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Oklahoma Louis Stokes Alliance for Minority Participation

Annual Evaluation Report

Summer 2021 through Spring 2022

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Introduction

Oklahoma was awarded funding from the National Science Foundation for a five-year continuation of the Oklahoma Louis Stokes Alliance for Minority Participation (OK-LSAMP) program. Oklahoma State University serves as the lead institution for the alliance of 12 universities within the state, and the funding cycle covers August 1, 2019 through July 31, 2024. The participating institutions are Cameron University (CU), East Central University (ECU), Langston University (LU), Northeastern State University (NEOSU), Northwestern Oklahoma State University (NWOSU), Oklahoma Panhandle State University (OPSU), Oklahoma State University (OSU), Southeastern Oklahoma State University (SEOSU), Southwestern Oklahoma State University (SWOSU), University of Central Oklahoma (UCO), University of Oklahoma (OU), and University of Tulsa (TU). This report includes results from the third year of the five-year phase, Summer 2021 through Spring 2022.

This period of funding represents Oklahoma's 28th year of participation in the national LSAMP efforts to increase participation and graduation among underrepresented minority (URM) students in STEM disciplines (Science, Technology, Engineering, and Mathematics). For the purposes of the OK-LSAMP program and this evaluation, underrepresented minority students include Black or African American, Hispanic/Latino, American Indian or Alaska Native, and Native Hawaiian or Other Pacific Islander undergraduates.

Purpose of the Evaluation

The OK-LSAMP program has specific goals and objectives that serve as the framework for their activities and efforts throughout the year. The Center for Institutional Data Exchange and Analysis (C-IDEA) at the University of Oklahoma has prepared this annual report to assess the progress of the program toward meeting its goals and objectives. This formative evaluation is an important component of the program as it offers timely feedback about program progress toward meeting its goals, which then allows time for future adjustments to activities, processes, and procedures if needed. The annual evaluation provides information on the activities and accomplishments of OK-LSAMP scholars participating in the program and offers insights into areas of success, as well as others that may need to be improved.

Evaluation Process

This evaluation includes both quantitative and qualitative components using three key sources of data. The results are described in four sections of the report.

- **Section 1:** Data on the activities and accomplishments of students participating in the program were provided by OK-LSAMP Director, Brenda Morales, and Grant Coordinator, Darlene Croci. It includes data provided by each participating alliance institution.
- **Section 2:** The Center for Institutional Data Exchange and Analysis prepared two Qualtrics surveys that were emailed to OK-LSAMP scholars using lists provided by the OK-LSAMP program office. This section includes quantitative and qualitative results.
- **Section 3:** National STEM data were provided by the Consortium for Student Retention Data Exchange (CSRDE) at the Center for Institutional Data Exchange and Analysis
- **Section 4:** Overall Report Summary and Recommendations

Section 1: OK-LSAMP Results Based on Data from Program Office

Introduction

The primary goal for this five-year phase of the OK-LSAMP program is as follows:

to increase the recruitment, retention, and graduation of URMs in STEM fields from Oklahoma alliance institutions.

This goal refers to all STEM students at alliance institutions in Oklahoma; however, increased participation of students in the OK-LSAMP program results in more STEM students statewide, thus helping to meet this overall goal. This report addresses the progress of OK-LSAMP students specifically.

The Alliance experienced success in previous years in obtaining its goals of graduating URM STEM students who are prepared to enter graduate studies or industry. This five-year phase is dedicated to continuing these achievements. This section of the evaluation uses data on alliance scholars as provided by the OK-LSAMP program office. We address the four objectives of the program.

- Objective 1: *Recruit, retain, and graduate 25% more URMs in STEM fields from 750 in 2017 as the baseline*
- Objective 2: *Understand and implement key success factors for recruitment, retention, and graduation of transferring URMs in STEM fields to increase the quality and quantity of students transferring from 2-year to 4-year institutions in Oklahoma*
- Objective 3: *Increase the number of scholars gaining international experiences by 30% with an emphasis on partnerships with international centers and international research opportunities*
- Objective 4: *Increase the graduate school participation of URMs in STEM (OK-LSAMP scholars) by 25% above 2017-2018 total of 24 graduate students per year as the benchmark.*

Objective 1

The baseline of 750 noted in Objective 1 refers to all STEM graduates within the OK-LSAMP institutions. This report looks exclusively at the students who participate in the OK-LSAMP program at the alliance institutions. We will report recruitment, retention, and graduation data separately to measure the success of this objective.

Based on reporting results during the previous five-year cycle, recruiting efforts from Summer 2018 through Spring 2019 resulted in 63 new scholars joining the program that academic year. To reach the 25% increase using 63 as the baseline, the Alliance must recruit an average of 79 new scholars to the program each year, for a total of 395 during the five-year period.

Rather than look at a 25% increase for retention, we will instead report the retention rate based on the number of students still in the program at the end of the spring semester each year and expect to see an increase. During the 2018-2019 academic year, there were 267 scholars in the program. Of those, 68 students graduated leaving 199 students eligible to continue past Spring 2019. The program

lost 14 students during that academic year, resulting in a 93.0% retention rate (185 of 199 students remained in the OK-LSAMP program at the end of the Spring 2020 semester). If the Alliance increases this rate over the five-year cycle, this part of the objective will be met.

During the previous five-year cycle, 352 OK-LSAMP scholars graduated with a STEM degree. Using this as the baseline, the Alliance must graduate 440 students during this five-year project to meet the goal of a 25% increase. An average of 88 graduates per year—20 percent of the total needed—will keep the Alliance on target to meet this objective.

Objective 2

Success of students transferring from two- or four-year institutions into the Alliance institutions is the focus of Objective 2. The Alliance began collecting transfer student status for the first time during academic year 2019-2020. Because there was no prior data, we are using results from the 2019-2020 academic year as the baseline to determine how the Alliance is meeting this objective. As with Objective 1, we will report recruitment, retention, and graduation data separately to measure the success of this objective.

The Alliance added 15 transfer students from two-year institutions during the 2019-2020 academic year. If the OK-LSAMP program recruits more than 15 transfer students in subsequent years, they will have met the objective to increase the number of scholars who transfer from a two-year institution.

To determine an increase in retention and graduation, we will report on the progress of all OK-LSAMP scholars who are transfer students from two-year institutions, not only those who transferred to an Alliance institution during the academic year for each evaluation period. For retention, we will look at the percentage of transfer students still in the program at the end of the spring semester each year and expect to see an increase. For graduation, we will report how many transfer students graduated each academic year and anticipate an increase throughout the five-year period.

The Alliance included 31 scholars during the 2019-2020 academic year who had transferred from a two-year institution. During this time, 13 of these 31 scholars graduated, leaving 18 transfer students eligible to continue past Spring 2020. The program lost three of these 18 transfer students during the academic year, resulting in an 83.3% retention rate (15 of 18 transfer students who did not graduate remained in the OK-LSAMP program at the end of the Spring 2020 semester). If the Alliance increases this rate over the five-year cycle, this part of the objective will be met.

Of the 31 transfer students, 13 graduated during the 2019-2020 academic year, resulting in a 41.9% graduation rate. To meet this part of Objective 2, the Alliance needs to increase this percentage during the five-year funding period.

Objective 3

The Alliance plans to increase the number of students who gain international experience by 30%. During the previous five-year funding period, 62 scholars had participated in international experiences during college. Sixty-nine total experiences in 25 countries were reported during that time. To meet this objective, 81 OK-LSAMP scholars during this five-year funding period must have travelled abroad for international internships, study abroad, international research, or international conference presentations during college.

Objective 4

The final objective for this phase of the OK-LSAMP program is to increase the number of

scholars entering graduate school by 25%. The benchmark, based on the 2017-2018 data, is 24 graduate students per year. To achieve the desired increase, the Alliance must see an average of 30 graduates per year enter a STEM discipline in graduate school, for a total of 150 during the five-year period.

Alliance-Wide Actions

To maximize the success of students through their undergraduate degree, and to help ensure their success in applying to graduate school, the Alliance determined that it would strive to assist students in many ways. Scholars are paired with faculty mentors to conduct research; the program provides an online GRE prep course and offers help with applying to graduate school; and scholars are provided with financial assistance, workshops, and guidance in obtaining domestic and international internships. In addition, scholars are required to:

- Maintain a minimum cumulative GPA of 3.0
- Attend regular group meetings at Alliance institutions
- Participate in at least one internship experience
- Submit a minimum of three graduate school applications
- Present their research at the annual Research Symposium, hosted by the OK-LSAMP program office, and other professional meetings

Participants

The OK-LSAMP program provides academic, personal, and professional support for its students to help them excel in STEM fields. This report examines the ability of the Alliance to achieve its goals during the period of Summer 2021 through Spring 2022. As previously noted, the program is specifically focused on recruiting underrepresented minority (URM) students: Black or African American, Hispanic/Latino, American Indian or Alaska Native, and Native Hawaiian or Other Pacific Islander undergraduates.

In the program year under review, the Alliance supported 235 students. Table 1 displays participating students by class standing and institution.

Table 1: *Participants by Partner Institution – Summer 2021 through Spring 2022*

Institution	Freshman	Sophomore	Junior	Senior		Total Scholars	% of Total Scholars
Cameron University	0	1	3	5		9	3.8%
East Central University	0	1	1	6		8	3.4%
Langston University	0	7	10	19		36	15.3%
Northeastern OK State	0	1	2	8		11	4.7%
Northwestern OK State Univ	0	0	2	4		6	2.6%
OK Panhandle State University	1	1	1	2		5	2.1%
Oklahoma State University	2	7	17	56		82	34.9%
Southeastern OK State Univ	0	1	4	10		15	6.4%
Southwestern OK State Univ	0	1	1	10		12	5.1%
University of Central OK	0	0	2	4		6	2.6%
University of Oklahoma	2	8	3	19		32	13.6%
University of Tulsa	0	0	0	13		13	5.5%
TOTAL	5	28	46	156		235	
Percentage of Total Scholars	2.1%	11.9%	19.6%	66.4%			100%

Percentages may not total 100% due to rounding

Although most students in the program are juniors or seniors, the Alliance also supports freshmen and sophomores to encourage these students to move forward with a STEM degree. Unless otherwise noted, the data in this report includes all students participating in the OK-LSAMP program during Summer 2021 through Spring 2022 regardless of classification.

Results – Graduates

From Summer 2021 through Spring 2022, *a total of 70 OK-LSAMP scholars graduated with STEM degrees. The Alliance’s goal to have an average of 88 scholars obtain a bachelor’s degree each year was not met during this reporting period.* Figure 1 shows the cumulative results of graduates thus far in this five-year funding period.

One scholar who participated during Fall 2019 through Spring 2020 was not included in the graduation counts in past results due to unreported data. They are not included in this year’s report since they did not participate during this academic year; however, we have updated Figure 1 to add them to the 2019-2020 counts, so our data reflect the actual graduation results. The count has been updated from 91 to 92 graduates for the 2019-2020 academic year; the cumulative thus far, after adding the 70 graduates from this year, is 232.

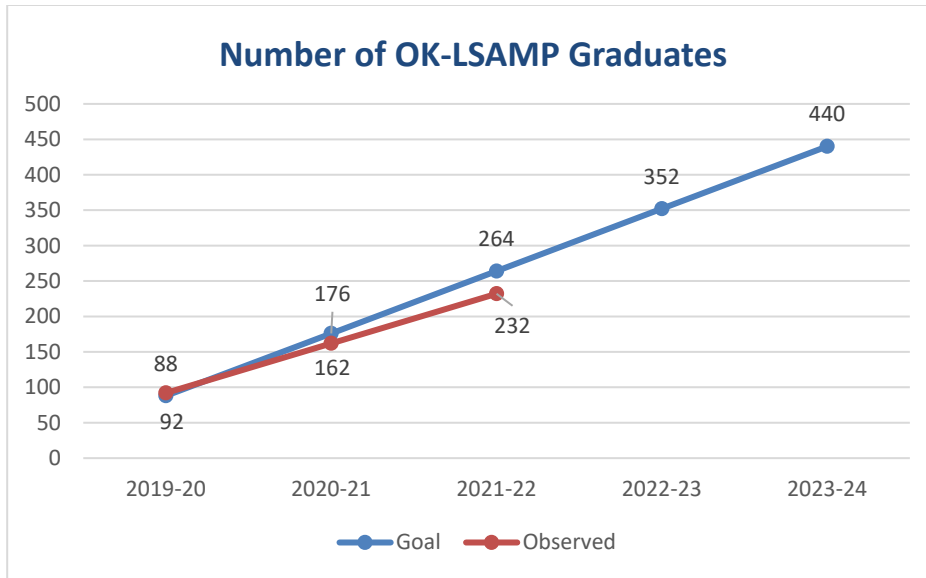


Figure 1: Graduation Counts (Cumulative) – Goal vs Observed

The OK-LSAMP graduates accomplished the following during academic year 2021-2022:

- 44.9% of the OK-LSAMP seniors (70 of 156) graduated during this period and 90.7% of the remaining seniors (78 of 86) were still in the program at the end of Spring 2022
- 12.9% (9 of 70) took the GRE
- 21.4% (15 of 70) applied to graduate school
- 80.0% (12 of 15) who applied to graduate school were accepted
- 17.1% of all graduates (12 of 70) were accepted into graduate school
- 88.6% (62 of 70) had a GPA of 3.0 or higher
- 74.3% (52 of 70) had a research mentor
- 45.7% (32 of 70) conducted research
- 52.9% (37 of 70) had at least one summer internship during college
- 7.1% (5 of 70) of graduates reported an international experience during college

Based on the GPAs and number of scholars who participated in research and internships, there were many graduates who had the potential to move on to graduate work, but either elected not to do so or were not accepted into graduate programs. Of the 58 graduates who did not apply to graduate school—or were not accepted—51 (87.9%) had a GPA of 3.0 or greater, 23 (39.7%) had participated in research opportunities during the 2021-2022 academic year, and 37 (46.6%) participated in at least one summer internship during college. Sixteen of the 58 OK-LSAMP scholars (27.6%) took advantage of both research—during Summer 2021, Fall 2021, and/or Spring 2022—and internships during college. Of these 58 students who did not advance to graduate school in a STEM degree, six were accepted to graduate school in another discipline and seven were hired in industry positions.

Results – All Scholars

Objective 1

The Alliance plans to recruit, retain, and graduate 25% more OK-LSAMP scholars during the five-year funding period. To do this, they must average 79 new scholars each year. *During the 2021-2022 academic year, 74 new students joined the OK-LSAMP program. Although the Alliance is on track to meet their five-year goal, they did not meet the annual goal during this reporting period.* Figure 2 provides the cumulative count of new scholars compared to the goal.

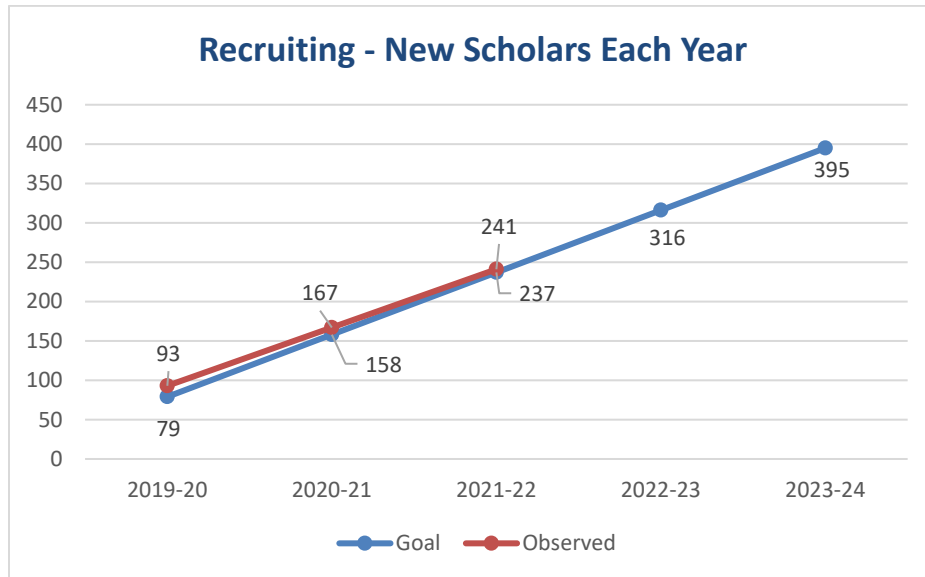


Figure 2: New OK-LSAMP Scholars by Year (Cumulative) – Goal vs Observed

There were 235 scholars in the program during Summer 2021, Fall 2021, and Spring 2022. Of those, 70 students graduated, leaving 165 who could continue past the Spring semester. Seventeen of these students left the program, resulting in an *89.7% overall retention rate* (148 of 165) for students who remained in the OK-LSAMP program at the end of the Spring 2022 semester. The Alliance fell short of successfully retaining its students at a higher rate than the baseline of 93.0% from academic year 2018-2019. Figure 3 shows the baseline, plus annual retention rates thus far during this funding period.

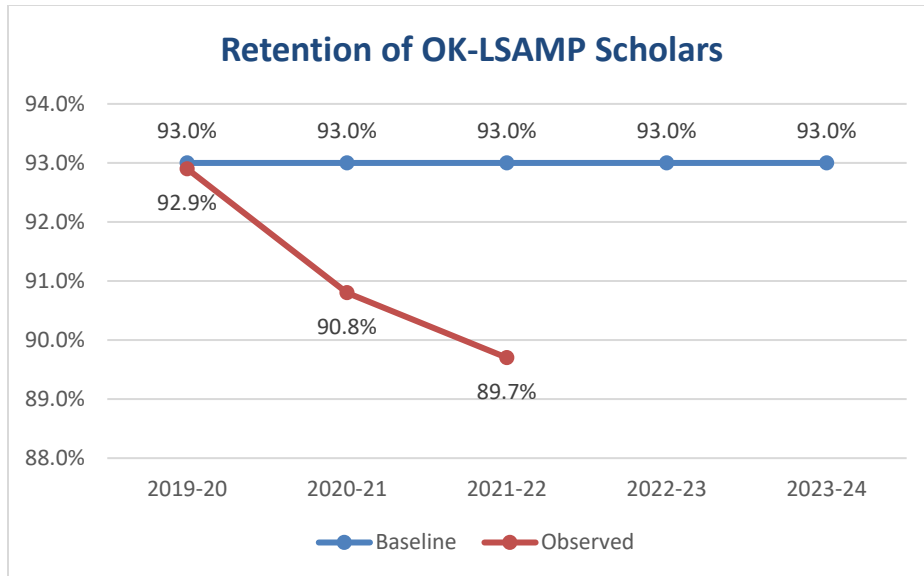


Figure 3: Percentage of Scholars Retained – Baseline vs Observed

To meet the increase of 25% in the number of graduates, the OK-LSAMP program must see an average of 88 graduates per year. During the 2021-2022 academic year, 70 students graduated, which is 18 students fewer than the goal for this year. See Figure 1. **To meet the five-year goal of 440 graduates, the Alliance will need to graduate an average of 104 students each year for the next two years.**

Objective 2

The success of transfer students is the focus of Objective 2. OK-LSAMP would need to add more than 15 transfers during the 2021-2022 academic year to realize an increase in recruiting scholars from two-year institutions. As noted earlier in the report, the Alliance began collecting transfer student status during the 2019-20 academic year, so we are using data from that year as the benchmark. Eighteen scholars transferred into the program during this period, so the Alliance exceeded this goal. See Figure 4 for annual counts compared to the benchmark.

