eligible Peers N=1,305	Overall N=2,126
% Took Student Loans	63% (n=520)	65% (n=851)	65% (n=1,371)
Average \$ of Student Loans Borrowed	\$14,006	\$19,938	\$17,688
Average Years of Financial Aid	4.34	4.27	4.30
% of Loan Takers Financially Independent	6% (n=30)	3% (n=22)	4% (n=52)
Average \$ of Loans Financially Independent	\$17,794	\$30,034	\$22,973
% of Loan Takers with High Debt*	4% (n=18)	10% (n=88)	8% (n=106)
Average \$ of Loans with High Debt*	\$40,959	\$42,776	\$42,467

*Note: High debt based on 1.5 standard deviation above the overall mean >=\$34,740. Financial independence determined from FAFSA filing compared to students claimed as dependents on parental tax filings.

⁶ U.S. Department of Education, National Center for Education Statistics, 2015–16 National Postsecondary Student Aid Study (NPSAS). [Figure 4. Percentage of undergraduate degree/certificate completers who ever received loans, by degree type and control of institution: Academic year 2015–16.](#)

⁷ U.S. Department of Education, National Center for Education Statistics, 2015–16 National Postsecondary Student Aid Study (NPSAS). [Figure 5. Average cumulative loan amount for undergraduate degree/certificate completers who ever received loans, by degree type and control of institution: Academic year 2015-16](#)

Post-Graduation Career and Graduate School Outcomes Trends and Insights

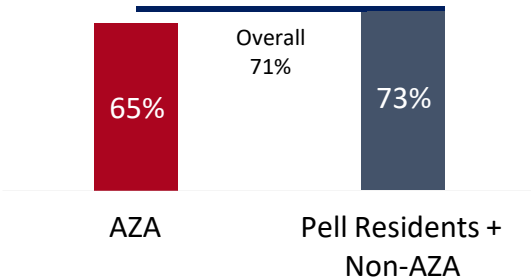
Arizona Assurance student success following graduation was explored through career and continuing education outcomes available on the UArizona Graduating Senior Survey. The survey includes self-reported data collected mostly prior to graduation and reflects a snapshot of post-graduation outcomes for undergraduates.

✓ AZA graduates report higher levels of plans for graduate school following graduation (35%) compared to Pell residents who were non-participants (26%). AZA Scholars also reported slightly higher acceptance rates into graduate school programs.

Primary Destination: Employment and Continued Education in Graduate School

Four available cohorts of bachelor’s degree recipients who completed the Graduating Senior Survey (2016-17 – 2019-20) represented a total of 556 AZA participants, 4,558 of Pell Residents who were non-participants, and an overall sample of 17,383 students. Results indicate higher rates of plans for continuing education following graduation, and among those students, slightly higher rates of graduate school acceptance upon graduation compared to Pell residents who were non-participants and the overall average.

Pursuing Employment Goal



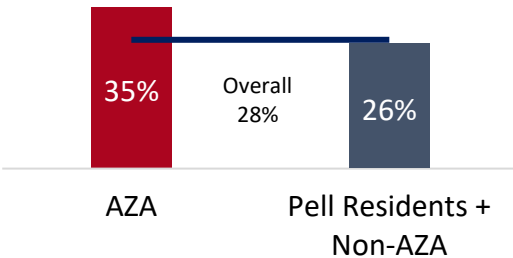
Employment represents respondents who indicated they are seeking employment or employed after graduation.

Employment Outcomes

Among those with an Employment Goal: Percent Reporting Full-time Employment and Working in the State of Arizona

	AZA	Pell Residents + Non-AZA	All UA Students
Employed Full-time	47%	51%	51%
Working in Arizona	78%	81%	61%

Pursuing Continuing Education Goal



Continuing Education represents respondents who indicated they are seeking continued education (e.g. graduate school) or have been already accepted to a program after graduation.

Continuing Education Outcomes

Among those with Continuing Education Goal: Percent Reporting Graduate School Acceptance and University of Arizona Acceptance

	AZA	Pell Residents + Non-AZA	All UA Students
Acceptance	46%	44%	51%
UArizona Acceptance	51%	55%	45%

Limitations

As with any program impact evaluation, there are various limitations to note with respect to the methodology and available data that inform interpretation and generalizability of results.

To better evaluate the AZA program impact as a whole, we utilized pooled data across cohorts 2013-2019 given comparable data and a similar program structure. This approach is advantageous because it provides a larger sample of participants and eligible peers for statistical comparisons. Although we accounted for entry year as a control in statistical models, the aggregate approach does not allow us to isolate specific findings associated with year-to-year changes in program operations that may differentially impact outcomes such as eligibility, funding allocation, or shifts within programs which could be examined with future single year targeted assessment, if desired.

One important limitation is the lack of accurate historical data on campus engagement participation and use of academic support services. Although Thrive Center has manually tracked AZA Scholar participation in affiliated programs since 2013, campus engagement participation and use of academic support services was not tracked consistently to allow comparisons beyond AZA affiliated programs or to evaluate participation by peers who were not enrolled in AZA. Improvements in campus engagement and academic support services data tracking will further support continued assessment of program impacts and student outcomes.

We utilized propensity score matching (PSM) models with known student demographic and academic characteristics at entry to the university to account for self-selection bias into the AZA Scholars program, including financial need and financial aid metrics not previously examined in relation to AZA student success. While this method is an improvement over trend comparisons without a 1:1 match, it may not fully account for unmeasured factors determining persistence and completion (i.e., self-efficacy).

To better understand the institutional investment in AZA, we conducted cost-effectiveness calculations using an organizational lens whereby the costs only include those borne by the university and the benefits were operationalized as student success outcomes of retention and completion. This analytical approach was straightforward to measure and align with university metrics. However, a limitation is that this scope does not consider the potential financial and societal impacts of the AZA Scholars programs for participants and their families (e.g., opportunity costs, higher lifetime earnings, social mobility, well-being) or for the broader community (e.g., more educated workforce) or returned to the university beyond undergraduate career (e.g., graduate school enrollment, alumni giving, sibling enrollment).

We also included a measure for revenue return through persistence by calculating the amount of tuition offset by Federal Pell Grant funds when AZA Pell-Eligible students reenroll. Although there are additional revenue streams received by the university when students reenroll, such as SUMC or Bookstore purchases, the amounts were undetermined and thus excluded from the model.

Discussion and Recommendations

LOOKING BACK.

This comprehensive impact review demonstrates that the **Arizona Assurance Scholars Program works** and achieves its desired goals to create a pathway for upward social mobility and to improve educational attainment in the State of Arizona by making a college education accessible and financially feasible for low-income students. Through the strategic combination of financial assistance and intentional supplemental support services, AZA has produced the following success outcomes:

1. **Increased Yield:** 85% of students selected for AZA successfully enroll compared to 71% of students who were not selected but completed the application process.
2. **Increased Retention:** AZA participation increased first-year retention by 9.2 percentage points, compared to peer comparison group.
3. **Increased 4, 5, and 6-year Graduation:** AZA participation demonstrated lifts in 4-year graduation rates by 12.8%, 5-year graduation rates by 16.7%, and 6-year graduation rates by 18.8% compared to matched peers.
4. **Decreased Indebtedness:** The average cumulative student loan debt among AZA graduates was \$4,819 less than similar peers.
5. **Equity Driven and Demonstration of Servingness:** AZA has proven to be especially impactful in serving low-income first generation, Hispanic, and BIPOC scholars. One out of three low-income, academically qualified Arizona resident first year students from 2013 – 2019 were AZA scholars. First-generation scholars were particularly impacted by lifts in retention with greater effects in completion found to be among first-generation, Hispanic, and BIPOC scholars compared to matched non-participant peers.

FUTURE DIRECTIONS.

Based on the findings, the evaluation team is recommending the following actions be considered to enhance AZA Scholars Program goals.

Invest in need-based institutional aid to advance institutional strategic goals.

As stated in the report, from 2013 – 2019 more than 33% of all low-income, eligible resident students at UArizona participated in AZA, demonstrating the broad impact of the program. This impact, combined with the strong track record of student success outcomes summarized above, makes AZA the University's signature program for supporting low-income Arizona residents. While institutional aid is often used as a tool to recruit academically meritorious students, the University must also continue to leverage need-based aid to facilitate college access and success.

The strategic combination of financial assistance and supplemental support services is a proven method to produce desired student success metrics. Continued institutional investment in Arizona Assurance supports the following institutional objectives as articulated in the strategic plan and measured by national rankings:

- Increase Pell Grant recipient enrollment
- Close the achievement gap in graduation rates between Pell Grant recipients and non-Pell recipients
- Lead nationally in Pell recipient degree completion
- Increase overall rates of retention and completion, contributing to competitiveness in national rankings
- Mission fulfillment as a Land Grant and Hispanic Serving Institution

Strategic eligibility criteria, funding allocation, and programming to support cost-effective student outcomes.

The impact of AZA entails institutional investment. We offer the below recommendations to maximize high-impact, cost-effective student success outcomes.