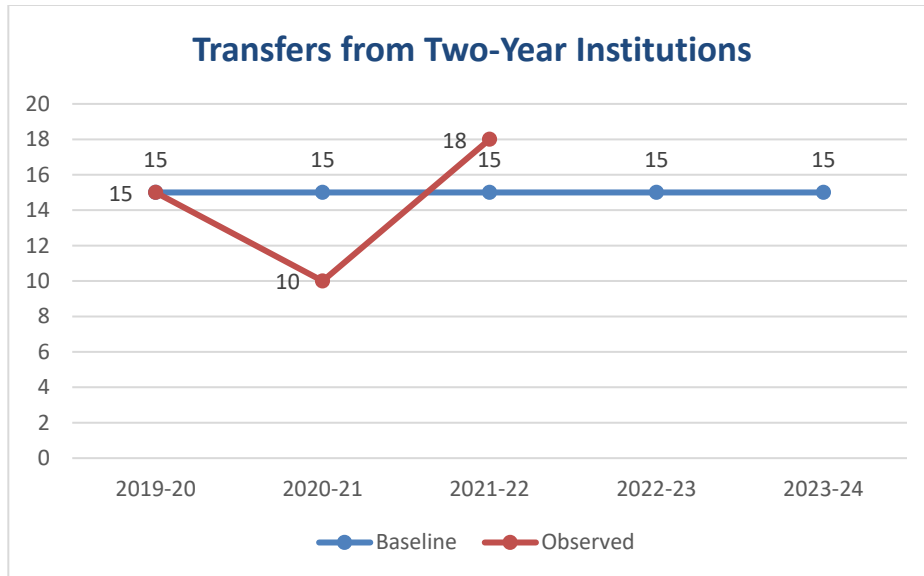


Figure 4: Number of Transfers from Two-Year Institutions– Baseline vs Observed

For retention data, we are looking at the percentage of transfer students from two-year institutions who are still in the program at the end of the spring semester each year and expect to see an increase from the baseline of 83.3%. Thirty-one of the 2021-2022 scholars had transferred from a two-year institution. During this time, twelve of these 31 scholars graduated, leaving 19 transfer students eligible to continue past Spring 2022. The program lost five of these 19 transfer students during the academic year, *resulting in an 73.7% retention rate* (14 of 19 transfer students who did not graduate remained in the OK-LSAMP program at the end of the Spring 2022 semester). The Alliance did not meet its goal to increase the retention rate of transfer students this year. See Figure 5.

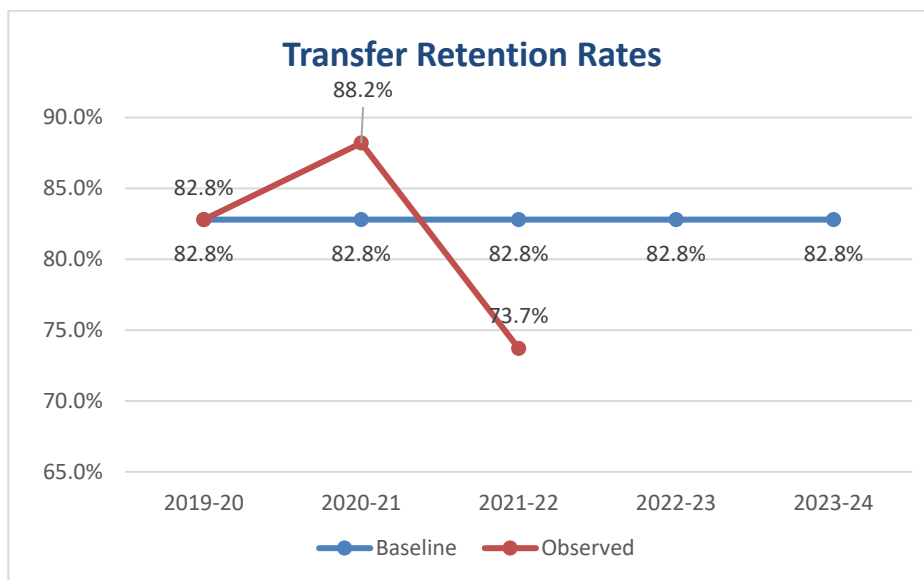


Figure 5: Retention Rates of Transfers from Two-Year Institutions– Baseline vs Observed

Twelve of the 31 transfer students graduated during the 2021-2022 academic year, resulting in a *38.7% graduation rate*. The Alliance did increase its graduation rate of transfer students this year

when compared to last year but not when compared to the baseline, so the goal was not met. Figure 6 shows the annual graduation rates of transfers compared to the baseline.

The baseline was inadvertently reported as 39.6% in the graph in the 2020-2021 report; however, it should have been 41.9%, as was noted in the text. We have updated this year’s graph to reflect the accurate baseline.

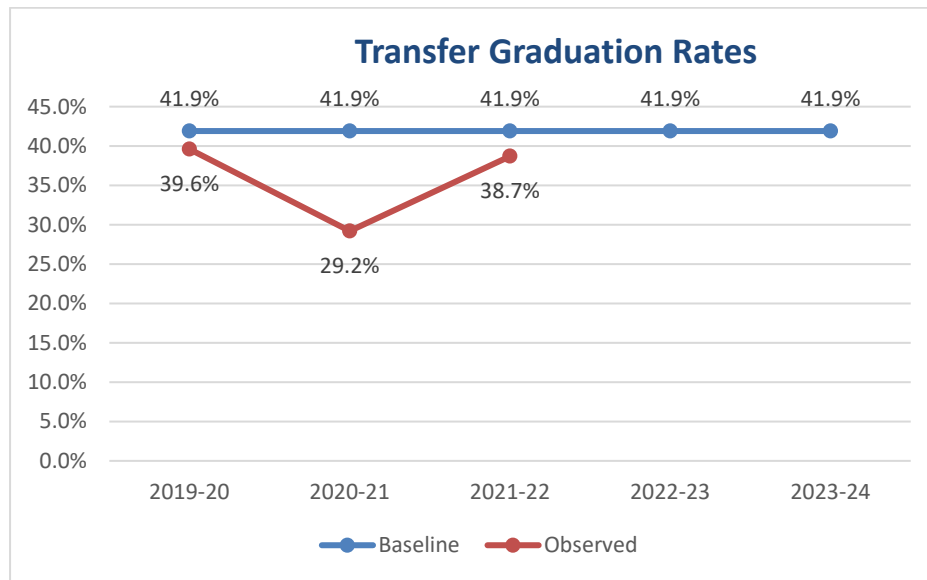


Figure 6: Graduation Rates of Transfers from Two-Year Institutions – Baseline vs Observed

Objective 3

Increasing by 30% the number of scholars who participate in an international experience is the goal for Objective 3. To succeed in this goal, 81 students enrolled in the OK-LSAMP program during the five-year period must have travelled abroad for study, international internships, international research, or international conference presentations. To reach 81 students, we have set an annual goal of 16 students, 20% of the five-year goal.

Since 2019-2020 was the first year of this funding cycle, Figure 7 shows 26 students had an international experience that year. This data represents the total number of students in the program that year who had an international experience at some point in their academic career; it does not indicate that 26 students traveled during that academic year. Each year we will add any new students who join the program to the graph if they have traveled abroad for international internships, study abroad, international research, or international conference presentations during their college career. We will also add any returning students who report a new international experience. *Six new international experiences were reported during the 2021-2022 academic year. The Alliance did not meet this goal.* **To meet the goal of 81 international experiences during this five-year period, 24 more experiences per year will need to be reported over the next two years.**

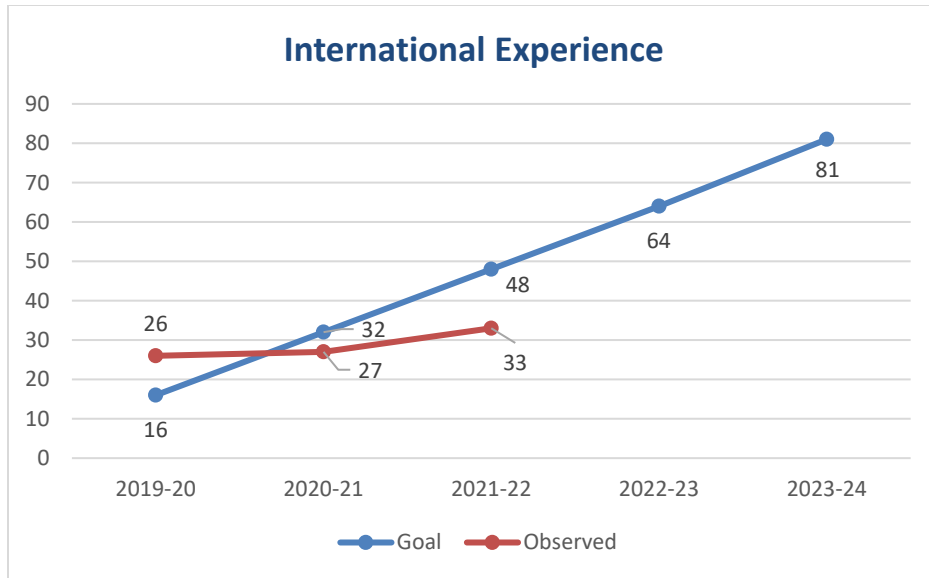


Figure 7: Scholars with International Experience (Cumulative) – Goal vs Observed

Objective 4

The Alliance hopes to increase the number of students who enter graduate school by 25%. To meet this goal, an average of 30 scholars must enter graduate school each year. *During the 2021-2022 academic year, 12 scholars who graduated in the OK-LSAMP program were accepted into graduate school in a STEM discipline. The Alliance did not meet this objective for this reporting period. To meet the five-year goal, 44 graduates must be accepted into graduate school each year for the next two years.* Figure 8 provides the cumulative count of scholars who have been accepted into graduate school in a STEM discipline compared to the annual goal.

Two scholars who participated over the past two years were accepted into graduate school after graduating and leaving the OK-LSAMP program. Since they were not included in the acceptance data in the past and they are not current scholars, we have updated the 2020-2021 count from 48 to 50.

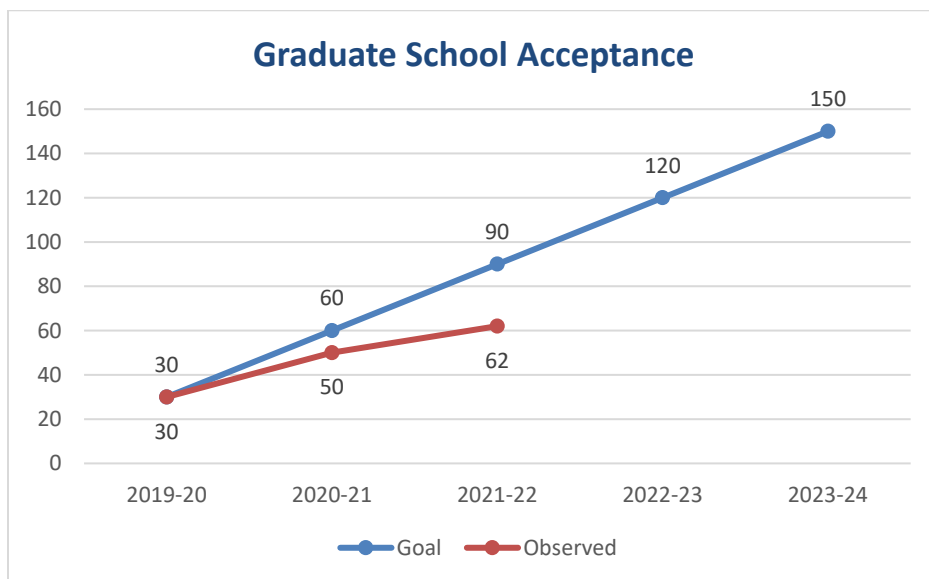


Figure 8: Scholars Accepted into Graduate School (Cumulative)– Goal vs Observed

Graduate School Preparation

Research is a significant component of the OK-LSAMP program that provides an opportunity to develop research skills and build relationships with faculty members. The OK-LSAMP program office regularly sends emails to scholars on the listserv informing them of research opportunities and summer internships, including international experiences. OK-LSAMP participants are encouraged to apply to graduate school and are offered support during the process.

There were 235 scholars in the program during the 2021-2022 academic year. Below are the results of the Alliance-wide efforts in providing opportunities for the participants to be successful in their graduate school applications.

- 7.1% of the senior scholars (11 of 156) took the GRE
- 51.8% of the students who were in the program during Fall 2021 (100 of 193) conducted research that semester
- 47.5% of the scholars who were in the program during Spring 2022 (94 of 198) conducted research that semester
- 37.4% of the students (88 of 235) participated in at least one internship during college.
- 6.0% of students (14 of 235) have participated in at least one international experience during college
- 32.6% of students who were in the program in Fall 2021 (63 of 193) attended the OK-LSAMP Research Symposium
- 63.5% of students who attended the OK-LSAMP Research Symposium (40 of 63) presented

Summaries on how each individual Alliance partner contributed to the OK-LSAMP goals can be found in Appendix 1.

Section 2: OK-LSAMP Online Student Survey

The Center for Institutional Data Exchange and Analysis at the University of Oklahoma created two online surveys using Qualtrics and sent an email invitation to all OK-LSAMP scholars with a link to the survey. We obtained the email addresses from Darlene Croci in the OK-LSAMP program office. The addresses contained the names from their listserv, which included scholars currently in the program. The Fall 2021 list included 194 email addresses, and the Spring 2022 list included 201 names. The OK-LSAMP program office sent each student an email notification about the survey beforehand. The evaluator also informed the Campus Program Managers about the survey and asked them to encourage their students to participate. The invitations were emailed to scholars on November 8, 2021 and March 24, 2022. Each group of students received two follow-up emails before the surveys closed on November 19, 2021, and April 14, 2022, respectively.

One hundred and two students responded to the survey in Fall 2021. Five of these students did not complete the survey, so their responses are not included in these results. The response rate of useable data from the survey was 50.0% (97 out of 194). At least one student from each of the twelve institutions responded to the Fall 2021 survey. The largest response to the survey (23.7%) came from Oklahoma State University, which has the largest representation of OK-LSAMP scholars in the program. Langston University had the second largest percentage of the responses, with 22.7% of the total.

Eighty-eight students responded to the Spring 2022 survey. Three of these students did not complete the survey, so their responses are not included in these results. The response rate of useable data from the survey was 42.3% (85 out of 201).

At least one student from 11 of the 12 alliance institutions responded to the survey in Spring 2022. Twenty-six percent of the survey participants came from Langston University (25.9% in spring), and the second-largest number of survey respondents came Oklahoma State University with the responses comprising 23.5% of the total in the spring survey.

Tables 2a and 2b provide the number of students who responded to the fall and spring surveys from each institution. They also include data showing the percentage representation of each institution within the program, as well as the survey participation

Table 2a: *Student Affiliation of Survey, Fall 2021 Survey Respondents*

Institution	Total Scholars Who Received Survey	% of Total Scholars	# of Survey Respondents	% of Scholars who Responded to Survey	Distribution of Survey Responses	% of Total Scholars who Responded to Survey
CU	6	3.1%	5	83.3%	5.2%	2.6%
ECU	7	3.6%	7	100.0%	7.2%	3.6%
LU	27	13.9%	22	81.5%	22.7%	11.3%
NEOSU	7	3.6%	2	28.6%	2.1%	1.0%
NWOSU	5	2.6%	5	100.0%	5.2%	2.6%
OPSU	5	2.6%	1	20.0%	1.0%	0.5%
OSU	69	35.6%	23	33.3%	23.7%	11.9%
OU	33	17.0%	4	12.1%	4.1%	2.1%
SEOSU	11	5.7%	10	90.9%	10.3%	5.2%
SWOSU	9	4.6%	8	88.9%	8.2%	4.1%
TU	10	5.2%	7	70.0%	7.2%	3.6%
UCO	5	2.6%	3	60.0%	3.1%	1.5%
Grand Total	194	100.1%	97	50.0%	100.0%	50.0%

Percentages may not total 100% due to rounding.

Table 2b: *Student Affiliation of Survey, Spring 2022 Survey Respondents*

Institution	Total Scholars Who Received Survey	% of Total Scholars	# of Survey Respondents	% of Scholars who Responded to Survey	Distribution of Survey Responses	% of Total Scholars who Responded to Survey
CU	8	4.0%	6	75.0%	7.1%	3.0%
ECU	5	2.5%	5	100.0%	5.9%	2.5%
LU	32	15.9%	22	68.8%	25.9%	10.9%
NEOSU	8	4.0%	3	37.5%	3.5%	1.5%
NWOSU	5	2.5%	3	60.0%	3.5%	1.5%
OPSU	4	2.0%	0	0.0%	0.0%	0.0%
OSU	65	32.3%	20	30.8%	23.5%	10.0%
OU	33	16.4%	6	18.2%	7.1%	3.0%
SEOSU	13	6.5%	2	15.4%	2.4%	1.0%
SWOSU	10	5.0%	7	70.0%	8.2%	3.5%
TU	11	5.5%	7	63.6%	8.2%	3.5%
UCO	7	3.5%	4	57.1%	4.7%	2.0%
Grand Total	201	100.1%	85	42.3%	100.0%	42.3%

Percentages may not total 100% due to rounding.

Students in both the Fall 2021 and Spring 2022 surveys reported transferring from the following institutions: Beloit College (WI), Bowie State University (MD), Cameron University (OK), Dodge City Community College (KS), Georgia Southern University (GA), Highline Community College (WA), Langston University (OK), Morehouse College (GA), Murray State College (OK), Northeastern State University (OK), Northern Oklahoma College (OK), Oklahoma City Community College (OK), Oklahoma Panhandle State University (OK), Oral Roberts University (OK), Pennsylvania State University (PA), Stetson University (FL), Southwestern Oklahoma State University (OK), Tulsa Community College (OK), and Xavier University (OH).