- **Stabilize financial eligibility criteria and consider first-generation status in program selection.** As detailed in [Appendix B](#), AZA eligibility criteria and funding allocations have changed significantly over time. For example, the maximum AGI for AZA selection began in 2008 at \$42,400, was increased in 2020 to \$60,000, and will be reduced to \$27,000 in 2021. Furthermore, AZA funding allocations have ranged from full coverage of tuition, fees, and housing all the way down to \$2,000 and a one-year housing allocation. The forthcoming reduction in maximum AGI from \$60,000 to \$27,000 will have a profound impact on program eligibility and is likely to yield a significantly higher percentage of students who are financially Independent. We recommend monitoring this impact and correcting course if it results in an inability to serve Dependent students. Once financial selection criteria are stabilized, we recommend considering non-financial factors to determine future eligibility. Specifically, given the program's significant impact on the success of first-generation compared to continuing-generation students, first-generation status could be considered as an eligibility criterion in order to improve cost-effectiveness.
- **Optimize award allocation and cohort size.** Often times financial eligibility criteria are adjusted in order to reach a target cohort size. Questions are raised about the benefits of selecting a larger cohort with less aid versus selecting a smaller cohort with more aid. Naturally, as gift aid is reduced, loan indebtedness increases. Based on our analyses, FTFT AZA scholars who accepted student loans were 61% less likely to retain than scholars who did not take out loans. Conversely, for every additional \$100 of total gift aid received, there was an average increase of 2% on odds to retain. These findings support the selection of a smaller cohort with more aid, rather than the opposite. Again, we emphasize the above recommendation to consider the use of first-generation status as a way to optimize cohort size as opposed to the continual adjustment of an AGI cut-off. We recommend further analyses, in concert with the Office of Scholarships and Financial Aid, to identify the optimal amount of institutional grant aid to significantly reduce or eliminate AZA borrowing.
- **Support scholar's decision to live off campus and institute an AZA funding guarantee to ensure tuition, fees, housing, and meals are covered for each scholar.** Results show that living on campus during an AZA scholar's first year is a strong negative predictor of their retention to sophomore year. While this finding is contrary to the common belief that on campus housing increases retention, it is consistent with other institutional assessments focused on Pell Grant student experiences, needs, and outcomes. We recommend that AZA scholars receive positive affirmation that living at home is supported and/or that off-campus housing options are available and often more affordable. We further recommend that AZA institute a funding guarantee that ensures tuition, fees, housing (on or off campus), and meals are covered by gift aid, even if such a guarantee would necessitate a smaller cohort with more aid (see above recommendation).
- **Program Participation Recommendations.** The results of this review affirm that the AZA model of coupling financial assistance with comprehensive support services is an effective way to retain and graduate low-income residents at rates higher than similar peers who do not receive this wrap around support. Importantly, findings demonstrate that AZA students are more likely to retain regardless of the

affiliated support program they participate in. Results indicate one single program among those affiliated with AZA was not a significant independent driver of success. Students retained regardless of what program they were engaged in during their first year of college. These findings affirm the critical importance of coupling financial assistance with support services, as opposed to deploying these supports independently. Of note, FTPT students who participated in AZA and S4S had identical rates of retention as part-time students who participated in AZA alone, S4S, and S4S with an affiliate support program. We recommend further exploration to assess the possible adoption of S4S as an approved affiliate program for students to meet first year program requirements among first-time part-time scholars.

Remove administrative barriers to selection.

Results indicate selection for AZA increases the yield, retention, and graduation of students who receive AZA support. However, many students encounter administrative barriers during the selection process, some of which are created and controlled by the institution. While 85% of those offered AZA aid successfully enrolled, just 49% of students who were invited to apply for AZA but missed FAFSA or UA deadlines enrolled, and 29% of students who did not complete their supplemental information.

While some students were not selected due to not meeting additional financial need criteria, many others met the financial need criteria but missed cumbersome administrative deadlines. The inability to serve students based on institutionally controlled barriers requires further study and resolution. In particular, we recommend a **focus on streamlining the residency process, which causes several students to unnecessarily lose eligibility, as well as reconsidering the necessity of collecting financial information from non-custodial parents (NCP)**. Due to various life and family circumstances, getting in touch with non-custodial parents proves to be difficult, sometimes impossible. Resolving residency and NCP barriers would likely facilitate the selection of many more eligible students who would benefit from AZA support.

Align renewal criteria with new academic eligibility policies and merit aid renewal practices.

Previous AZA assessments demonstrate that ongoing funding renewal is a critical component of student persistence and graduation. As such, evaluating ways to support students in the renewal process is important. The University has recently changed both academic eligibility policies, which allow students to remain academically eligible for longer, and merit aid renewal policies, which allow for a one-time grace period for students who are shy of the minimum unit and GPA criteria. In order to align AZA renewal with both of these recent policy changes, we recommend the implementation of two years of guaranteed AZA funding. In other words, students would not lose funding eligibility as they transition from their first to second year, allowing them the necessary time to acclimate to college. Again, this policy change is aligned with the current academic eligibility model and would strategically support student persistence.

Respond to COVID-19 disruptions on Arizona low-income families and students.

The COVID-19 pandemic has had a devastating economic impact resulting in widespread job loss, unemployment, and eviction. These economic impacts have hit low-income communities of color the hardest, which will deeply effect students and families who are eligible for Arizona Assurance. Preliminary NCES enrollment data analyzing the impact of COVID-19 found that “across all types of institutions, immediate enrollment of students from low-income high schools fell 29.2 percent” (National Student Clearinghouse, 2020). As low-income students take on work responsibilities to support their families, it is likely that incoming students

will delay college enrollment and continuing students will request deferments. In order to be responsive to low-income student needs during this time, we recommend:

- Re-evaluate the requirement that AZA students enroll directly after high school, allowing a gap year(s) in order to support their family.
- Re-evaluate the current deferment policy, which counts time away from school against students' 8 semesters of funding eligibility.
- Consider adding questions during the AZA selection process to measure how COVID-19 may have impacted themselves and their families. Based on results, consider a COVID-19 supplemental award to help resolve the financial barriers that may hinder their ability to enroll and persist. If supported by federal regulations, remaining CARES Act funding may be a resource to consider for this purpose.

These three policy changes are important in order to address the lingering economic impacts of COVID-19 that will have a disproportionate impact on low-income students' ability to enroll and persist. Additionally, they provide the opportunity for the University of Arizona to demonstrate responsiveness to COVID-19 disruptions and showcase our continued commitment to serving low-income Arizona residents.

AZA as a pathway to graduate school and opportunities to strengthen post-graduation outcomes.

The findings suggest the program's existing efforts to support student exploration of and preparedness for graduate school are successful. Among AZA graduates, 35% plan to pursue graduate school compared to 26% of Pell residents who did not participate in AZA. Further, AZA scholars had slightly higher acceptance rates for graduate school (46% vs. 44%) but lower acceptance to UArizona graduate programs (51% vs. 55%). Among AZA scholars who were planning to pursue a career following graduation, they were slightly less likely to report full-time employment (47% vs. 51%) when they completed the Graduating Senior Survey.

The AZA program should continue to center graduate school and career readiness within mandatory program requirement curriculum. This may call for the inclusion of graduate school and career readiness in the program's mission itself alongside the explicit academic, financial, and social support that is provided to boost retention and completion.

AZA is well positioned to deliver on these post-graduation goals given each students' prolonged engagement with the program. For example, AZA Scholars may be given priority access to undergraduate research experiences for those interested in collaboration with Student Engagement & Career Development and Research Innovation & Impact. Among those who indicate career interests following graduation, more intentional support of career readiness will be important to increase acceptance of full-time employment at graduation. Similarly, this may include incorporating career preparedness exercises and priority access to internship experiences tailored by Student Engagement & Career Development. These changes would further enhance the long-term society impact outcomes the program aims to support.

Prioritize student engagement participation data integration at the university.

Thrive Center has led efforts in data management by manually tracking AZA participation and affiliated program engagement since 2013. The clean and accurate historic data were critical to the present evaluation's analyses. Broader program and service data within departments started to be tracked and appended to a centralized census file in 2017. These [program and service census files](#) support more robust analyses given the inclusion of student experiences that relate to student success outcomes. However, we recognize that students continue to

engage in behaviors and use campus services that are not measured or are measured but not integrated with the student data warehouse in an accessible way (i.e. academic advising, academic college related resources).

To improve AZA and other student success program evaluations, the university needs to prioritize the integration of department and program-level student engagement data. Although this has been attempted numerous times over the past five or more years, we have not been able to achieve this shared need. Prioritizing the data integration will enable us to answer the right questions of, “What are the most effective programs and experiences students should have to increase their likelihood of completing a degree?” and “How do these pathways differ by student populations?” Enhancing the student data infrastructure with department level data will also support future AZA program analyses and decision-making.

Closing Remarks

This comprehensive program review was initiated to understand AZA Scholar experiences and their student success while applying a cost-effectiveness perspective. The findings point to future directions that will maximize the impact of the AZA Scholar Program on student success outcomes and achieve broader institutional goals. With this in mind, we encourage reflection on the potential student and University costs of not investing in the program given the demonstrated outcomes.

The cost-effectiveness applied in the evaluation is an important one to undertake. Insights provide benchmarks and financial indicators to monitor as program changes occur. Tracking these metrics helps to ensure existing resources are best leveraged in ways that support all students in their completion of a University of Arizona degree. We recommend that similar cost-effectiveness studies are conducted within other programs. Having additional program cost-effectiveness ratios will provide meaningful comparison points to inform recommendations. It is also important to not only be asking what is the cost-effectiveness of programs dedicated to support lower-income students, but also those programs that recruit and support other student populations.

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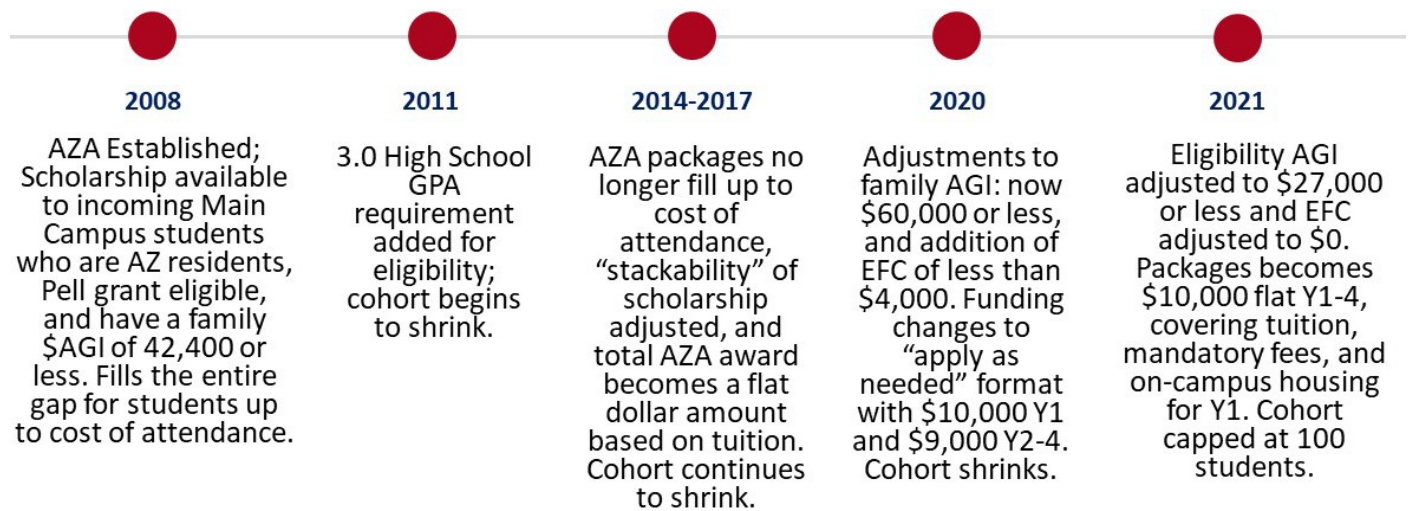
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Appendix A: Detailed Logic Model