Recruitment is essential to the growth of the OK-LSAMP program. Students reported the top sources for learning about the OK-LSAMP program were professors, campus recruitment, current OK-LSAMP participants, OK-LSAMP administrative staff, friends, or family. The specific programs mentioned were First 2 Go Program, LASSO, Oklahoma State University President's Leadership Council, Retention Initiative for Student Excellence Program, and RISE.

Survey Results & Discussion

The OK-LSAMP program has several strategies in place to help ensure that objectives are met, and the scholars receive the support needed to be successful. The questions on the survey were related to the scholars' experiences with the following aspects of the program: 1) group meetings, 2) research mentor support, 3) the Fall 2021 OK-LSAMP Research Symposium and other professional meetings, 4) internship participation, and 5) graduate school preparation. Below are the findings, grouped by category. See Appendix 8 for a complete list of survey questions for both surveys.

Group Meetings

OK-LSAMP scholars are required to attend meetings with program staff. These meetings are organized by each Alliance institution's OK-LSAMP Campus Program Manager. Topics in these meetings typically include time management, presentation ideas, graduate school preparation tips, and other matters related to helping the students succeed in their STEM studies and pursue graduate degrees. Guest speakers are also a common feature of these meetings.

Of the 97 students who participated in the Fall 2021 survey, 66.0% (64 students) attended at least one meeting and 9.3% (9 students) attended five or more meetings. In the Spring semester, 80.0% (68 of 85 students) attended one or more group meetings and 11.8% (10 of 85 students) attended five or more meetings. For students who did not attend meetings, the main reasons given were schedule conflicts, not in the program at the time, or the lack of meetings.

Students were asked about the helpfulness of the group meetings. Responses ranged from 1 to 5 with 5 being the most helpful. Figure 9 shows the scholars' responses to how helpful they felt the meetings were for them. Overall, most respondents found the group meetings to be helpful. The data do not include 33 students (34.0%) who did not attend meetings in Fall 2021 nor the 17 students (20.0%) who did not attend meetings in the Spring 2022. Appendix 2 provides a list of survey responses related to group meetings.

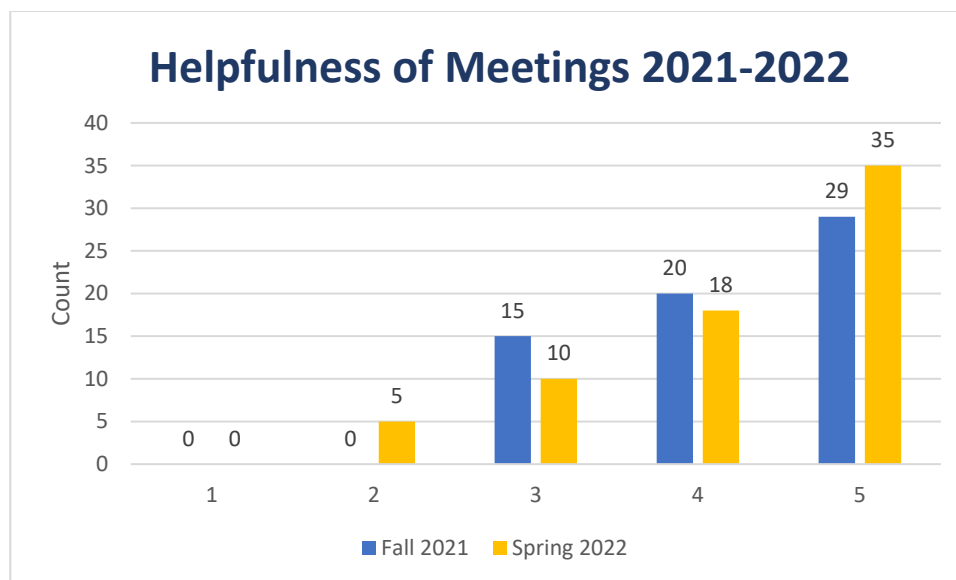


Figure 9: Helpfulness of the Meetings
1=Least Helpful; 5=Most Helpful

Two-thirds of the Fall 2021 survey respondents indicated they participated in at least one meeting during the semester, while more than three-quarters of the Spring respondents did so. The Fall and Spring meetings may have been held in-person and/or virtually. The evaluators do not have data concerning how many of these required meetings were held at each Affiliate institution; however, this response rate is positive and shows that the meetings are being held and the students are attending.

In addition to simply attending the meetings, most students indicated that the meetings were helpful for them. Based on the open-ended questions related to the meetings (see Appendix 2), the students appreciated talking about research symposiums, networking with research mentors and scholars, receiving guidance about graduate school applications and preparation, learning about internship opportunities, and gaining resources. Both semesters, scholars who did not attend meetings indicated there were no meetings on their campus, schedule conflicts, or they were not in the program at the time. In most cases where students indicated there were no meetings, other scholars from the same institutions did attend meetings, so it may have been that the students did not see the communication about the meetings.

Research Mentor Support

One important component of support is providing mentoring for the students. Faculty mentors are key in helping OK-LSAMP students succeed. They work with the students on research projects, encourage them to participate in summer internships, and help them with graduate school decisions.

Of the 97 students who participated in the Fall 2021 survey, 62.9% (61 students) indicated they had a mentor. Of the 85 spring students who responded to the survey, 76.5% (65 students) indicated they had a mentor in Spring 2022.

Scholars were asked to rate their mentors on how helpful they were, based on an A-F scale. Out of 61 students who had a mentor in Fall 2021, 90.2% (55 out of 61) gave their mentor an “A” rating and 9.8% (6 out of 61) gave their mentor a “B” rating. There were no ratings below a “B”.

Out of 65 students who had a mentor in Spring 2022, 86.2% (56 out of 65) gave their mentor an “A” rating, 9.2% (6 out of 65) gave their mentor a “B” rating, 3.1% (2 out of 65) gave their mentor a

“C” rating, and 1.5% (1 out of 65) gave their mentor a “D” rating. Student responses to this question can be seen in Figure 10.

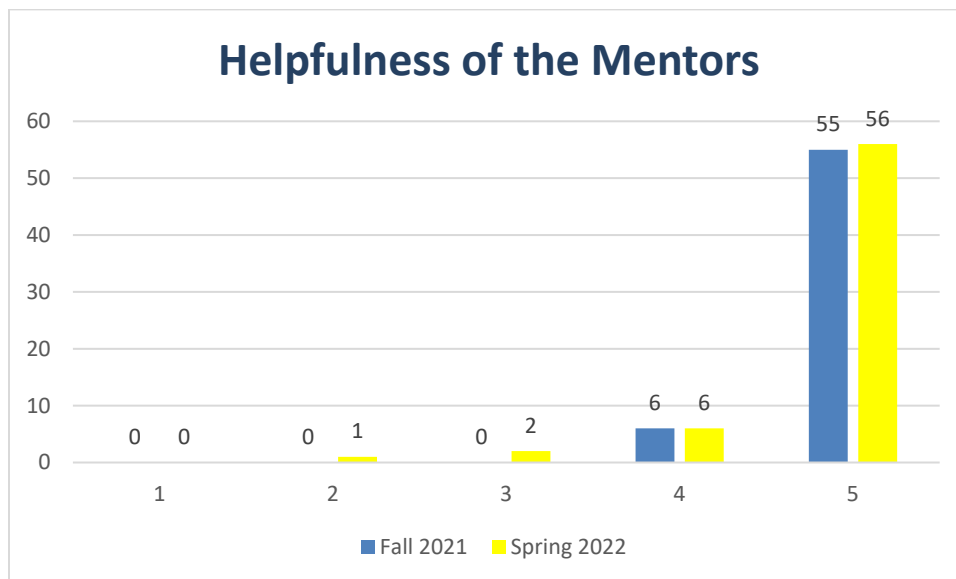


Figure 10: Helpfulness of the Mentors
Fall 2021 & Spring 2022 Survey

Appendix 3 provides students’ comments related to their research, as well as experiences with their mentors, including how they were helpful and how they could improve.

More than half of the students stated they had a research mentor in both surveys. The majority of scholars completed their research in person for the 2021-2022 academic year. Of the 57 scholars who were conducting research in Fall 2021, 71.9% (41 out of 57) were in-person, 12.3% (7 out of 57) worked remotely, and 15.8% (9 out of 57) worked both in-person and remotely.

Sixty students (70.6%) conducted research in Spring 2022; 15.0% (9 out of 60) of these scholars did their research remotely and in-person; 81.7% (49 out of 60) worked exclusively in-person, and 3.3% (2 out of 60) conducted their research remotely.

Most scholars who had a mentor reported that these faculty members were helpful. They mentioned receiving help with, and constructive feedback on, research projects, applying to and attending graduate school, developing critical thinking, preparation for presentations, information about internship opportunities, and resources working on research labs. When asked how their mentors could improve, most indicated they were great, and no changes were needed; a few students mentioned the desire for more meetings, availability, and communication, as well as more guidance with projects. Based on the positive results seen by scholars with mentors, the evaluator recommends that Campus Program Managers continue looking for more mentors to work with the OK-LSAMP students.

Research Symposium and Other Professional Meetings

Participation in professional meetings is another way that the OK-LSAMP program supports its scholars. Students receive financial support for travel to present at conferences, which offers them experience in a professional setting and opportunities for networking with other STEM students.

The OK-LSAMP Research Symposium is a full-day, statewide symposium held each fall to provide an opportunity for scholars to participate in a professional meeting. The Research Symposium was held in-person and virtually in Fall 2021. Students who had conducted research were required to

present either an oral or poster presentation highlighting their research. Scholars could also serve as moderators or volunteers at the event. Attendance at the symposium is required for all scholars, regardless of whether they are presenting. In the Fall 2021 survey, 55.7% (54 of 97) of the students who responded to the survey attended, and 61.1% (33 of 54) of these students presented. The main reason the 43 students gave for not attending was a scheduling conflict. A few noted the lack of research as well as unaware of the Symposium.

Fifty-six percent (54 of 97) of the Fall 2021 respondents attended other professional meetings during the semester. Of those 54 scholars, 27.8% (15 students) attended three or more professional meetings, 33.3% (18 students) reported they received financial assistance from OK-LSAMP to attend the meetings, and 57.4% (31 students) presented at the meetings.

Forty-seven students (55.3%) reported attending professional meetings during Spring 2022. Of those 47 students, 14 (29.8%) attended three or more professional meetings, 16 (34.0%) reported receiving financial assistance to attend the professional meetings, and 34 students (72.3%) presented at the professional meetings.

Approximately 50% of OK-LSAMP scholars attended professional meetings during the fall and spring semesters, excluding the Research Symposium hosted by the program. This is a positive indicator of the success of the OK-LSAMP program in encouraging its students to do research and present, in preparation for graduate study. More than 50% of scholars who participated in the fall survey indicated they attended the OK-LSAMP Research Symposium. This is a requirement of all students, not only scholars presenting their research. Understanding that there are always going to be conflicts and that some of the students may not have been in the program at the time, this is an acceptable representation at the Symposium. Alliance institutions are doing a good job of encouraging their scholars to attend and present, not only at the OK-LSAMP Symposium, but also other venues.

Internship Participation

Another aspect of the OK-LSAMP program that prepares students for future graduate school or industry employment is the opportunity to participate in summer internships. The program requires students to participate in at least one internship experience before graduating.

When asked about their internship experiences, 76.3% of Fall 2021 and 82.4% of Spring 2022 respondents reported being encouraged to participate in summer internships. When asked how they found out about these opportunities, the majority reported that they received this information from a mentor, their Campus Program Manager, or the OK-LSAMP program office emails. Other sources included websites, departments and schools, internet searches, conferences, professors and past employers, and career fairs. Students could choose more than one response if applicable. The results are seen in Figure 11.

Forty-five percent (44 of 97) of the Fall 2021 respondents reported that they had participated in an internship that summer, and 6.2% (6 of 97) percent of scholars had to cancel their internship due to Covid-19. Of the 85 Spring respondents, 51 scholars (60.0%) planned to participate in an internship in Summer 2022.

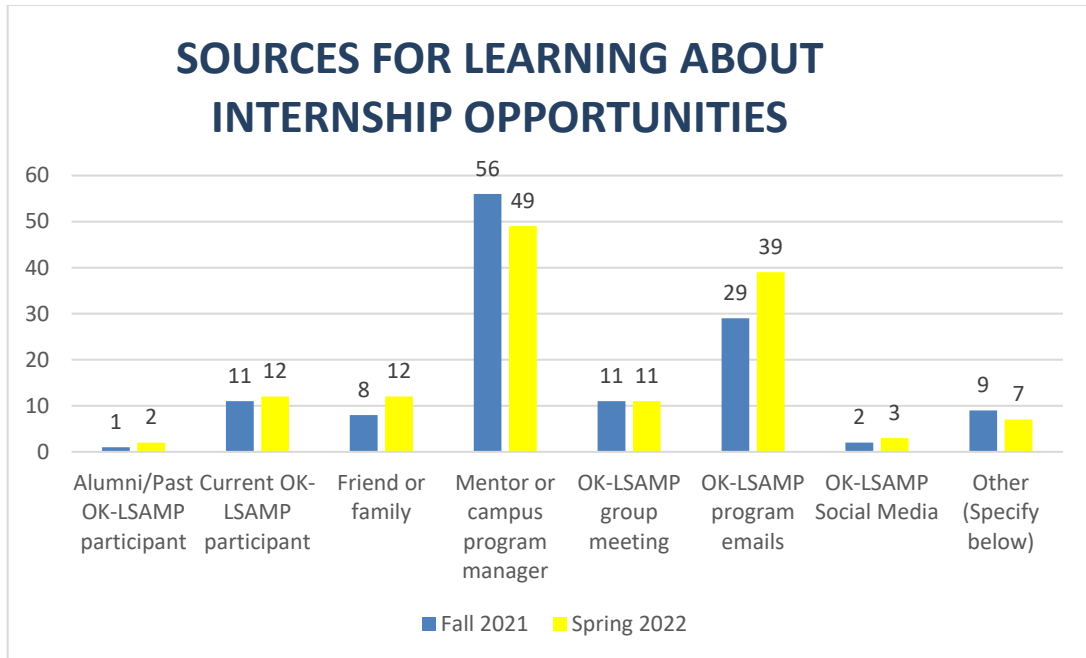


Figure 11: Sources for Learning About Internship Opportunities

Although several internships were cancelled in Summer 2021, almost half of the Fall respondents and almost two-thirds of the Spring respondents were able to participate. These results are very encouraging and show the importance that the OK-LSAMP program is placing on these internships.

Graduate School Preparation

If scholars indicated on the survey that they were a senior, we asked them a few questions related to graduate school preparation. In the Fall 2021 survey, 58.8% (10 of 17) of seniors reported that they were encouraged to take the GRE; 41.2% (7 of 17) received help from the OK-LSAMP program in preparing for the GRE; and 11.8% (2 of 17) of the seniors had already taken the GRE at the time of the survey.

Of the 30 seniors who responded to the survey in Spring 2022, 56.7% (17 out of 30) reported they were encouraged to take the GRE, 36.7% (11 out of 30) received help from the OK-LSAMP program in preparing for the GRE, and 16.7% (5 out of 30) of the scholars had already taken the GRE at the time of the survey. Appendix 4 provides a full account of student responses to the kinds of help they received to help with graduate school preparation.

Scholars are required to submit a minimum of three graduate program applications, according to the project plan. Of the seniors who responded to the survey, 1 student (5.9%) in Fall 2021 and 12 students (40.0%) in Spring 2022 had applied to at least one graduate school. No students in Fall 2021 and nine students (30.0%) in Spring 2022 had applied to at least three graduate schools.

More than half of the seniors in both fall and spring reported that they had been encouraged to take the GRE. However, less than 20% of both the Fall 2021 and Spring 2022 students had taken the GRE at the time of the survey. The evaluator recommends continued encouragement, GRE preparation, and financial support to the OK-LSAMP scholars to help increase the number of students who attend graduate school as stated in one of the objectives for this funding period.

Overall Satisfaction

The scholars were asked to evaluate their experiences with the OK-LSAMP program in several specific areas, each of which are important components of the program. The score ranking was from 1 to 5 (1=Poor and 5=Excellent). In all areas, the “Excellent” ranking was reported by the highest number of students followed by the “Good” ranking.

In the Fall 2021 survey, more than 75% of the participants selected either “Excellent” or “Good” in all areas except one, with professional development and staff availability receiving the highest scores. When asked about their satisfaction level with interactions with other students in the program, almost 30% of the participants chose “Okay”, “Fair”, or “Poor”.

The results from the Spring 2022 survey were similar. More than 70% of respondents selected “Excellent” or “Good” in all categories except “Interactions with other students in the program”, which received these positive scores from only 63.5% of the scholars. The category with the best scores was Professional Development Support, with 84.7% of students rating it as “Excellent” or “Good”.

Based on these responses, the OK-LSAMP scholars are pleased overall with their support from the program. Figures 12a and 12b provide the counts of responses in each category. Appendix 5 provides student responses to ways in which the OK-LSAMP program can improve in these areas, many of which were related to interacting with other scholars.