Resources & Inputs	Activities	Outputs	Short & Midterm Outcomes	Long-term Outcomes & Societal Impacts
<i>In order to accomplish our set of activities we will need the following:</i>	<i>To address our problem, we will accomplish the following activities:</i>	<i>We expect that these activities will produce the following:</i>	<i>We expect that these activities will lead to the following:</i>	<i>We expect that these activities lead to changes in 4-5 years:</i>
<ul style="list-style-type: none"> ● AZA Dedicated Staff <ul style="list-style-type: none"> - Program Coordinator - Thrive Center Peer Mentors ● Operational Partners <ul style="list-style-type: none"> - OSFA - Admissions - Orientation - HS Counselors (external) ● Programmatic Partners <ul style="list-style-type: none"> - First Cats - CLCs - Fostering Success - TRIO ASEMS - CALS ASEMS - Thrive Guides - Blue Chip - New Start - Academic Advisors ● Funding <ul style="list-style-type: none"> - Donors - UA Foundation 	<ul style="list-style-type: none"> ● Historically low income, Arizona resident incoming first year students invited to apply for the Arizona Assurance Grant ● Financial support (grants, scholarships, loans, and work study) distributed via aid packages ● AZA scholars enroll at the UA for a min. of 12 credits each term. ● First-year AZA Scholars connected to a first-year success program. ● Second-year AZA Scholars connected to leadership and involvement opportunities. ● Third-year AZA Scholars connected to resources to prepare for life after college. ● Fourth-year AZA Scholars connected to resources to build skills and knowledge for post-graduation responsibilities. ● Students meet with their advisors once per semester. ● Students evaluated for AZA renewal based on 1) program, 2) financial, and 3) academic requirements. 	<ul style="list-style-type: none"> ● AZA funding distributed to AZA Scholars' Financial Aid packages (via OSFA)- 10k first year, 9k following years (4 year maximum) ● Students participate in cohort-specific program requirements. ● Peer mentoring occurs (2x/month for first years; 1x/month for second years) ● Workshop offered (2x/month for 1st years; 1x/month for second years) ● Students who select internship, research, or volunteer work to fulfill program requirements complete a minimum of 40 hours of work/service, verified by a supervisor. ● 2 advisor meetings/semester ● Students complete a minimum of 24 units a year with a minimum GPA of 2.0 ● Students file a FAFSA by March 1 and remain eligible to receive the Federal Pell Grant 	<ul style="list-style-type: none"> ● SHORT-TERM (1 year): <ul style="list-style-type: none"> - Increased first year FTF and FTPT retention rates for AZA Scholars - Increased financial, social, and academic support to historically low-income students - Increased sense of belonging and campus involvement ● MID-TERM (2-3 years) <ul style="list-style-type: none"> - Increased sense of belonging and campus involvement. - Increased student preparedness for post-graduation pathways (ex: graduate school, workforce) 	<ul style="list-style-type: none"> ● Increased 4, 5, and 6-year graduation rates as compared to similar peers. ● Students graduate with less student loan debt than similar peers. ● Students have increased graduate school attendance as compared to similar peers. ● Students have increased job placement at the time of graduation as compared to similar peers. ● Graduates more likely to remain in Arizona post-graduation, contributing to local economies and serving local communities.

Appendix B: History of Eligibility and Funding Allocations

Arizona Assurance Timeline of Key Program Changes



History of AZA Eligibility and Funding Allocations 2008-2019

When Arizona Assurance was initially created in 2008, eligibility and funding packages were markedly different than they are today. The initial scholarship was available to incoming students who enrolled at the University of Arizona Main Campus immediately after high school graduation, were Arizona residents, Pell grant eligible, and had a family AGI of \$42,400 or less. Funding directed towards the AZA program at this time was expansive: the scholarship covered tuition and fees, housing for all four years (either on or off) and books. Additionally, Federal Work Study was provided to any student who still had unmet need. In short, the AZA Package filled the entire gap for the student up to cost of attendance.

Throughout the years, funding put towards AZA was directed to other areas and a GPA requirement was added, impacting both eligibility requirements and funding packages. The 2011—2012 cohort was the first cohort where a 3.0 six-semester high school GPA was required; this requirement is still in place today. In terms of funding packages, in 2014-15 AZA packages dropped from filling a gap up to COA to only filling the gap up to tuition, mandatory fees, and books. For some time, this was not “stackable”: an AZA scholar could only receive other funding once their AZA had zeroed out. In 2017-2018, this changed and students were able to receive grants and scholarships up to cost of attendance before AZA started decreasing. The total AZA award amount, however, decreased to \$7,300 for year one housing, and \$2,000 flat each year from years one through four. This is a significant drop compared to the initial 2008-2009 Cohort funding. This was also the year high school core GPA was implemented, impacting a student’s chances of qualifying for AZA.