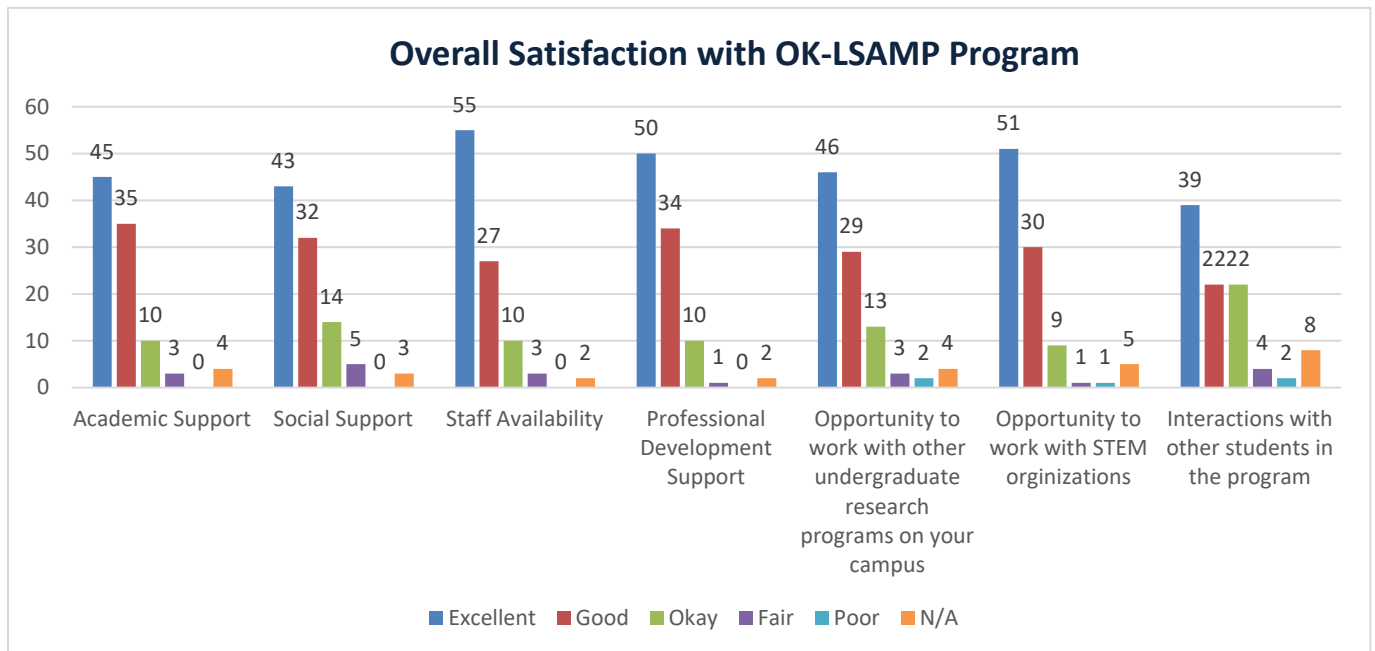


Figure 12a: Number of Student Responses for OK-LSAMP Experiences (Fall 2021)

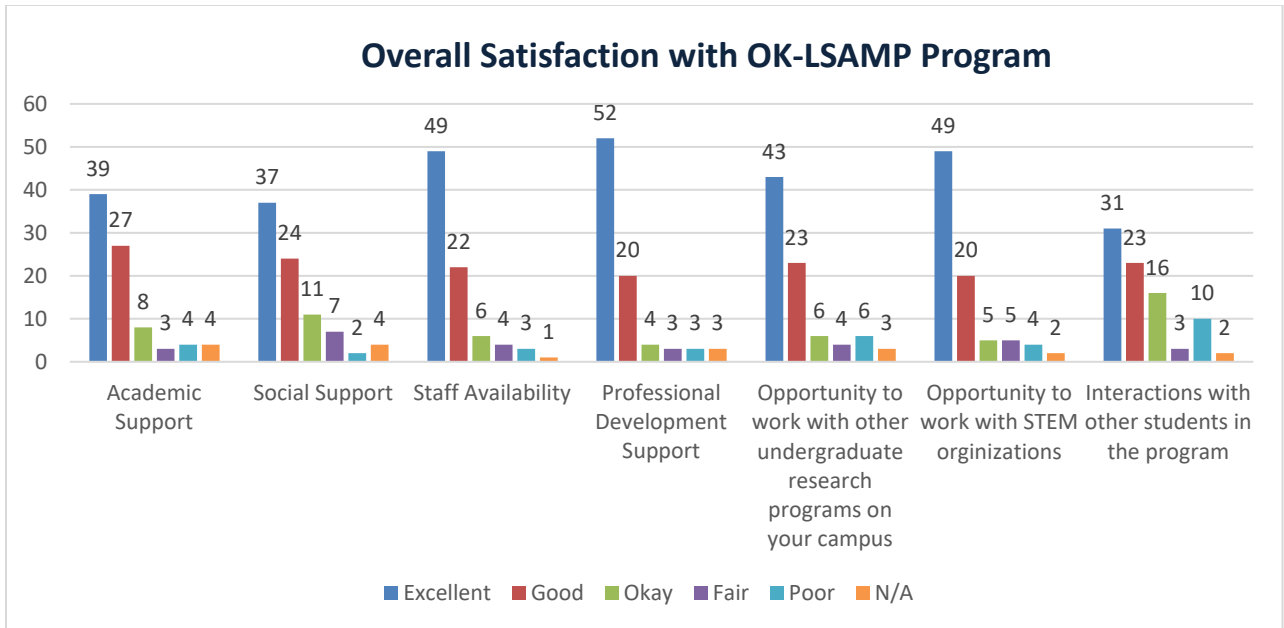


Figure 12b: Number of Student Responses for OK-LSAMP Experiences (Spring 2022)

In addition to the specific areas noted above, the students rated their overall satisfaction with all areas of the OK-LSAMP program on a scale of 1 to 5, with 5 being the most satisfied. Almost all scholars—91 out of 97 students (93.8%)—who completed the Fall 2021 survey gave a score of 4 or 5. In the Spring 2022 survey, 84.7% (72 of 85) of the students reported the highest two satisfaction levels.

Using the same 1-5 scale, students were also asked to rate how the program helped their academic career. Seventy-one students (73.2%) in the Fall 2021 survey reported a score of 4 or 5, and 64 out of 85 students (75.3%) gave a score of 4 or 5 in the Spring 2022 survey. See Tables 3 and 4 for the responses.

Table 3: Overall Satisfaction with the OK-LSAMP Program

Fall 2021 Survey

Score	Count	%
1	0	0.0%
2	0	0.0%
3	6	6.2%
4	50	51.5%
5	41	42.3%
Total	97	100.0%

Score: 1= Not Satisfied; 5=Very Satisfied

Spring 2022 Survey

Score	Count	%
1	4	4.7%
2	3	3.5%
3	6	7.1%
4	28	32.9%
5	44	51.8%
Total	85	100.0%

Score: 1= Not Satisfied; 5=Very Satisfied

Table 4: *Helpfulness of OK-LSAMP Program on Academic Career*

Fall 2021 Survey

Score	Count	%
1	0	0.0%
2	8	8.2%
3	18	18.6%
4	36	37.1%
5	35	36.1%
Total	97	100.0%

Score: 1= Not Helpful; 5=Very Helpful

Spring 2022 Survey

Score	Count	%
1	6	7.1%
2	5	5.9%
3	10	11.8%
4	24	28.2%
5	40	47.1%
Total	85	100.0%

Score: 1= Not Helpful; 5=Very Helpful

Transfer Experience

We added a new question in the Spring 2022 survey related to assistance transfer students received during the transition. Fourteen of the survey participants indicated that they transferred from another institution. Only five of them noted that their previous institution was helpful in the transfer transition, and seven stated that their current institution was helpful. Appendix 6 provides comments related to how the scholars felt institutions were helpful.

Overall Satisfaction

The overall response from the scholars showed that the OK-LSAMP program is succeeding in supporting its students in these areas. These are all crucial components that can help lead to successful graduation of the scholars, and eventual graduate school attendance. The students are pleased with their mentors, feel supported by the program, attend meetings for support and guidance, and are doing research and presentations. Even the areas with the lowest results had more than 60% “Excellent” and “Good” satisfaction scores. Appendix 7 lists open-ended responses from scholars relating to the overall success of the program.

Limitation of Online Student Survey

Two student surveys were conducted this academic year; the Fall 2021 and Spring 2022 response rates were 50.0% and 42.3%, respectively. Although more participation is always preferable, these response rates were very good. The students who participated in the survey were representative of the OK-LSAMP population from their respective Alliance institutions, with at least one survey response from each institution in the fall, and all except one institution in the spring.

The survey response rate may have been negatively influenced by the length of the survey. The OK-LSAMP evaluation survey consisted mostly of multiple-choice items and took approximately 10-15 minutes to complete. After finishing the survey, respondents were asked if they wanted to also complete the OK-LSAMP Research survey, which took about 15 minutes to complete. The results of that portion of the survey are not included in this report.

Section 3: The National STEM Retention and Graduation Data

In March 2022, the Consortium for Student Retention Data Exchange (CSRDE) published the annual national STEM retention study, *2020-21 CSRDE STEM Retention Report*. The CSRDE is coordinated by the Center for Institutional Data Exchange and Analysis at the University of Oklahoma. This report is based on survey data collected from 164 colleges and universities in the U.S. and Canada. In past years, data for each of the Oklahoma public institutions were provided for the annual STEM report by the Oklahoma State Regents for Higher Education. The Regents no longer submit the data for this publication; however, data from Cameron University (CU), Oklahoma State University (OSU), and The University of Oklahoma (OU) were submitted directly from the institutions and are included in the national report.

The survey data were collected on first-time, full-time, baccalaureate degree-seeking freshman cohorts of 2010 through 2019 who indicated intent to major in a STEM field. The Classification of Instructional Programs (CIP) codes used to identify the majors were selected in cooperation with the National Science Foundation when this survey was developed in the late 1990s and have been updated periodically over the past two decades.

In capturing the retention and graduation rates of these STEM students, we used the following approach. First, we collected the retention and graduation rates of these STEM cohorts in any major at their institution. If students initially indicated an interest in majoring in a STEM discipline, but later changed their major to a non-STEM field, they were included in this section of the survey, along with those students who remained in a STEM major. Next, the survey captured the rates at which the cohorts continued and graduated within STEM fields at their institution. This dual tracking allows us to see within a campus the migration of STEM majors out of STEM fields and into other majors. It also allows us to see the general departure rate of students.

The CSRDE also publishes an annual national retention report that provides data on all first-time, full-time, baccalaureate degree-seeking students, regardless of major. The following summary provides the status of STEM retention and graduation data as well as retention and graduation data of all first-time students at the 164 institutions observed in the 2020-21 CSRDE retention reports, regardless of major. These reports include data from Cameron University, Oklahoma State University, and The University of Oklahoma.

Graduation Rates

In the following discussion, three types of graduation rates are provided for the Total cohorts and the underrepresented minority (URM) cohorts:

- **All Majors:** All Majors identifies the percent of first-time, full-time students who began and graduated within six years in **all majors** at their institution.
- **Any Major:** Any Major identifies the percent of students who **began as freshman STEM majors** and graduated within six years in **any major** at their institution.
- **STEM Major:** STEM Major identifies the percent of students who began as freshman STEM majors (the same cohort of students as the Any Major category) and graduated within six years **specifically within a STEM field** at their institution.

In Table 5, the six-year graduation rates are provided for the 2014 cohorts of all students in the national study, as well as CU, OU, and OSU. The data for URM students are shown as well. In the CSRDE STEM report, underrepresented minority students include Black or African American, Hispanic/Latino, and American Indian or Alaska Native students.

Table 5: *Six-year Graduation Rates – 2014 URM and Total Cohorts*

Category	URM	Total
All Majors		
National	57.2%	67.3%
OU	63.0%	72.1%
OSU	53.9%	63.8%
CU	29.9%	34.1%
Any Major		
National	58.1%	69.5%
OU	60.7%	70.7%
OSU	56.6%	64.6%
CU	27.8%	40.2%
STEM Major		
National	36.9%	51.3%
OU	38.5%	49.0%
OSU	40.7%	51.3%
CU	27.8%	38.4%

As seen in Table 5, the overall graduation rates for all students—both the URM and Total cohorts—who began college with an intent to graduate in a STEM major (Any Major category) were higher than those who began college in any major (All Majors category).

To better understand how the three Oklahoma institutions are doing compared to similar institutions nationally, Table 6 provides data based on institutional selectivity. The table shows the six-year graduation rates for the following 2014 URM cohorts by selectivity: 1) students in all majors, 2) students who begin as a STEM major and graduate within any major at the institution, and 3) students who begin as a STEM major and graduate within STEM majors. Selectivity as defined in the CSRDE research is a categorization of institutions based on the average ACT or SAT admission test scores of incoming students. OU and OSU are included in the Highly Selective category. CU is included in the Less Selective category.

- *Highly Selective institutions:*
ACT scores above 24.0 or SAT scores above 1180
- *Selective institutions:*
ACT scores from 22.5-24.0 or SAT scores from 1125-1180
- *Moderately Selective institutions:*
ACT scores from 21.0-22.4 or SAT scores from 1080-1124
- *Less Selective institutions:*
ACT scores below 21.0 or SAT scores below 1080

Table 6: *Six-year Graduation Rates by Selectivity – 2014 URM Cohort*

Category	Highly Selective	Selective	Moderately Selective	Less Selective	All URM
All Majors					
National	69.9%	53.5%	50.8%	46.2%	57.2%
OU	63.0%				
OSU	53.9%				
CU				29.9%	
Any Major					
National	69.9%	53.7%	49.8%	41.3%	58.1%
OU	60.7%				
OSU	56.6%				
CU				27.8%	
STEM Major					
National	48.0%	32.3%	27.9%	21.8%	36.9%
OU	38.5%				
OSU	40.7%				
CU				27.8%	

Table 6 indicates that the graduation rates for underrepresented minority students are positively related to the selectivity of the institution for the cohort in all three categories. We also see that more than half (58.1%) of URM students who began as a STEM major graduated within any major in their institutions, STEM or non-STEM.

The University of Oklahoma’s six-year graduation rates are below the average when compared to All URM students in the All Majors and Any Major groups, and above average in the STEM Major group. Oklahoma State University’s six-year graduation rates are above the average of all URM students in one of the three categories (STEM Major). However, when compared to other institutions within the Highly Selective group, the graduation rates of both OU and OSU’s URM students are below the national average in all three categories (All Majors, Any Major, and STEM Major). Cameron University’s six-year graduation rates were below the average compared to All URM students in each category. However, they are higher than the All URM group in the STEM Major category.

Table 7 provides the six-year graduation rates for all majors, within any major, and within STEM majors for the Total 2014 cohort by selectivity.

Table 7: Six-year Graduation Rates by Selectivity – 2014 **Total** Cohort

Category	Highly Selective	Selective	Moderately Selective	Less Selective	Total
All Majors					
National	77.2%	59.4%	56.0%	50.3%	67.3%
OU	72.1%				
OSU	63.8%				
CU				34.1%	
Any Major					
National	77.7%	60.5%	54.8%	46.9%	69.5%
OU	70.7%				
OSU	64.6%				
CU				40.2%	
STEM Major					
National	59.9%	40.3%	36.5%	28.6%	51.3%
OU	49.0%				
OSU	51.3%				
CU				38.4%	

In Figures 13-15, the national data for the 2013 URM cohort and the Total cohort are provided for comparison, based on the percentages listed in Tables 6 and 7. Figure 13 shows the graduation rates for all students, regardless of their major when they began college. Figure 14 shows the data for students who began as a STEM major at the institution and graduated in any major at the institution. Figure 15 provides the rates for students who began as a STEM major at the institution and graduated within a STEM discipline.

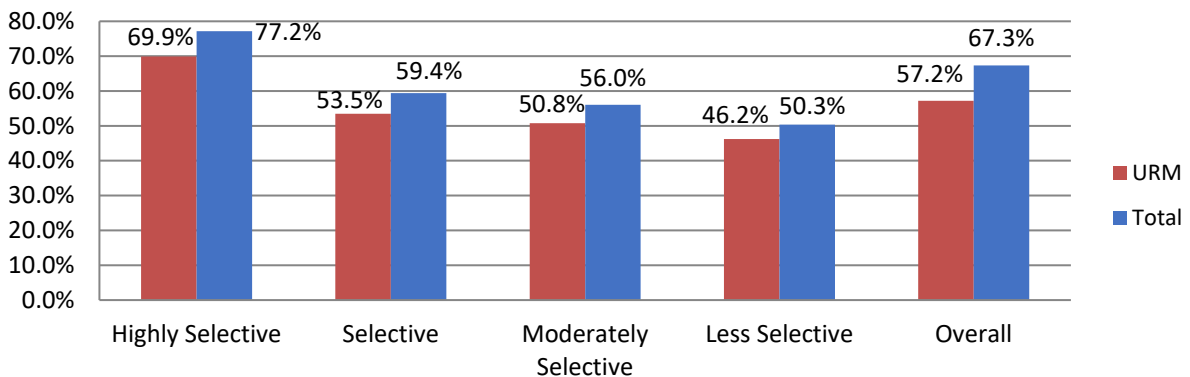


Figure 13: Six-year Graduation Rates for 2014 **URM** and **Total** Cohorts by Selectivity – **All Majors**

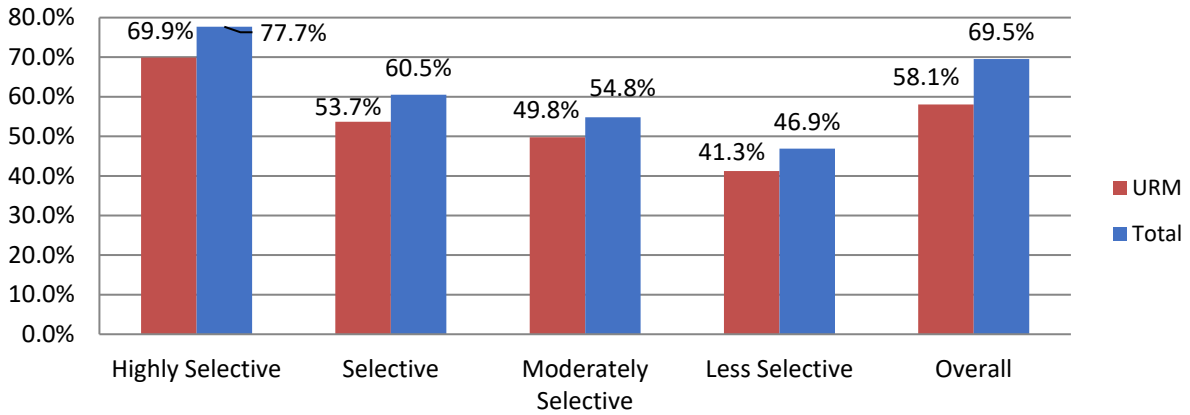


Figure 14: Six-year Graduation Rates for 2014 **URM** and **Total** Cohorts by Selectivity – **Any Major**

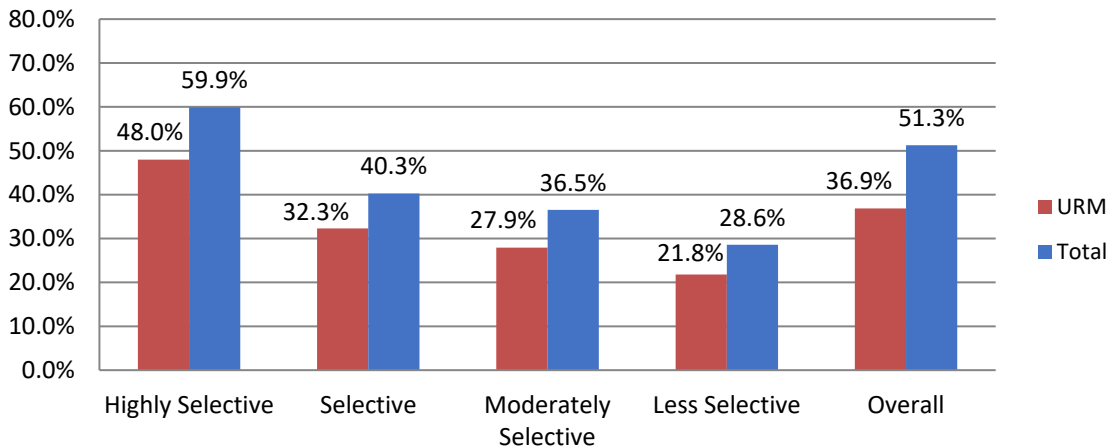


Figure 15: Six-year Graduation Rates for 2014 **URM** and **Total** Cohorts by Selectivity – **STEM Major**

As seen in Tables 6 and 7 and Figures 13-15, the graduation rates of both the Total cohort and the URM cohort of students decreases as the selectivity of the institution decreases. The gap between the graduation rates for URM students and the Total cohort of students is considerable in all institutions.