Current Eligibility and Future Plans

In 2020-2021, in response to policy and funding discussions through Student Success and Retention Initiatives, eligibility and funding changed once more. Family AGI changed from \$42,400, which it had been at since 2008, to \$60,000 or less. Additionally, a requirement for EFC was added, requiring AZA Scholars to have an EFC of less than \$4,000. At the same time, funding amounts provided to AZA scholars changed to an “apply as needed” format, with a flat rate of \$10,000 for Year one and \$9,000 year two through four to be spent as needed (amounts no longer tied to housing, tuition, etc). The size of the cohort shrunk at this time to reflect these changes and increased funding amounts.

Looking towards the future, eligibility and funding packages are once again being adjusted. The 2021-2022 Cohort will be capped at 100 students, who need a family AGI of \$27,000 or less and an EFC of \$0 (with all other enrollment, residency, Pell and GPA requirements from prior years still in place). Funding packages have been changed to a flat \$10,000 rate for all four years, covering tuition and mandatory fees and on-campus housing for year one students. Given the rapid change in eligibility and funding requirements over the last several years, it would be beneficial to see how this new eligibility and funding impact multiple cohorts should it be kept steady for an extended period of time.

Appendix C: Financial Award Tables

Total Amount of YR1 Aid Disbursed overall in Entry Year

Group Totals: Financial Aid Packages Awarded in Entry Year (2013-2019)							
Category	Description	AZA (n=2,075)	% of Total	Non-AZA (n=4,081)	% of Total	Overall (n=6,156)	% of Total
External	Federal Pell Grant & Work Study	\$12,453,555	27.9%	\$21,206,958	30.8%	\$33,660,513	29.6%
	Student & Parent Loans	\$2,443,309	5.5%	\$13,415,180	19.5%	\$15,858,489	14.0%
Internal	UA Merit	\$6,196,726	13.9%	\$15,096,702	21.9%	\$21,293,428	18.7%
	UA University Grant	\$6,284,995	14.1%	\$10,673,618	15.5%	\$16,958,612	14.9%
	UA AZA	\$12,205,974	27.3%	\$19,241	0.0%	\$12,225,215	10.8%
Mixed	Other Gift Aid	\$4,950,120	11.1%	\$7,704,411	11.2%	\$12,654,531	11.1%
	QTR/3rd Party	\$118,631	0.3%	\$834,161	1.2%	\$952,792	0.8%
Grand Total		\$44,653,310	100.0%	\$68,950,270	100.0%	\$113,603,580	100.0%

Amount of YR1 Aid Disbursed in Year 1 to Eligible AZA and Peers 2013-2019

Type and Amount of Financial Aid Disbursed in Year 1 Overall (n=6,156)				
Type of Aid Received	# Receiving Aid	% Receiving Aid	Total \$ Awarded	Avg. Amount per Recipient
AZA Award	1,882	31%	\$12,225,215	\$6,496
Pell Grant	6,063	98%	\$31,743,638	\$5,236
University Grant	4,341	71%	\$16,958,612	\$3,907
Other Gift Aid	3,797	62%	\$12,654,531	\$3,333
Merit Aid	3,576	58%	\$21,293,428	\$5,955
Student Loan	2,806	46%	\$13,230,890	\$4,715
Federal Work Study	811	13%	\$1,916,874	\$2,364
Parent PLUS Loan	347	6%	\$2,627,599	\$7,572
QTR/3rd Party	141	2%	\$952,792	\$6,757

Amount of YR1 Aid Disbursed in Year 1 to Eligible AZA and Peers 2013-2019: By Group

Type and Amount of Financial Aid Disbursed in Year 1 AZA (n=2,075)				
Type of Aid Received	# Receiving Aid	% Receiving Aid	Total \$ Awarded	Avg. Amount per Recipient
AZA Award	1,878	91%	\$12,205,974	\$6,499
Pell Grant	2,067	100%	\$11,505,936	\$5,566
University Grant	1,592	77%	\$6,284,995	\$3,948
Other Gift Aid	1,402	68%	\$4,950,120	\$3,531
Merit Aid	1,105	53%	\$6,196,726	\$5,608
Student Loan	713	34%	\$2,388,207	\$3,350
Federal Work Study	393	19%	\$947,619	\$2,411
Parent PLUS Loan	13	1%	\$55,102	\$4,239
QTR/3rd Party	21	1%	\$118,631	\$5,649

Type and Amount of Financial Aid Disbursed in Year 1 AZA (n=4,081)				
Type of Aid Received	# Receiving Aid	% Receiving Aid	Total \$ Awarded	Avg. Amount per Recipient
AZA Award	4	0%	\$19,241	\$4,810.25
Pell Grant	3,996	98%	\$20,237,702	\$5,064.49
University Grant	2,749	67%	\$10,673,618	\$3,882.73
Other Gift Aid	2,395	59%	\$7,704,411	\$3,216.87
Merit Aid	2,471	61%	\$15,096,702	\$6,109.55
Student Loan	2,093	51%	\$10,842,683	\$5,180.45
Federal Work Study	418	10%	\$969,255	\$2,318.79
Parent PLUS Loan	334	8%	\$2,572,497	\$7,702.09
QTR/3rd Party	120	3%	\$834,161	\$6,951.34

Appendix D: First Year AZA Affiliated Program Descriptions

Peer Mentoring:

AZA Scholars can select from four peer mentoring programs held through the [University of Arizona's Thrive Center](#). Peer mentoring is designed to help students connect with their peers, learn tips and tricks for academic and personal success, build community with other students, and find their place at the University of Arizona. Programming is built around interactive group workshops and one-on-one meetings with a peer mentor. Each of the four peer mentoring programs is designed with a specific population in mind:

- The Cultural Learning Communities, in partnership with the University of Arizona's Cultural Centers, serve students who identify as African American or Black, American Indian or Alaskan Native, Asian Pacific American, Chicanx/Latinx/Hispanic, LGBTQ+, or as having a disability.
- First Cats mentoring serves first- and second-year students who identify as First Generation
- Fostering Success serves students who have experienced the foster care system or are unaccompanied homeless and housing insecure youth.
- Thrive Guides is the broader mentoring program that serves any student of any identity

Blue Chip:

[Blue Chip](#) is a nationally-renowned leadership program that aims to help students engage on campus, connect with peers, and develop students' leadership skills. First year students build their skills with weekly team meetings, leadership development events, Fall and Spring 1-credit leadership courses, and community service experiences. They have the option to live in Pueblo de la Cienega dorm as part of the Blue Chip theme community. Years two to four focus on building real-world leadership skills and applying them to create positive social change via Design Thinking classes & challenges, social justice retreats, professional development, a leadership internship, service learning, and a senior capstone class. The first year costs \$350, with additional years costing \$375, although students are able to apply for fee waivers, payment plans, and an Outstanding Leadership Award to reduce fees.

College-Specific Classes:

Prior to 2013, each Academic College held academic success classes specifically for AZA students. The initial AZA cohort was sizable enough that colleges were able to hold these courses and have significant engagement. However, once the cohort size began to decrease, there were too few students per college to allow for these classes to be held, so they were phased out in 2013. The same process also occurred for second-year classes that were focused on major choice, career path, and reducing the "sophomore slump." An EDL class, focusing on Graduate School for third and fourth year AZA students, was discontinued as cohort sizes shrunk.

TRiO ASEMS:

[TRiO ASEMS](#) is an undergraduate support program that is funded through the U.S. Department of Education's TRiO grant. According to their website, the program receives "\$220,000 to serve 120 participants annually" and "offers support from the time that students enter the program through graduation." Students must be in a STEM field and either low income, first generation, or have a documented disability to participate.

TRiO ASEMS relies on varying support structures throughout a student's time in college. Year one combines a mixture of STEM success courses, career exploration, academic support, peer mentoring, and learning coaches. Year two adds in a leadership colloquium, and year three focuses on career track decisions, career mentoring and test prep, and financial planning beyond college. Throughout all three years, TRiO ASEMS also holds program workshops, community activities, financial assistance, and scholarship advising.

None

These students either did not have a program choice on file, or they decided not to participate in a program. Only 1 student participated in Summer Bridge, which was likely a special case.

Appendix E: Propensity Score Matching Method

Propensity score matching (PSM) creates a statistical comparison group with similar characteristics to program participants to better assess the effectiveness of intended outcomes. Propensity scores are calculated with logistic regression, which accounts for student characteristics influencing self-selection in a program and the outcome(s) of interest. Propensity score values therefore reflect the likelihood of students participating in a program and are used to match participants with non-participants to estimate a program's effect.

The most commonly applied matching method is one-to-one nearest neighbor (NN) with a caliper setting (Austin, 2009; Stuart, 2010; Harris & Horst, 2016). Austin (2014) compared 12 different methods for matching with propensity scores. In most cases, he concluded NN using a caliper width and a no replacement option is recommended to reduce bias when estimating program effects with the creation of a comparison group. A one-to-one NN matching approach with no replacement, meaning non-participants are matched only once, is supported in order to maintain independent data (Austin, 2009; Caliendo & Kopeinig, 2008). A caliper width (i.e. 0.2) limits the absolute distance of propensity scores suitable for matching in order to ensure a high quality comparison group.

Many-to-one matching is an alternative option when there is a large number of eligible non-participants but may bias results. Austin (2010) evaluated the effect of matching many non-participants with participants and found increasing the number of non-participants matched increased bias. Stuart (2010) elaborated on this condition with the general increase in bias as more non-participants are added is due to further away matches (2nd, 3rd...5th) are inherently not as close of a match than the first one.

Evaluation Methods note: The pool of non-participant eligible peers includes enrolled students who fit invitation criteria at the time of admissions and were verified residents as of first fall census (n=4,081). We conducted exploratory descriptive statistics to identify key covariates that differentiate AZA vs. peers and would influence selection into AZA program including financial need, student demographics, academic background, and financial aid award package indicators. We further confirmed with pairwise correlations that select indicators were significantly correlated with AZA participation and/or had theoretical importance to our intended outcome (e.g., HS GPA, cohort year). Many of the same covariates were also correlated with retention and graduation. We then conducted stepwise logistic regression models to determine best model fit depending on covariates and their operationalization (e.g., binary for merit-aid award vs. continuous measure). Informed by the model fit comparisons, we then conducted a series of PSM models to examine the ideal composition of covariates that generated sufficient common support for a 1:1 matching protocol. We determined that a propensity score derived from 10 covariates using logistic regression with a one-to-one nearest neighbor matching method with a caliper width of .2 and no replacement led to an appropriate comparison group balanced on the included covariates. The high school GPA for three AZA participants missing a value was replaced with the group mean.