Retention Rates

Retention is defined as the rate at which the first-time, full-time fall cohort of students return to the institution the following fall. The first year is a critical period in the success of students, and typically this is the point at which departures occur most frequently at many institutions across the country.

In the following discussion using the CSRDE national STEM data, as with the graduation tables, there are three types of retention rates provided for the Total cohorts and the URM cohorts:

- **All Majors** – All Majors identifies the percent of first-time students who began in all majors and continued to the second academic year at their institution.

- **Any Major** - Any Major identifies the percent of students who began as freshman STEM majors and continued to the second academic year in **any major** at their institution.
- **STEM Major** - STEM Major identifies the percent of students who began as freshman STEM majors (the same cohort of students as the Any Major category) and remained **specifically within a STEM field** at their institution as they moved into their second academic year.

In Table 8, the first-year retention rates are provided for the 2019 cohorts of all students in the national study as well as for CU, OU, and OSU. The data for underrepresented minority students are shown as well.

As with the graduation rates, to gain a better understanding of how the three Oklahoma institutions are doing compared to similar institutions nationally, Table 9 provides the retention data based on institutional selectivity. The table shows the first-year retention rates for all majors, within any major, and within STEM majors for 2019 URM cohorts by selectivity.

Table 9 indicates that the retention rates for underrepresented minority students are generally positively related to the selectivity of the institution for all cohorts of students, except for the Less Selective institutions. The retention rates for URM students are slightly higher in Less Selective institutions than Moderately Selective institutions in the STEM Major category.

The University of Oklahoma and Oklahoma State University's first-year retention rates are below the average for URM students within the highly selective group for each of the categories. OU's first-year retention rates were greater than the average for all URM students in the All Majors category; OSU's first-year retention rates were above the average for all URM students in the STEM Major category and the same in the Any Major group. Cameron University's first-year retention rates for URM students were below the average in all categories. Table 10 provides the first-year retention rates of the Total 2019 cohort by selectivity for the national data as well as the three Oklahoma institutions that participated in the study.

Table 8: *First-year Retention Rates – 2019 URM and Total Cohorts*

Category	URM	Total
All Majors		
National	82.2%	85.4%
OU	85.3%	87.1%
OSU	78.6%	84.9%
CU	60.2%	66.8%
Any Major		
National	84.3%	87.8%
OU	83.6%	88.3%
OSU	84.3%	87.2%
CU	64.3%	83.3%
STEM Major		
National	71.0%	76.3%
OU	64.9%	68.2%
OSU	76.1%	82.6%
CU	50.0%	68.3%

Table 9: *First-year Retention Rates by Selectivity – 2019 URM Cohort*

Category	Highly Selective	Selective	Moderately Selective	Less Selective	All URM
All Majors					
National	88.6%	80.5%	77.8%	76.3%	82.2%
OU	85.3%				
OSU	78.6%				
CU				60.2%	
Any Major					
National	89.7%	81.8%	78.9%	77.0%	84.3%
OU	83.6%				
OSU	84.3%				
CU				64.3%	
STEM Major					
National	76.9%	65.5%	64.6%	64.9%	71.0%
OU	64.9%				
OSU	76.1%				
CU				50.0%	

Table 10: *First-year Retention Rates by Selectivity – 2019 Total Cohort*

Category	Highly Selective	Selective	Moderately Selective	Less Selective	Total
All Majors					
National	90.1%	81.6%	78.5%	77.1%	85.4%
OU	87.1%				
OSU	84.9%				
CU				66.8%	
Any Major					
National	91.5%	83.3%	78.4%	78.5%	87.8%
OU	88.3%				
OSU	87.2%				
CU				83.3%	
STEM Major					
National	80.9%	68.8%	65.2%	66.4%	76.3%
OU	68.2%				
OSU	82.6%				
CU				68.3%	

Tables 8-10 show that, generally, both URM students and the Total cohort of students who started as a STEM major (Any Major category) are more likely to continue their education to the second year as compared to those students who start in any major (All Majors category) at the institution, regardless of selectivity. The retention rates of URM students are below the average rate among all races, ranging from 3.2 to 5.3 percentage points lower. However, the gap between the URM students and the total cohort of students is much smaller for the first-year retention rate than it is for the six-year graduation rate (see Tables 5-7 and Tables 8-10). The gap between graduation rates of URM students and all students ranges from 10.1 to 14.4 percentage points, indicating that more URM students are leaving the STEM disciplines after their second year and before they graduate than the Total cohort of students.

In Figures 16-18, the national data for the 2019 URM cohort and the Total cohort are provided for comparison, based on the percentages listed in Tables 9 and 10. Figure 16 provides the first-year retention rates for all students, regardless of their major when they began college. Figure 17 shows the data for students who began as a STEM major at the institution and returned for their second year in any major at the institution. Figure 18 provides the rates for students who began as a STEM major at the institution and continued to their second year within a STEM discipline.

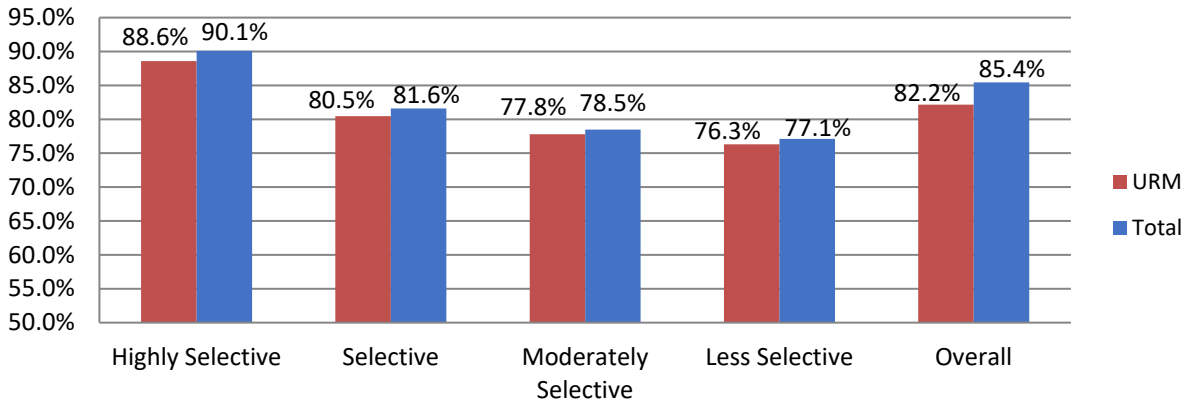


Figure 16: First-Year Retention Rates for 2019 URM and Total Cohorts by Selectivity – All Majors

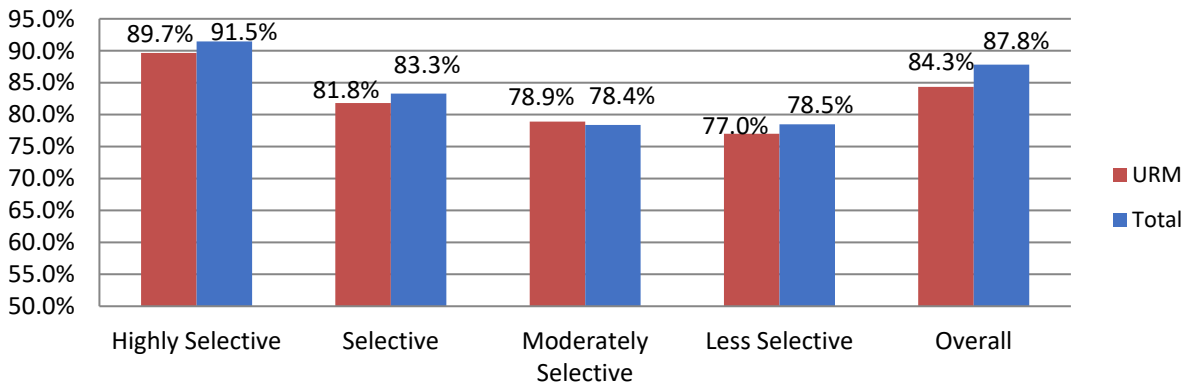


Figure 17: First-Year Retention Rates for 2019 URM and Total Cohorts by Selectivity – Any Major

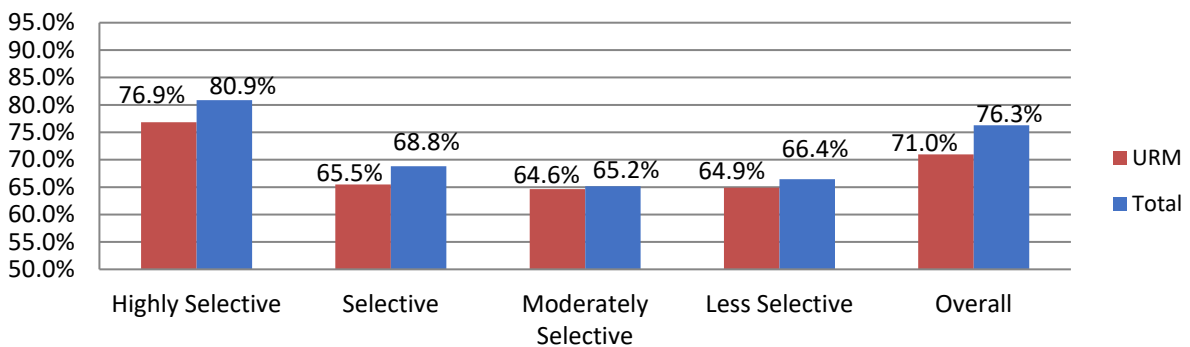


Figure 18: First-Year Retention Rates for 2019 URM and Total Cohorts by Selectivity – STEM Major

Summary

Providing a comparison between the retention rates of the national freshman cohorts and the retention of students in the OK-LSAMP program is difficult due to the focus on upperclassmen in this project. However, we can look at the retention of OK-LSAMP scholars within the evaluation period

covered in this report.

Based on the data from the OK-LSAMP program office, a total of 205 students participated in Summer and Fall 2021. Of those 205 scholars, 23 graduated and 14 students left the program before the beginning of the Spring 2022 semester. Thirty new students became OK-LSAMP scholars during the Spring 2022 semester, for a total of 198 scholars participating in the spring. As of the end of the Spring 2022 semester, 47 students graduated and three were known to have left the program. It is anticipated that 74.7% of the Spring 2022 scholars will still be in the program for Fall 2022. The persistence rates for each semester (continuing students plus graduates) are excellent: 93.2% continued from the Summer and Fall 2021 to Spring 2022 semester or graduated; 98.5% of scholars in the program during the Spring semester either graduated or were still in the program at the end of the semester. Table 11 shows the retention and graduation data for OK-LSAMP scholars during the Summer/Fall 2021 and Spring 2022 semesters.

These rates are a strong indication that the OK-LSAMP program is succeeding in helping its students continue and graduate with STEM degrees. The support the OK-LSAMP program provides these students is proven to be effective.

Table 11: *OK-LSAMP Graduation and Retention Data, Summer/Fall 2021 and Spring 2022*

	Total Participating OK-LSAMP Scholars	Graduates Before Next Semester		Known Departures Before Next Semester		Continued to Following Semester (Fall 2021 to Spring 2022 Known; Spring 2022 to Fall 2022 Anticipated)		Persistence (Graduates and Continuing Students)	
		Count	%	Count	%	Count	%	Count	%
Summer/Fall 2021	205	23	11.2	14	6.8	168	82.0	191	93.2
Spring 2022	198	47	23.7	3	1.5	148	74.7	195	98.5

Section 4: Overall Report Summary and Recommendations

Over the course of the project, the OK-LSAMP institutions have attempted to support their underrepresented minority students as they move through their academic undergraduate careers as STEM majors. Review of the participation data from the OK-LSAMP Alliance coordinators shows that if students are in the program as upperclassmen, they most likely will graduate in a STEM discipline. This evaluation shows that 44.9% of the seniors (70 of 156) graduated during the evaluation period and all but eight of the remaining seniors were still in the program at the end of the spring semester. However, the Alliance did not meet its goal to graduate at least 88 OK-LSAMP scholars during this evaluation period. Of the 70 students who graduated, 12 scholars were accepted into graduate school in a STEM discipline, falling short of the goal to have 30 students advance to graduate work during this reporting period.

The seniors who did not graduate during the 2021-2022 academic year appear to be on track for graduation and graduate-school readiness. Of the 86 seniors who participated in the program during this reporting period who did not graduate, 90.7% (78 of 86) had a GPA of 3.0 or greater, 54.7% (47 of 86) participated in research during this academic year, and 36.0% (31 of 86) had participated in at least one summer internship. Only eight were known to have left the program during the reporting period. Therefore, 78 senior scholars (90.7%) were expected to continue in the program in Fall 2022 to pursue their STEM degree. As noted earlier in the report, the Alliance is considerably short of its goal to graduate 440 scholars before the end of the five-year funding period. To reach the goal, the program must graduate an additional 208 students in the next two years. With 78 seniors presumed to continue in Fall 2022, the program would need to add 26 more seniors, and have them all graduate, to reach 104 graduates (half of the needed 208) for the 2022-2023 period.

Recruiting new scholars is crucial to the success of the program. The Alliance added 74 new scholars during this reporting period, slightly short of its goal of 79 new students. However, they are still on target to reach their five-year goal of 395 if they recruit 154 new scholars over the next two years. The retention rate of its students (89.7%) fell below the baseline (93.0%).

While Covid-19 may have affected the Alliance's ability to meet some of its goals, none has been more affected than the one related to increasing international experiences. Because travel was not possible for almost two years, meeting this goal will be difficult. The goal for the five-year funding period is for 81 OK-LSAMP scholars to have an experience abroad, which includes study abroad, international internships, international research, or international conference presentations. The 2021-2022 data from the OK-LSAMP program office shows that six additional students have participated in an international experience, for a total of 33 experiences. An additional 48 experiences must be reported within the next two years for this goal to be reached. We are aware of 13 international trips that were cancelled in the 2019-2020 and 2020-2021 academic years due to Covid-19, and there could be more that were not reported.

Based on the results of our online student surveys conducted in Fall 2021 and Spring 2022, the scholars are pleased with their experiences in the program. Almost twice as many scholars responded about the strengths of the program than those who provided comments about the weaknesses. They rated their mentoring experiences very high, they felt that the group meetings they attended were helpful in their STEM studies; they participated in summer internships; attended and presented at professional meetings; and were encouraged to take the GRE and apply to graduate school. The following section outlines several recommendations for continued success of the program.

Results of 2020-2021 Recommendations for Continued Success in the OK-LSAMP Program

1. Host a half- or full-day workshop for increasing international experience

Last year we recommended that the program office host an Alliance-wide workshop to help scholars learn more about the advantages of international experiences and how to pursue one to help increase those experiences.

The Alliance did provide a workshop at their 27th Annual Research Symposium in Fall 2022, which was hosted in-person and virtually.

2. Increase research opportunities for scholars

Data from the OK-LSAMP program office indicated that 62.6% of the seniors (102 of 163) identified during the 2020-2021 evaluation period participated in research during at least one semester, and 32.5% of these scholars participated in both Fall 2020 and Spring 2021. The numbers were similar for juniors: 52.9% (27 of 51) participated in research at some point during that funding period. We recommended that the program increase the number of mentors to provide more research opportunities for scholars.

A total of 81% of the juniors and seniors from 2020-2021 had a mentor, and 60% of the scholars conducted research. During the 2021-2022 funding period, 80% of juniors and seniors had a mentor, but only 50% of these scholars conducted research. Therefore, the Alliance did not increase the percentage of upperclassmen with a mentor, although the decrease was very small. However, the percentage of juniors and seniors conducting research decreased by 10%.

3. Provide more opportunities for students to interact

Last year we suggested that each Alliance institution continue to hold regular group meetings on their campuses and consider how students could participate in the planning and activities, as well as share their research. Based on their responses to the surveys from 2020-2021, scholars were eager to get together with their peers in-person in the 2021-2022 academic year. Many noted that the most helpful part of the group meetings was interacting with other scholars.

Although we did not receive specific information from the Campus Program Managers about the content of the meetings, based on comments from students in the 2021-2022 surveys, the scholars continued to report that the meetings were helpful. It appeared that several of the meetings were still being conducted virtually, and several students noted that they would like to meet more often in person. In cases where students indicated that there were no meetings on their campus, we saw responses from others at that institution who attended meetings.

During the past year, the OK-LSAMP program allowed students to join virtual group meetings from other Alliance institutions, which we believe was a positive outcome from moving to an online format during Covid-19. In addition, at the Research Symposium in the fall, Alliance hosted a Student Networking Event the evening before the Symposium began to allow an opportunity for the scholars to interact.

4. More communication

Based on the responses in the 2020-2021 scholar surveys, students asked for more

communication about the program and guidance with issues such as finding a mentor. We recommended that Alliance institutions that were not holding regular meetings, sending consistent communication to their scholars, and providing them with needed guidance do so.

The OK-LSAMP program office sends emails every week to scholars, informing them of upcoming opportunities. In addition, they promote activities on their social media pages and send additional emails as needed to highlight specific events.

Recommendations for Continued Success in the OK-LSAMP Program

1. Diversify means of communication

As noted above, the Alliance sends weekly emails to the scholars providing details about scholarships, internship opportunities, conference options, and more. Since students continue to note that communication needs to improve, it could be that these students are not regularly reading their emails. The Alliance may want to consider texting as another means of communication. There are software options that offer texting to students, and we recommend that the Alliance research these possibilities. This would allow for an additional way to communicate with the students, which may prove to be successful.

2. Provide another workshop to increase international experiences

The Alliance held a workshop in Fall 2021 at the Research Symposium where three presenters shared their experiences with international study and travel, as previously stated. We recommend that OK-LSAMP offer a workshop again at the 2022 Symposium. In addition, we suggest that another opportunity is given in the 2022-2023 academic year, preferably in the Fall semester, sometime after the Symposium, to allow time for students to learn more about pursuing an experience in Summer 2023. Since only about one-third of the scholars in the 2021-2022 academic year attended the Symposium, this additional workshop could reach more students. It could include more specific information about the process: how to start, where to find opportunities abroad, how to fund the travel, passport information, etc.

3. Follow up with alumni about graduate school

During the 2021-22 period, the Alliance learned of two alumni who applied to graduate school after they had left the OK-LSAMP program. We recommend that the Alliance follow up with previous graduates to learn about their career and graduate school plans. There may be more students who benefitted from the OK-LSAMP program and were eligible for graduate school but may have chosen to wait a year or more before applying. If more students are applying and getting accepted into graduate school after they have left the program, these students can help the Alliance reach their goal for the five-year funding period.

4. Continue to offer opportunities for networking among scholars

Spending time with other scholars, including sharing research with peers, can have a positive effect on students in the program and may help increase the retention and graduation of the scholars. We recommend the Alliance continue to focus on these opportunities in the 2022-2023 academic year.

Appendix 1: Institution-Specific Details

Below is a summary of activities for each of the OK-LSAMP institutions. For each institution, the number of participants is identified as well as a few data points related to scholar support. These results are based on data from the OK-LSAMP program office. Not included in this report is a list of the titles of the papers, presentations, and research projects that the participants completed. This data is available from the Alliance Office at Oklahoma State University.

Cameron University

Participants

- 9 students were included in this evaluation
- 1 was a sophomore, 3 were juniors, and 5 were seniors

Support

- 0 of 9 students included in this evaluation (0.0%) received funding during Summer 2021, Fall 2021, and/or Spring 2022
- 0 of 9 students (0.0%) participated in at least one summer internship during college

Graduate School Preparation

- 2 of 9 students (22.2%) conducted research in summer, fall, or spring
- 2 of 9 students (22.2%) attended at least one conference or symposium during summer, fall, or spring
- 7 of 9 students (77.8%) had a minimum GPA of 3.0

Results

- 1 of 5 seniors (20.0%) graduated
- 0 of 5 seniors (0.0%) took the GRE
- 0 of 1 graduate (0.0%) applied to graduate school in a STEM discipline
- 0 of 0 graduates (0.0%) who applied to graduate school were accepted in a STEM discipline

East Central University

Participants

- 8 students were included in this evaluation
- 1 student was a sophomore, 1 was a junior, and 6 were seniors

Support

- 6 of the 8 students included in this evaluation (75.0%) received funding during Summer 2021, Fall 2021, and/or Spring 2022
- 6 of 8 students (75.0%) participated in at least one summer internship during college

Graduate School Preparation

- 6 of 8 students (75.0%) conducted research in summer, fall, or spring
- 6 of 8 students (75.0%) attended at least one conference/symposium during summer, fall or spring
- 7 of 8 students (87.5%) had a minimum GPA of 3.0

Results

- 2 of 6 seniors (33.3%) graduated
- 2 of 6 seniors (33.3%) took the GRE
- 1 of 2 graduates (50.0%) applied to graduate school in a STEM discipline
- 1 of 1 graduate (100.0%) who applied to graduate school were accepted in a STEM discipline

Langston University

Participants

- 36 students were included in this evaluation
- 7 students were sophomores, 10 were juniors, and 19 were seniors

Support

- 20 of the 36 students included in this evaluation (55.6%) received funding during Summer 2021, Fall 2021, and/or Spring 2022
- 19 of 36 students (52.8%) participated in at least one summer internship during college

Graduate School Preparation

- 21 of 36 students (58.3%) conducted research in summer, fall, or spring
- 25 of 36 students (69.4%) attended at least one conference/symposium during summer, fall or spring
- 35 of 36 students (97.2%) had a minimum GPA of 3.0

Results

- 8 of 19 seniors (42.1%) graduated
- 1 of 19 seniors (5.3%) took the GRE
- 0 of 8 graduates (0.0%) applied to graduate school in a STEM discipline
- 0 of 0 graduates (0.0%) who applied to graduate school were accepted in a STEM discipline

Northeastern State University

Participants

- 11 students were included in this evaluation
- 1 student was a sophomore, 2 were juniors, and 8 were seniors

Support

- 7 of the 11 students included in this evaluation (63.6%) received funding during Summer 2021, Fall 2021, and/or Spring 2022
- 2 of 11 students (18.2%) participated in at least one summer internship during college

Graduate School Preparation

- 7 of 11 students (63.6%) conducted research in summer, fall, or spring
- 3 of 11 students (27.3%) attended at least one conference/symposium during summer, fall or spring
- 7 of 11 students (63.6%) had a minimum GPA of 3.0

Results

- 2 of 8 seniors (25.0%) graduated
- 0 of 8 seniors (0.0%) took the GRE
- 1 of 2 graduates (50.0%) applied to graduate school in a STEM discipline
- 1 of 1 graduate (100.0%) who applied to graduate school were accepted in a STEM discipline

Northwestern Oklahoma State University

Participants

- 6 students were included in this evaluation
- 2 students were juniors, and 4 were seniors

Support

- 6 of the 6 students included in this evaluation (100.0%) received funding during Summer 2021, Fall 2021, and/or Spring 2022
- 0 of 6 students (0.0%) participated in at least one summer internship during college

Graduate School Preparation

- 2 of 6 students (0.0%) conducted research in summer, fall, or spring
- 0 of 6 students (0.0%) attended at least one conference/symposium during summer, fall or spring
- 6 of 6 students (100.0%) had a minimum GPA of 3.0

Results

- 1 of 4 seniors (25.0%) graduated
- 0 of 4 seniors (0.0%) took the GRE
- 0 of 1 graduate (0.0%) applied to graduate school in a STEM discipline
- 0 of 0 graduates (0.0%) who applied to graduate school were accepted in a STEM discipline

Oklahoma Panhandle State University

Participants

- 5 students were included in this evaluation
- 1 student was a freshman, 1 was a sophomore, 1 was a junior, and 2 were seniors

Support

- 3 of the 5 students included in this evaluation (60.0%) received funding during Summer 2021, Fall 2021, and/or Spring 2022
- 0 of 5 students (0.0%) participated in at least one summer internship during college

Graduate School Preparation

- 3 of 5 students (60.0%) conducted research in summer, fall, or spring
- 3 of 5 students (60.0%) attended at least one conference/symposium during summer, fall or spring
- 4 of 5 students (80.0%) had a minimum GPA of 3.0

Results

- 2 of 2 seniors (100.0%) graduated
- 0 of 2 seniors (0.0%) took the GRE
- 0 of 2 graduates (0.0%) applied to graduate school in a STEM discipline
- 0 of 0 graduates (0.0%) who applied to graduate school were accepted in a STEM discipline

Oklahoma State University

Participants

- 82 students were included in this evaluation
- 2 students were freshmen, 7 were sophomores, 17 were juniors, and 56 were seniors

Support

- 32 of the 82 students included in this evaluation (39.0%) received funding during Summer 2021, Fall 2021, and/or Spring 2022
- 34 of 82 students (41.5%) participated in at least one summer internship during college

Graduate School Preparation

- 32 of 82 students (39.0%) conducted research in summer, fall, or spring
- 32 of 82 students (39.0%) attended at least one conference/symposium during summer, fall or spring
- 64 of 82 students (78.0%) had a minimum GPA of 3.0

Results

- 31 of 56 seniors (55.4%) graduated
- 4 of 56 seniors (7.1%) took the GRE
- 4 of 31 graduates (12.9%) applied to graduate school in a STEM discipline
- 4 of 4 graduates (100.0%) who applied to graduate school were accepted in a STEM discipline

Southeastern Oklahoma State University

Participants

- 15 students were included in this evaluation
- 1 was a sophomore, 4 were juniors, and 10 were seniors

Support

- 13 of the 15 students included in this evaluation (86.7%) received funding during Summer 2021, Fall 2021, and/or Spring 2022
- 0 of 15 students (0.0%) participated in at least one summer internship during college

Graduate School Preparation

- 8 of 15 students (53.3%) conducted research in summer, fall, or spring
- 8 of 15 students (53.3%) attended at least one conference/symposium during summer, fall or spring
- 15 of 15 students (100.0%) had a minimum GPA of 3.0

Results

- 2 of 10 seniors (20.0%) graduated
- 0 of 10 seniors (0.0%) took the GRE
- 0 of 2 graduates (0.0%) applied to graduate school in a STEM discipline
- 0 of 0 graduates (0.0%) who applied to graduate school were accepted in a STEM discipline

Southwestern Oklahoma State University

Participants

- 12 students were included in this evaluation
- 1 was a sophomore, 1 was a junior, and 10 were seniors

Support

- 10 of the 12 students included in this evaluation (83.3%) received funding during Summer 2021, Fall 2021, and/or Spring 2022
- 7 of 12 students (58.3%) participated in at least one summer internship during college

Graduate School Preparation

- 10 of 12 students (83.3%) conducted research in summer, fall, or spring
- 10 of 12 students (83.3%) attended at least one conference/symposium during summer, fall or spring
- 12 of 12 students (100.0%) had a minimum GPA of 3.0

Results

- 3 of 10 seniors (30.0%) graduated
- 0 of 10 seniors (0.0%) took the GRE
- 1 of 3 graduates (33.3%) applied to graduate school in a STEM discipline
- 0 of 1 graduate (0.0%) who applied to graduate school were accepted in a STEM discipline

University of Central Oklahoma

Participants

- 6 students were included in this evaluation
- 2 were juniors, and 4 were seniors

Support

- 6 of the 6 students included in this evaluation (100.0%) received funding during Summer 2021, Fall 2021, and/or Spring 2022
- 2 of 6 students (33.3%) participated in at least one summer internship during college

Graduate School Preparation

- 6 of 6 students (100.0%) conducted research in summer, fall, or spring
- 3 of 6 students (50.0%) attended at least one conference/symposium during summer, fall or spring
- 6 of 6 students (100.0%) had a minimum GPA of 3.0

Results

- 1 of 4 seniors (25.0%) graduated
- 0 of 4 seniors (0.0%) took the GRE
- 0 of 1 graduate (0.0%) applied to graduate school in a STEM discipline
- 0 of 0 graduate (0.0%) who applied to graduate school were accepted in a STEM discipline

University of Oklahoma

Participants

- 32 students were included in this evaluation
- 2 students were freshmen, 8 were sophomores, 3 were juniors, and 19 were seniors

Support

- 21 of the 32 students included in this evaluation (65.6%) received funding during Summer 2021, Fall 2021, and/or Spring 2022
- 10 of 32 students (31.3%) participated in at least one summer internship during college

Graduate School Preparation

- 14 of 32 students (43.8%) conducted research in summer, fall, or spring
- 23 of 32 students (71.9%) attended at least one conference/symposium during summer, fall or spring
- 29 of 32 students (90.6%) had a minimum GPA of 3.0

Results

- 7 of 19 seniors (36.8%) graduated
- 2 of 19 seniors (10.5%) took the GRE
- 4 of 7 graduates (57.1%) applied to graduate school in a STEM discipline
- 4 of 4 graduates (100.0%) who applied to graduate school were accepted in a STEM discipline

University of Tulsa

Participants

- 13 students were included in this evaluation
- All 13 students were seniors

Support

- 11 of the 13 students included in this evaluation (84.6%) received funding during Summer 2021, Fall 2021, and/or Spring 2022
- 8 of 13 students (61.5%) participated in at least one summer internship during college

Graduate School Preparation

- 10 of 13 students (76.9%) conducted research in summer, fall, or spring
- 8 of 13 students (61.5%) attended at least one conference/symposium during summer, fall or spring
- 13 of 13 students (100.0%) had a minimum GPA of 3.0

Results

- 10 of 13 seniors (76.9%) graduated
- 2 of 13 seniors (15.4%) took the GRE
- 1 of 10 graduate (10.0%) applied to graduate school in a STEM discipline
- 1 of 1 graduate (100.0%) who applied to graduate school were accepted in a STEM discipline

Appendices 2-7 include student responses to the Fall 2021 and Spring 2022 online surveys. Responses have not been edited. If three or more responses to the same question were the same, we noted it once and included a count in parentheses.

Appendix 2: Scholar Responses About Group Meetings

What was most helpful about the group meetings that you attended? (Fall 2021)

A lot of excitement, and useful information to help myself be more progressive, and the ideal that I can make it to grad school, and that I will have support going through it.

Advice and guidance

Advise the program directors gave about getting involved in research

Being able to discuss upcoming opportunities and networking.

Being able to talk with the other students.

Can't recall, but I liked it

Discovering new opportunities

Faculty explaining the benefits and nature of what the goals of the program are.

Future things we need to fill out and reminders

Getting information from a speaker and interacting with fellow LSAMP members

Getting me oriented with the LSAMP program

Getting to connect with all of the students in OK-LSAMP on campus.

Getting to discuss research with my peers.

Getting to know other scholars and my mentor better, makes me feel more connected to them.

Getting to meet other people

I presented my research at one of the meetings, and it was helpful getting feedback on my presentation.

I was allowed the opportunity to observe what normalcy within participation could look like... I was harassed by admins, couldn't participate in conferences.

Information

Information

Information given

Information on seeking graduate school funding.

Information on upcoming conferences

Information sharing, opportunities and information sharing.

It helped inform me of upcoming deadlines and opportunities.

Knowing there are other students like me in other schools across the country.

Learning about extra opportunities

Learning about internship and presentation opportunities

Learning from the speakers about the various resources and opportunities that are available to us now

and later down the line as well.

Letting us know what was going on and what was coming up in the program.

Meeting new people.

N/a

Opportunities

Opportunity awareness

Orientation in September

Talking about future research opportunities.

Talking to other

That they were information packed

The community.

The guest speakers

The information about how the research symposium will go.

The information she provided to us

The information that was given

The last one

The meetings were more so informational meetings than anything.

The opportunities that are available to me.

There was a lot of information put out.

What was most helpful about the group meetings that you attended (Spring 2022)

Explanation of what exactly to expect out the program

Finance

Getting general advice

Getting info directly

Getting to talk with my peers about their research and getting tips about how to improve my research methods

Grad school prep

Hearing opportunities.

I liked learning about things I could start now, like learning to network or create an attractive LinkedIn profile.

I loved learning about the opportunities for my future, but I also know vaguely about some of the resources so sometimes I don't need all the information

I was kept up to date about deadlines.

I wish there was more communication.

Information about the opportunity available to us

Informative about the research opportunities and kept current updates within the program

Insightful guests

It allowed me to be more attentive on due dates for things

It was great to learn about opportunities for internships and conferences.

It was helpful being able to hear about opportunities from other scholars and have support from them via Zoom.

Just general updates on events that would be beneficial to help us improve as young researchers

Just organizing events

Learning about new opportunities

Learning about research and grant opportunities

Listening to each student's achievements that they have done during the month, encourages me to continue with my studies.

Loved talking about stress relief and how to set time aside for one's own mental and physical well-being

Making sure we saw information emailed to us.

Meeting people

Not sure

Presentation information

Provided amazing opportunities

Provided great information and informed on things I didn't know

Seeing what others were doing.

Seeing who was apart of OK-LSAMP on my campus

Talked about enrollment

The feedback

The info

The information available.

The information given

The information provided

The insight and intel about upcoming events and graduate program opportunities along with internships.

The knowledge learned

The support with resources and constant communication was helpful.

These group meetings were very informative and gave me a lot of insight on different opportunities.

They were informative

What was least helpful about the group meetings you attended? (Fall 2021)

"Applying to Graduate School" was the least helpful for me as it did directly apply to me or what my future plans are. However, it was nice to hear from professionals and my peers who are embarking on those journeys.

Because of Covid, there haven't been a lot of gatherings.

Clarity on actual requirements for the program on a semester basis.

Collaboration

How long they were.

I cannot think of any part of the meeting being any less than helpful and informative

I honestly don't have anything to say about this

I learned how to ask people how much their dads made.

I wish they all were on zoom

It did take quite a while.

Kind of hard to fit in my schedule.

N/A (10 students had this response)

Networking event prior to symposium

Nothing

Nothing

Nothing, everything was helpful.

Progression and records.

Story times

That they weren't enough of them

The competing part

The speakers

There is little to no mention about research.

There was a group meeting pertaining to engineering students, and it wasn't helpful for my career field.

We got of topic quite a bit .

What was least helpful about the group meetings you attended? (Spring 2022)

Already known information

Everything was worth it

I believe that maybe the time of the meetings could be cut shorter.

I can't say

I did not like the mental health talk it. I did not like that speaker.

I enjoyed all of it and found it all useful

I have no comment.

It was least helpful whenever there would not be information applicable to my field.

N/A (9 students had this response)

No complaint.

None

Not sure

Nothing

Nothing

Nothing at the moment.

Often, material seemed geared to students who were planning to attend graduate school.

Organizing a laboratory and getting the most out of the team, it felt very high level compared to where I currently stand

Personally didn't sound like anything I would do

Some topics were not as relevant for me since I am a graduating senior and have already been accepted to grad school

Sometimes the scheduling was not the best time the worked for me.

Talking about the professors random life experiences also she was late to the meeting

The lack of communication.

The time was difficult to maintain since I live in a different time zone and work until 7 PM Oklahoma time.

We got off topic sometimes

What would you change for future group meetings? (Fall 2021)

Account for the varying levels and actual depth of individual's projects.

Add in some in person meetings.

For events such as the networking event, I would have put different people in charge. The hosts seemed almost embarrassing.

Having an agenda for meetings

Having the meetings recorded, so if the time isn't amenable to all participants schedules they can still catch up on what's being discussed

I would enjoy having more meetings or a cultivated space to interact with some of my peers.

I would have them be recorded for the people that can't make it due to other responsibilities.

I would like if they could be in person so that we can interact more and connect with our mentors, speakers and peers on a deeper level.

I would like there to be at least a few minutes where we talk about how to conduct research.

I would like to do some in-person, COVID permitting.

I would like to have a couple more meetings.

I would make an announcement before each one

I would make sure to have more meetings

I wouldn't change anything

Increase audience engagement. While I don't necessarily like speaking/engaging, I have found that forcing myself to do this has helped me with my communication skills.

Make them more consistent

Make them shorter

More communication among peers

More documentation

More future group meetings would include conversing with other scholars, preferably in person.

More information about presenting research

More interactive

More snacks

N/A (8 students had this response)

No

Nothing (3 students had this response)

Nothing they were great

Our advisor getting to know us and actually helping us figure things out

The occurrence they happen

Yes

What would you change for future group meetings? (Spring 2022)

Adding more time to discuss the resources LSAMP provides

All in person because people have gotten lazy when it comes to going to events

Change the date and time

I don't believe there is anything I would change other than the length of the meetings.

I don't think I would change anything

I have no comment.

I think having the meetings later in the evening would be more convenient for the students.

I think they run smoothly and are very helpful. I also like they are both in person or on zoom.

I would allow group meetings to be in person.

I would change the days that they are arranged for other obligations occur.

I would definitely try and make them in-person

I would have a consistent schedule with more notice.

I would make them more consistent

I would make them shorter.