Student participation in on campus activities such as Greek life or on-campus living were excluded from the matching criteria since it is advised that, "variables should either be fixed over time or measured before participation. In the latter case, it must be guaranteed that the variable has not been influenced by the anticipation of participation" (Caliendo & Kopeinig 2009, p. 38). In the case of living on campus, funding from AZA to cover on-campus living may have influenced student choice for residential life, the product of AZA selection rather than a factor preceding it. Students without an IPEDS retention flag were excluded from reported retention and graduation rates.

Pairwise Correlation Matrix

(1) Program participation for AZA (Y/N)

(2) Key outcome – Retained Y1-Y2

(3) Key outcome – Graduated Y6

(4)-(13) Key covariates. Year of first enrollment, Estimated Family Contribution, Gender, IPEDS Ethnicity, First Generation Status, Honors Student, High School GPA, Received University Grant, Received Other Gift Aid, Received Merit Aid

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) aza_yn	1.000												
(2) retain_yr1	0.090*	1.000											
(3) grad_yr6	0.133*	0.580*	1.000										
(4) yr1_year	0.013	0.041*	0.018	1.000									
(5) efc	-0.213*	0.020	0.056*	0.073*	1.000								
(6) gender1	-0.027*	-0.014	-0.085*	-0.042*	-0.001	1.000							
(7) ethnicity1	-0.153*	-0.012	0.020	-0.025*	0.154*	0.004	1.000						
(8) first_gen1	0.181*	-0.065*	-0.093*	-0.015	-0.189*	-0.049*	-0.250*	1.000					
(9) honors1	-0.028*	0.131*	0.199*	-0.011	0.047*	0.000	0.080*	-0.113*	1.000				
(10) hs_gpa	-0.021	0.180*	0.262*	0.049*	0.065*	-0.060*	0.073*	-0.056*	0.372*	1.000			
(11) university grant	0.097*	-0.022	-0.111*	0.191*	-0.010	-0.029*	-0.080*	0.068*	-0.188*	-0.303*	1.000		
(12) othergift aid	0.086*	0.110*	0.119*	0.243*	-0.026*	-0.016	-0.047*	0.013	0.154*	0.151*	-0.054*	1.000	
(13) merit_aid	-0.070*	0.145*	0.226*	0.221*	0.113*	0.029*	0.144*	-0.112*	0.288*	0.599*	-0.344*	0.127*	1.000

* $p < 0.05$

Propensity Score Logistic Regression Model

Logistic Regression Model Predicting Student Participation in Arizona Assurance Program 2013-2019

Logistic regression

Number of obs = 6,135

LR chi2(10) = 648.70

Prob > chi2 = 0.0000

Log likelihood = -3595.7387

Pseudo R2 = 0.0827

aza_yn	Coef.	Std.Err.	z	P>z	[95%Conf.	Interval]
yr1_year	-0.010	0.017	-0.570	0.567	-0.043	0.023
efc	-0.001	0.000	-13.240	0.000	-0.001	-0.001
gender1	-0.075	0.060	-1.250	0.212	-0.194	0.043
ethnicity1	-0.087	0.013	-6.800	0.000	-0.112	-0.062
first_gen1	0.622	0.067	9.220	0.000	0.489	0.754
honors1	0.005	0.095	0.050	0.961	-0.181	0.190
hs_gpa	0.241	0.125	1.920	0.055	-0.005	0.486
yr1_universitygrant_x	0.461	0.072	6.370	0.000	0.319	0.603
yr1_othergiftaid_x	0.385	0.062	6.160	0.000	0.263	0.507
yr1_merit_x	-0.096	0.078	-1.220	0.221	-0.249	0.058
_cons	-2.394	0.460	-5.210	0.000	-3.295	-1.493

Average Treatment Effect (YR1 Retention between Treated “AZA” and Controls “Matched Peers”)

Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
retain_yr1		0.867	0.794	0.073	0.010	7.080
Unmatched						
ATT		0.867	0.776	0.091	0.012	7.730

Comparison of Means between Treated and Control Groups

Variable	Mean		t-test		V(T)/	
	Treated	Control	%bias	t	p>t	V(C)
yr1_year	3.752	3.690	3.2	1.050	0.296	1.16*
efc	143.100	148.880	-0.700	-0.410	0.682	1.060
gender1	1.325	1.318	1.4	0.470	0.641	1.010
ethnicity1	3.907	3.965	-2.500	-0.860	0.392	0.980
first_gen1	1.796	1.799	-0.500	-0.190	0.847	1.010
honors1	1.118	1.114	1.2	0.390	0.697	1.030
hs_gpa	3.503	3.505	-0.800	-0.260	0.799	0.980
yr1_universitygrant_x	0.768	0.760	1.8	0.620	0.534	.
yr1_othergiftaid_x	0.675	0.668	1.6	0.530	0.596	.
yr1_merit_x	0.531	0.534	-0.600	-0.190	0.852	.

* if variance ratio outside [0.92; 1.09]