I would probably reach out to the scholars and give them some sort of autonomy as far as deciding who/what speakers will be made available to us (if possible).

I would try to make meetings more intentional

Meeting more consistently throughout the month.

More concise and to the point

More interactives

More social discussions

N/A

No changes in mind

No complaint.

None

Not all of us want to attend grad school or even know how to start with research, so I would like to see a meeting at the beginning of the semester introducing the OK-LSAMP program and steps to take regarding finding a mentor.

Nothing (4 students had this response)

Nothing yet.

Organize better

The duration/time period to ask questions if applicable, otherwise very informal

The length of meeting

Do you have any other comments regarding group meetings? (Fall 2021)

Could not attend most because they conflicted with my class schedule

N/A (8 students had this response)

No (5 students had this response)

No I do not

None

None

Nope

Not at this time

Not at this time

Subject matter is usually very good

Do you have any other comments regarding group meetings? (Spring 2022)

I do not.

I wish we met in person

It's perfect

N/A (9 students had this response)

No (6 students had this response)

No comment.

None

None

They can be helpful, especially if they manage attendance.

You should announce the meetings the week of

Appendix 3: Scholar Responses About Mentor Support

Do you have any comments regarding your Fall 2021 research experience?

I am enjoying it and grateful for the opportunity.

I did it with a professor who always accepts help with [project], so I essentially helped with another student's research

It has been a great experience.

It has been great!

It is helping me gain so much experience

It made me fall in love with research.

It's been tough. It's my first-time doing research. It is [topic] related, so I feel lost a lot of the time.

N/a

N/A

Do you have any comments regarding your Spring 2022 research experience?

I had some research experience, but it was very little. I am very excited to be getting more research experience at my internship this summer.

I have attended alot of conferences!

I love it

It has been a wonderful experience and has widen my desire to pursue a graduate program in [subject area].

It was lovely and I think everyone should do it.

It was more assisting with a research project at my schools research farm

It's pretty difficult to get started on the projects and it is difficult to find places to present at times.

Lots of fun, critical thinking, and math! I love the hands-on working experience I am receiving!

Many different experiments were conducted.

My experiences have been phenomenal.

N/A

N/A

No

Perfect

The beginning of this year my research paused due to [family situation]. I am starting my work again on [research topic].

The professor I work with has been extremely supportive and has provided immense mentorship throughout this research opportunity. I consider myself tremendously lucky to have been able to conduct research where I can hone my skills and learn new material.

Vary nice

Was halted due to my Professor dealing with a family crisis

How did your research mentor help you? (Fall 2021)

Answers any question I have.

By connecting me to resources and helping me with issues that I come across along the way.

By helping me come up with my research methods and providing equipment and lab space.

By helping me with research tasks, professional advice, and letter of recommendation.

Career preparation/development

He has always assisted me in abstract and poster creations as well as introducing me to new computer programs to do research with.

Emotional support and advice

Encouragement and critiques.

Explaining concepts I weren't familiar with

Exposed me to new research tools such as ANOVA.

Guidance on important research questions

Guide me through the setup of my experiments and meaning of results.

Guided all labs

Hands-on

He aided the development of my project, gave me samples to work with, taught me everything I know and actively encouraged me throughout my research.

He gave me advice asked me if I needed help with anything and provided information to help me move forward with doubts, opportunities, etc.

He gave me an opportunity to learn and grow in a different area of expertise.

He guided me toward my goal of [student's project goal].

He has been helpful in guiding me through the process of writing results and asking important questions. He has also been there for me when I needed help.

He has connected me to so many different opportunities to benefit my future and truly cares about me.

He has helped my entire college career and figuring out what I want to do after undergrad.

He taught me how to properly run a scientific experiment, complete with hypothesizing and interpreting results.

Help me grow as a presenter

Help with scholarship and conference preparation

Helped me find research presentation opportunities

Helped me write a cohesive project plan, abstract, and REU application.

Instructing me on how to perform [specific items related to research].

Introduced me to new opportunities and help me get set up to do research next semester

My mentor has advised me of some opportunities that are coming in the following semesters for research.

My mentor helped me to stay on track with deadlines and research projects.

My mentor is very supportive of the students in his group, he is always available foot questions or advice. We have weekly meetings either group or individual. He is also very understanding and knows that life happens and sometimes you have to step back for a few days to deal with family or other things.

My research mentor explained the reasoning for her approach to the experiment and what I should expect going forward as a student going into research.

My research mentor helped me access material I needed to further my study.

My research mentor is amazing, she is continuing to help me attend at other conferenes.

My research mentor promptly responds to emails and is readily available whenever I need help.

Provided conference opportunities and support

Provided me with opportunities to enhance my research skills and social networking.

She guided me through the unknown.

She has given me guidance, tools for research and abundance of opportunities

She kept me updated on available scholarship and internship applications and helped me develop my presentations and abstracts.

She provided me with some graduate programs that use LSAMP.

She sent me resources.

She taught me how to build a good poster and was always willing to answer any questions I had.

Showed me different opportunities to future my education

This semester I had a lot of complications that occurred in my research and my mentor helped me discover how to solve my problems that I was having and was very supportive

Very communicative abs flexible with my school schedule

Was always available, helped decide career goals.

We had weekly meetings and he was always available if I needed help.

Weekly Zoom meetings and in-person meetings (as needed).

How did your research mentor help you? (Spring 2022)

Advice and opportunity

Always available and helpful

Answering my questions and offering guidance

Being patience with me and offering assistance after hours if necessary/

By guiding me through the projects.

By providing a presentation poster file as well as research data

Committed and taught me knew skills that sparked new interest.

Constant support including in my [fellowship] application and other research skills I want to learn

Design setup and results interpretation.

She helped me reach out to the OK-LSAMP program and explained me how to complete the application.

Editing, connecting me with related research

Explained aspects of the research that I did not understand

Feedback and keeping me updated on opportunities

Gave me pdfs and textbooks that I can find to learn from and start researching topics.

Gave me the tools I need, and listened to my concerns I had about my research.

Guided me and helped me figure out how to process research data

He did an amazing job helping me prepare for the [name of meeting] held in [name of city] this year.

He explained various steps to experiments with detail and suggested further resources for additional support if needed. My professor assigned graduate students to oversee my work when he was not available. He made sure at every step of the way, there was someone there with me who had experience to correct me if a technique of mine was off.

He finds amazing opportunities for me and directs me to improve my research and communication skills.

He helped me better understand linear algebra

He is a large reason why I will be attending Grad school in the fall, and he has been a huge help in learning how to navigate college and everything that comes after.

He was readily available to help me at any time with my project and he scheduled two meeting a week to make sure I was staying on track.

Help me learn how to present at a conference

Helped assist me with things within the lab and helped me find resources for opportunities.

Helped me with gathering materials and preparing for presentations

I think my research mentor is kind and helpful when I ask questions

I was kept aware of opportunities that would benefit me and up to date on OK-LSAMP related activities.

Intellect, emotional, and academically!

My mentor guided my research project and has helped me improve my presentation skills.

My mentor has helped me conduct research this semester

My mentor is available for me at times that I didn't think I would be able to reach him. He is also very patient as I am facing a learning curve due to small experience with coding.

My research mentor has been helpful in that she answers every and any question I have and is very supportive in all my research endeavors. She encourages her lab team to attend conferences and get involved in opportunities in her lab and beyond. She also introduces us to summer internships or jobs related to our research fields. She also encourages us to support one another at conferences.

My research mentor helped me to get my summer internship and showed me various scholarship opportunities.

Offered many opportunities to work on projects.

Offered presentation and new research opportunities.

Presented me with many internship opportunities to build my resume and is always available as a reference and Available when needed

Professional Development

Provided me with supplies needed for my experiments and support

Provided me with the best information and possible way to help publicize the work I have done and introduced me to other forms of research.

Scholarship opportunity

She has helped me better understand my project while pushing me to present and increase my presentation skills.

She helped me refine my presentation skills and learn technical knowledge for my research project.

She is very patient with me since I am fairly new to research and if I make a mistake, she is understanding and assures me everything will be okay.

Supportive of class schedule

Taught me the importance of taking detailed notes for my projects

There to answer questions.

They encouraged me to do the [name of conference] and the research colloquium at my school. They also encouraged me to apply for a research grant.

They have helped me develop laboratory skills in the disciplines I am interested in, as well as aiding in my development of soft skills and presentation ability.

They provided me with help for graduate school applications and research presentations

They provided me with opportunity to work and learn under them while I was financially challenged and gave me a valuable outlet to interact in lab.

They were very helpful with checking calculations for buffers, running over the protocol, and helping me order supplies. They are also very good about helping me make my poster better and me feel more confident talking about my research.

Via her instruction and offering me her insight and laboratory experience.

While conducting research, I was also studying for an entrance exam to [professional school]. I spoke to my professor about it and she provided immense support the process by advising when I should take it and adjusting my schedule to fit my needs. She assured me throughout this process that she wants me to succeed both inside and outside of research. I am eternally grateful to go through this experience with her.

Working with my time and letting me test hypothesis with tips

How could your research mentor improve? (Fall 2021)

Being more vocal

By listening to the path, I want to take a little more.

Consistency

Could schedule meetings differently

Have more individual meetings to see where seniors are going and their status.

He did a good job on mentoring me over the over summer. I only wished we could've continued the work in the fall on my home campus.

He did everything right

I can't think of any need for improvement so far, he has been great at working with me and my research goals.

I do not have any comments for improvement.

I think my mentor is amazing the only thing I would say is printing out protocols for us

I wish there was some structure or plan that I could follow regarding research.

Including more activities

Maybe by meeting a little more frequently

Mentor could be a bit more organized concerning time, but it is no big deal.

More guidance on publishing and interesting projects

More meeting maybe?

More work for me to do.

My research mentor/prof. tends to overexplain certain details that are clear from the beginning.

N/A (11 students had this response)

No improvements needed

Not applicable.

Nothing that I can think of.

Nothing too major, having more frequent meetings would be nice to get caught up on concurrent information.

Nothing!

Reply more timely

Super great guy

The way they explained things

They are very busy, so sometimes it can be difficult to catch them at times.

How could your research mentor improve? (Spring 2022)

Availability

Been great! I am glad to learn what I have learned from him.

Being more available but it's not bad

Being more consistent in availability

Better communication

Better communication between both of us.

Clearly explain what is needed of me, Give me a specific set of goals

Communication

Give me more projects to engage with.

Have a written document with goals for the research

He's Perfect

I am satisfied with her methods of recruitment.

I could meet with her more often

I have no comments on my mentor, he was great.

I think she could be a little bit more understanding that I don't have much data this being my first semester on the project.

It would be nice to have club days or more frequent visits where the students can compare/practice our presentations or do mock interviews to help us be more confident when we are put in these positions.

More direction in the lab.

My research mentor could work on time management.

N/A (9 students had this response)

No complaints!

No critiques

No need to improve

No ways to improve.

No, complaint.

Not really sure, super blessed to be working with her!

Nothing!

Provide material relevant to research project

She does amazing at her job I have no complaints

They are doing well.

They have done great

Appendix 4: Scholar Responses About Graduate School Preparation

What kind of help did you receive preparing for the GRE? (Fall 2021)

GRE prep through another program (3 students had this response)

Magoosh GRE prep through OK-LSAMP (6 students had this response)

What kind of help did you receive preparing for the GRE? (Spring 2022)

GRE prep through another program (3 students had this response)

Magoosh GRE prep through OK-LSAMP (7 students had this response)

Appendix 5: Scholar Responses About Academic Support, Social Support, Professional Development Support, Staff Availability, Opportunity To Work With Other Undergraduate Research Programs On Campus, Opportunity To Work With STEM Organizations, and Interactions With Other Students In The Program

What can be improved? (Spring 2022). This question was not included in the Fall 2021 survey.

Creating more opportunities for ungraduate paid internships by regions

Following through with what's promised. Group moral building activities.

Having one meeting every two months or so in [Name of City]

I am satisfied with the current state.

I believe that LSAMP is doing a great job it's just [Name of Institution] is a unique university with unique struggles sometimes I wish OK-LSAMP would focus on our cohort a little more because it would really help improve recruitment as well as visibility on campus

I believe that we could do with more events geared towards professional development or how to apply for grad school, or how to best navigate a worst case scenario if things do not go as planned after undergrad.

I have a problem with scheduling my time, and meeting times set are always conflicting with my two jobs plus school. So I would like more availability.

I have been very please with the program.

I think OK-LSAMP meetings at [Name of Institution] should be help in person to give scholars the opportunity to network with each other and build a stronger support system in OK-LSAMP. [Name of Institution] OK-LSAMP leadership could also be improved as it takes days or even weeks to hear back from directors, etc.

I think possibly having a social event can help students know what other student's goals and what their research is and things they have done thanks to OK-LSAMP so we can learn what else we can utilize OK-LSAMP.

I think the program is already good enough.

I wish we were more like a family to support each other more. I also wish there were opportunities for funding for conferences and international experiences.

I would love to find out about study abroad opportunities.

I would want more information sessions/meetings where we learn tips regarding undergraduate research, not just graduate school material as not all of us may be planning to attend grad school.

I've yet to do research under L-SAMP, and because of this, I've had no interaction whatsoever with the program.

Know who else is part of the program

LSAMP has provided the perfect balance of providing information of furthering our research endeavors and mentorship. I see nothing that needs to be improved at this time. Thank you!

More updates on the point system on how we get our grant money

N/A (5 students had this response)

Nothing Its perfect

Nothing this is a great program!

Nothing.

[Name of Institution] needs to better advertise for those program.

Some community-building amongst scholars and staff would be good for the program. I feel many people met outside the program. However, as someone who didn't come into the program knowing someone else, it was hard to get to know other scholars.

The communication and lack of support definitely needs to be improved. I have been in OK-LSAMP since last spring and have not had the experience I hoped for.

Appendix 6: Scholar Responses About Help Received During Transfer Transition

How was your previous institution helpful? (Spring 2022). This question was not included in the Fall 2021 survey.

Academic Advisor gave me degree transfer checklist for [Name of two-year institution] to [Name of four-year institution], very informative on what will transfer to [Name of four-year institution] and what will not

Allowed for me to be viewed by other coaches

Provided me class details upon request

How was your previous institution helpful? (Spring 2022). This question was not included in the Fall 2021 survey.

Academic Advisor was welcoming and assured if I succeeded at [Name of two-year institution] then I would have no problem succeeding at [Name of four-year institution]

Just by being open and available

They advised my next classes

They established a good line of communication and helped me take the classes I need while also utilizing my transfer credits.

They provided me with countless opportunities that allowed me to grow academically, socially, and financially

Appendix 7: Scholar Responses About Program Strengths, Weaknesses, and Recommended Changes

What are the strengths of the OK-LSAMP program? (Fall 2021)

All of the opportunities

All of the opportunities that are possible with the program.

Allows you to explore research as a career option and gives you exposure to graduate programs.

Connections and financial support

connections and learning about opportunities

Connections and opportunities

Diversity and opportunities

Encourage research I would not have done otherwise

Excellent opportunity for all students , encourages continued education, and research opportunities.

Exposing students to research and helping them improve their researching skills

getting information out there

Gives good opportunities to minority students.

Good

Good teamwork

Grad school preparation

Graduate school preparation, stipend, workshops, meetings, help with conference travel

Help to give you more research qualities

Helping minorities.

Helps students have somewhere to present research and get more involved in research before graduation.

I am not sure. I have not interacted with the program much.

I like how supportive it is for the students and helps them gain experience in research.

In person meetings

Inclusion, support, and encouragement of minorities and people of color.

It allows students to network with people of similar interests and expand their knowledge.

It does everything well.

It has given me many opportunities for research opportunities and becoming more involved

It helps me connect with others in my community

It helps you get involved in your college and how to research. It also helps you build close relationships.

It is very helpful with financial obligations as well as help with finding summer internships and opportunities

It makes research accessible to students who otherwise would find it daunting to get started.

It presents students with opportunities that they might not get on their own.

It really is a great way for minority students like me to get into research. I was encouraged to and really loved it when my mentor was still around.

Many amazing opportunities.

N/A

Opportunities and exposure the program offers

Opportunity

Opportunity and connection

Opportunities to present research, and to network with other students interested in the same field as me.

Pays for my college

Professional development, Improved social skills, Research experience

Programs emails about opportunities for us

Provides a lot of opportunities for research, internship and webinars through our weekly emails.

Provides lots of information for students so they can decide next steps

Providing funding, sometimes projects may not be possible without such. Paying for things as simple as gas and maintenance on a vehicle can be a make or break thing. I don't have reliable parents, they borrow my car. The previous funding I received helped me make to my sites each day and not worry about using a credit card to pay for expenses.

Providing research opportunities and networking.

Range of colleges

Resources

Rewards for participating in different academic ventures, and assistance for those ventures as well.

Support and assistance

Teamwork, networking, researching

That the students get every opportunity they can think of offered to them

The connections that can be made

The financial and academic support towards a master's degree

The flexibility, based on individuals.

The number of opportunities

The OK-LSAMP program encourages undergraduate students to participate in research and build their research skills early in their careers.

The opportunities and connections

The opportunity to be involved in different areas

The professional experience and connections.

The program is very good at supporting students and providing opportunities for them.

The program makes it easier to find and connect with faculty that is looking for mentees and pointing to

resources.

The research opportunities and internships that are offered

The resources that are available and the opportunities that are provided.

The support

The various opportunities are given to us

The weekly emails are very helpful

There is a large network that allows underrepresented students learn about opportunities that might seem out of reach.

Typically, the opportunity to perform research and hands on experiences within labs is provided.

Very encouraging staff.

Wealth of information, and opportunities to connect with other students and possible mentors

Willingness to help

What are the strengths of the OK-LSAMP program? (Spring 2022)

All of the resources they offer

Communication and Several opportunities

Conducting research.

Connections, support, research skills

Constant opportunities

Emails

Encouraging students to participate in research they wouldn't otherwise

Experience.

Financial support. Encouragement and guidance for research and for the future. Encouragement to try new things.

Giving info

Giving us internship opportunities and preparing us for Grad school

Great for recruiting new participates.

Great opportunities

Helpful and intuitive

How committed they are to increasing diversity in STEM! I attended a meeting via zoom and was loving the diversity of the participants!

I don't know

I love the internships, stipends (which limits the amount of loans that I have to take out), and conferences.

Informative, many opportunities, enriching

Internship opportunity

Internships, graduate school programs and scholarship opportunities are the strengths of the OK-

LSAMP program.

It helps minority or first-generation students get the opportunity to conduct research instead of wasting time trying to network.

It is an amazing resource to connect with people all over the country but also in my school with similar interests and circumstances.

It provides research opportunities and educational support

Keeping students connected to resources

Lots of presentation and funding opportunities.

Network momentum

Offering a wide variety of internships

OK-LSAMP helped me see the difference between research laboratory techniques and the skills needed to pass a course with a laboratory class. Although the same basic foundations, the research laboratory has differences that you will only learn if you are exposed to it.

Opportunity

Provides students with opportunities, research experiences, connections, and graduate school prep.

Provides support to students from underrepresented communities

Research opportunities and internships

Research opportunities.

Resources

Resources available.

So many resources and opportunities provided for graduate school oriented undergrads of underrepresented background

The ability to access the coordinators

The amount of resources available

The caring community in place for those that are underrepresented in STEM and the opportunities given to all of us as Scholars.

The community vibe between mentors and students

The connections and newsletters are so hopeful in providing me with resources to further my career.

The financial support and opportunities via research

The financials

The money

The numerous opportunities to further our research. Getting to speak to other students that have gone through the program and see where they are now. Having a mentor that guide you in the right direction.

The OK- LSAMP program allowed a medium through which connection and networking could be made, especially for minority students who did not come from an affluent background with multitude of parental guidance and financial support.

The OK-LSAMP program has been strong in providing funding for students to attend conferences, locally or nationally.

The opportunities

The opportunities that are made available

The resources in the Google Drive

The strength is the support and opportunities that are spread throughout the network of the program

There is a lot of opportunities for us

They keep updating via email so it is nice to see what's all going on

They offer a wide variety of opportunities for community building and personal improvement through their seminars and meetings.

The strengths are in the financial support the program offers

They teach me about how to get into graduate school and where to apply

This program allows you to game good connection and opportunities

Very good resource for getting information about graduate school, and research. The funding also goes a very long way.

Very helpful in providing opportunities for students

Wealth of knowledge for the student body

What are the weaknesses of the OK-LSAMP program? (Fall 2021)

Communication and help finding a research mentor

Communication with students

Communication with [Name of Institution] leadership

Connections to other students.

Covid

Doesn't feel like there's a lot of pushing for peers to better acquaint.

Everything is disconnected, do not really know many people in the program etc.

Feels distant

I cannot think of any

I don't think there is none

I think that more involvement from the campus manager would be beneficial

I think the program could use some work in terms of fostering a community between OK-LSAMP scholars.

I wouldn't say it is a weakness of the program, but it would be cool to get to meet with different graduate programs.

Information

It does not really help me collaborate with my peers

It is hard to find your own research opportunities and can be hard to get help with this.

It is small and not well broadcasted

I've only been in it for about 2 months

Lack of camaraderie, more than likely due to Covid

Lack of workshops, I have not been aware of an ecology, wildlife, or land management workshop that would enhanced my ability to conduct research.

LSAMP Symposium workshops and panels were not helpful for me and my peers.

Maybe a lack getting program name out

Meeting times

Money not disbursed on time

N/A (13 students had this response)

Needs more advertising

No person meeting

No weaknesses

None (3 students had this response)

None as of now

Not enough advertisement, I did not know about the program until the end of my freshman year.

Not many incentives to participate.

Nothing that isn't Corona related. The pandemic (and life issues) made it hard to be involved safely.

Only certain students know about this program if you are a transfer student you are less likely to find out about the program until its later in the year or years later.

Present information,

Small limit on how many students can participate

That it's very spread out

The availability, there were some that I had a great interest in, but I don't think I was able to apply due to the ethnic background it was trying to focus target.

The clarity of the expectations. After a semester and receiving one stipend, I'm not sure if I do more, I'll receive more, or if there are certain milestones that must be achieve.

The communication between students lacks.

The lack of advertisement of this program many do not know this is even a thing.

The OK-LSAMP program is a bit disorganized. I also wish there was more monthly communication. I think Zoom meetings have caused a disconnect in scholars' identification with OK-LSAMP.

The on-campus offices are not always available for meetings.

The program misses opportunities to reach all of its participants by not having more advisors on campus.

There are not meetings on campus at [Name of Institution].

There is nothing that it can really work on. They have been quite helpful

Time conflicts with work or school for certain events. Would love to have an online option or make up for event

Very little communication about meetings, opportunities, requirements, etc

What are the weaknesses of the OK-LSAMP program? (Spring 2022)

As a student, we have to figure out how to get started in the program or make the effort to connect with the program managers. It sounds easy to figure out but remember that some of us are first-gen and do not know how to maneuver ourselves in something as foreign as research.

Availability of internships and scholarships on a program basis

Can't think of any

Communication

Communication at times

Communication.

Engaging with other campuses

I cannot think of anything weakness'

I don't know

I have none.

I think sometimes the scheduling is difficult to manage

I wish that there were more invitations to meet other scholars and tour their schools. It would make socializing at conferences easier. Even conferences with other minorities do not feel truly inclusive.

It can seem overwhelming in a sense that there is no way to properly ease into the program or finding a way to start doing research opportunities or how to look competitive during the internship application process.

It is somewhat disconnected between state universities.

Lack of communication and community.

Lack of communication, social support, and funding.

Lack of structure and efficiency

Mentor pairing and skill evaluation

More communication

More projects in regard to science education

N/A (6 students had this response)

No comment

None

None

Not advertising the program as much

Not all meetings are productive.

Nothing

Nothing at the moment for me

Number of participants on campus.

Preparation for presentations

Separation

Student abroad isn't offered to everyone, pins should be given

Support

That the program isn't as big as it used to be because of Covid and graduations

The big one of course is the funding issue. Most of us have been with LSAMP for at least 2 years (and are going to graduate now) and have not received any sort of stipend. The stipend was actually cut for existing LSAMP members because of the funding issues.

The cohesiveness throughout the state

The communication between program managers and the actual students in the program; my manager has reached out only once to me and hardly any other Scholars on campus reach out, despite my effort.

The email links don't always work

The OK-LSAMP program lacks transparency and often falls behind on providing funding for students, which can serve as a barrier to continuing research

The program could benefit from encouraging other professional careers like medical school.

There are a lot of emails, and they are very broad and a little too often

There aren't any

There may be weakness in the program for outreach to newer members.

They focus too much on research, not everyone trying to give up 10 years of their life to be a Ph.D. person, some people like me just want to graduate with good experience and get a good job and immediately help their community and family

Timing of meetings always overlaps with schedules

If you could make any changes to the OK-LSAMP program, what would those changes be? (Fall 2021)

Adding a panel of advisors, recording all meetings, and advertising during perhaps spirit week so more qualifying students are aware of it.

Be more of an assistant to seniors and allow more underrepresented individuals to receive the program information.

Clarity of the expectations on a semester and annual basis.

Create an account on a social platform where members can communicate with one another as a group.

Different meeting times

Have a better communication system, maybe a calendar of all the dates?

I don't have any

I haven't been in it long enough to know

I think it's perfect maybe more on campus opportunities!

I think there should be something set up to help students actually apply for graduate school. And I would also like there to be more social events to meet other scholars.

I wish I had learned about this program earlier. Maybe reach out to students as they enter their sophomore year or transfer to their 2nd or 3rd year in school.

I would have meetings in-person and more meetings related to the research development of scholars as

well as motivational meetings (e.g., impostor syndrome).

I would just make sure to be loud with the program so it can get to even more students for them to be able to experience the program.

I would let the university chapters be student-led and allow members to hold executive positions. I would also allow more people to join.

I would make it more possible link undergraduate students with possible future employers or graduate programs.

I would make the program have meetings together like all schools within the program

I would provide better food

I wouldn't make any changes

I wouldn't change a thing.

I'd say so more outreach

If there were more opportunities for webinars or research advice sessions (i.e. learning to write a solid thesis, how to make a research poster), as a first-time research mentee it would be great to attend them.

In person meeting

Loved it

Make a portal so all students can interact.

Making opportunities more inclusive, I believe that opportunities like this should as well be extended to women since it is a male-dominated field. Regardless of ethnicity.

Making things more appealing and attention grabbing

Maybe a get to know you event?

Meetings on campus at [Name of Institution].

More advertisement of the program and its opportunities

More communication to encourage involvement

More communication without having to involve higher up members of the office

More interaction, I rarely hear about anything OK-LSAMP except for taking this survey. I may be missing the emails due to mass emails from the university, but nonetheless I believe this is a great program. I can only imagine the amount of STEM students it has helped.

More meetings on campus so LSAMP scholars can have better connections with their peers and mentor(s)

More presence on campus, in campus newsletter, tabling, fun meetings, not just work-related meetings

More research opportunities

N/A (10 students had this response)

None (3 students had this response)

Provide advertising

Scheduled meetings and more money

Students get paid more

Study group would be great.

The changes I would make would be providing more opportunities for research.

To be more active on social media to attract new members.

To be more involved as a student

**If you could make changes to the OK-LSAMP program, what would those changes be?
(Spring 2022)**

Better communication! I do not know how to start research under INBRE

Build a sense of family and community before talking about research.

Communication

Connect undergrads with more internships for STEM

Creating more opportunities so that other lamp scholars from other schools can meet

Have a larger scale conference with opportunities to connect with students in universities near each other.

I have none, but I do wish that I would have heard of OK-LSAMP prior to my senior year. It would have been different if I was exposed to it my sophomore year.

I have not attended any meeting

I haven't been in the program long enough to suggest any changes.

I think it would be helpful to make more of an effort to reach out to individual LSAMP members (having one-on-one meetings maybe once a month) to talk about their plans after graduation, what resources they might be missing out on, or if they are becoming stressed out for any reasons.

I think just having later meetings.

I would change the fact that our meetings are on Zoom. There is a lack of connection with other scholars and OK-LSAMP leadership. I would also conduct more workshops at meetings regarding career development and graduate school application processes.

I would create a Canvas course for the program and also have more interactive meetings or meetings where we have professionals explain how they got into research

I would love to attend more OK-LSAMP conferences throughout the year.

It would be nice to attend an orientation where we are more specifically told how to start benefiting from the program – seeking mentors, scholarship information, and get a list of helpful links to seek instructors to do research with in different career fields (for example, like a part of the Ferguson website that lists instructors open to research in Horticulture).

Just a better introduction on what the program is, and how to best utilize its resources

Just more concise emails

More 1 to 1 advising as student gets closer to grad school

More available internships and scholar to both general and specific areas of study

More communication to scholars.

More communication. Maybe meeting more often

More events and presentation opportunities

More meetings on preparing for presentations

More participants on campus.

N/A (5 students had this response)

No comment

None (3 students had this response)

None! It's perfect.

Not much

Nothing

Offer more insight into the industry path of a career

That Freshman or first year LSAMP students maybe have a more hands on track while for upper class students our focus is more on finding opportunities and continuing them. As well as if OK-LSAMP also offered a grad school advisor for students who are interested in continuing the BD program or just as a liaison between the undergraduate and graduate LSAMP participation

To have list mentors available for each campus available

To have more scholar-mentor interactions from a program standpoint.

We should have group discussions, tours of other OK LSAMP schools, and emphasize that OK LSAMP is a community without hierarchies.

Any other comments about your OK-LSAMP experience? (Fall 2021)

Great opportunity wish I had joined the program sooner and been able to participate in research presentations senior year is very busy so at my own fault I haven't taken full advantage of program opportunities, thank you for having this elite group for academic development!

I enjoyed the research

I get harassed too much to participate in academic pursuits, etc

I haven't gotten any financial support, but I believe that's an error of paperwork from my own university, not a fault of L-SAMP.

I really enjoy this program and I am thankful to be a part of it. I have gotten so many opportunities through this program and i am thankful that i will be able to get even more as i continue with the program.

I really have enjoyed it when I'm active. I also appreciate all the emails and newsletters more now that I'm older and check them like a "real" adult does.

It has been great and encouraged me to pursue grad school

It has been great, and I am grateful to be a part of the program.

It is amazing.

It's been pretty cool

I've enjoyed it, and I appreciate what is attempted to be accomplished

N/A (7 students had this response)

No (6 students had this response)

No comments

No, its a good program for minorities

None at this time.

None.

Nope

Not at this time

Nothing that I haven't previously stated

Any other comments about your OK-LSAMP experience? (Spring 2022)

Decided to transfer due to the program leader

I am glad that I found out about this opportunity. The weekend conferences and hours in the lab made me realize how much I am dedicated to succeeding. Even though there were times that I experienced racial microaggressions at conferences like when I wore clothes with my HBCU's name and the check in person assumed that I was from the local community college. All she did was glance at me. Luckily, the leaders like OK-LSAMP staff always made me feel welcome.

I am so incredibly great full for this program.

I am truly grateful to have this opportunity and it has helped me become the scientist I am today.

I do not have any more comments.

I really like the goal of the program however I feel there's is a lack of a relationship between scholars and staff.

It's really glad that this program was offered to my institution because it afforded me some financial security simply through performing my college requirements.

It helped further my undergraduate research.

It's been great

It's Great

N/A (9 students had this response)

No (4 students had this response)

None

None

Not at the moment

OK-LSAMP has provided me with lots of for self-growth through research conducting and presentation.

OK-LSAMP is great!

Appendix 8: List of Survey Questions

The Alliance included a research component to the program during this new funding period. Some of the research questions were included in the Fall 2021 and Spring 2022 surveys. Several of these are also included below; however, the results are reported by the researcher, not in this evaluation.

Fall 2021

Did you participate as a student in the OK-LSAMP program in Fall 2021?

- Yes
- No

Where did you spend most of your life?

- Primarily rural
- Small town
- Suburban
- City
- Prefer not to answer

What is your marital status?

- Single
- Married or in a domestic partnership
- Widowed
- Divorced
- Separated
- Prefer not to answer

What is your current employment status?

- Employed full-time (40 or more hours per week)
- Employed part-time (up to 39 hours per week)
- Unemployed and currently looking for work
- Unemployed and not currently looking for work
- Prefer not to answer

Did you transfer from another institution?

- Yes
- No

What is the name of the institution you attended prior to transferring?

How did you find out about the OK-LSAMP program? (Choose all that apply)

- Campus recruitment
- State-wide STEM activity (Name the activity below)
- On-campus program, such as McNair Scholars, summer academy or camp (Name the program)
- OK-LSAMP Website
- OK-LSAMP Administrative Staff
- Social Media
- Friends or family
- Current OK-LSAMP participant
- Alumni/Past OK-LSAMP participant
- Professor(s)
- Other (Specify below)

You selected that you heard about the OK-LSAMP program from a professor. Where was the professor(s)?

- At my previous school (If you transferred)
- At my current school
- Other (Specify below)

Please rate your OK-LSAMP experiences with the following?

	Excellent	Good	Okay	Fair	Poor	Not Applicable
Academic support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social Support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Professional development support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Staff availability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Opportunity to work with other undergraduate research programs on your campus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Opportunity to work with STEM organizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interactions with other students in the program	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Did you have an OK-LSAMP research mentor in Fall 2021? (Campus program manager is the OK-LSAMP person who runs the program at your home institution)

- Yes, my research mentor is also the OK-LSAMP campus program manager
- Yes, my research mentor is someone other than the OK-LSAMP program manager
- No

Did you conduct research during Fall 2021?

- Yes
- No

How did you conduct your research in Fall 2021?

- In-person
- Remotely
- Combination of In-person and remotely

Do you have any comments regarding your Fall 2021 research experience?

Rate the helpfulness of your research mentor.

How did your research mentor help you?

How could your research mentor improve?

Have you met with your OK-LSAMP campus program manager in Fall 2021 (in person, via phone, or through Zoom or other online platform)?

Yes

No, but I know who the campus program manager is

No, I do not know who the campus program manager is

Comments about campus program manager.

How many times did you attend OK-LSAMP group meetings at your institution in the Fall 2021 semester (in person or via Zoom or other online platform)?

0

1

2

3

4

5

More than 5

Overall, how helpful were the Fall 2021 group meetings you attended? 1=Not at all Helpful; 5=Extremely Helpful

1

2

3

4

5

What was most helpful about the group meetings that you attended?

What was least helpful about the group meetings that you attended?

What would you change for future group meetings?

Do you have any other comments regarding group meetings?

Reasons for not attending Fall 2021 group meetings (Choose all that apply)

Not in the program at the time

There were no meetings

Schedule conflicts

Not interested in topics

Other (Specify below)

Did you attend the annual OK-LSAMP Research Symposium in Fall 2021?

Yes

No

Reasons for not attending the annual OK-LSAMP Research Symposium (Choose all that apply)

- Lack of research
- Not in the program at the time
- I did not know about it
- I was not interested
- Schedule conflict
- Other (Specify below)

Did you present at the Fall 2021 Symposium?

- Yes
- No

How many conferences/professional meetings did you attend in Fall 2021 (in person, via phone, or through Zoom or other online platform)? Do not include the OK-LSAMP Research Symposium in your count.

- 0
- 1
- 2
- 3
- 4
- 5
- More than 5

Reasons for not attending other conferences/professional meetings (Choose all that apply)

- Not in the program at the time
- I did not know about them
- It was too expensive
- I was not interested
- Schedule conflict
- Cancelled due to COVID-19
- Other (Specify below)

How many presentations did you make at the conferences/professional meetings you attended?

- 0
- 1
- 2
- 3
- 4
- 5
- More than 5

Did you receive financial assistance from OK-LSAMP to attend any of these meetings?

- Yes
- No

Are there any professional meetings you would recommend that all scholars attend?

Did you complete Responsible Conduct of Research (RCR) training in Fall 2021?

- Yes
- No
- Not sure

Were you encouraged to participate in a summer internship?

Yes

No

How did you find out about internship opportunities? (Choose all that apply)

Mentor or campus program manager

OK-LSAMP program emails

OK-LSAMP Social Media

OK-LSAMP group meeting

Friend or family

Current OK-LSAMP participant

Alumni/Past OK-LSAMP participant

Other (Specify below)

Did you participate in an internship in Summer 2021?

Yes

No, it was canceled due to COVID-19

No

How did you participate in your Summer internship in 2021?

In-Person

Remotely

Combination of in-Person and remotely

Were you a senior prior to beginning the Fall 2021 semester?

Yes

No

Did someone in the OK-LSAMP program encourage you to take the GRE?

Yes

No

Did you receive help preparing for the GRE?

Yes

No

What kind of help did you receive?

Magoosh GRE prep through OK-LSAMP

GRE prep through another program

Other

Have you taken the GRE?

Yes

No

Have you applied to any graduate schools?

Yes

No

How many graduate school applications have you completed?

How many graduate school applications are you waiting for?

Please rate your overall satisfaction with the OK-LSAMP program.

Please rate how the OK-LSAMP program has helped your academic career?

What are the strengths of the OK-LSAMP program?

What are the weaknesses of the OK-LSAMP program?

If you could make any changes to the OK-LSAMP program, what would those changes be?

Any other comments about your OK-LSAMP experience?

Spring 2022

Did you participate as a student in the OK-LSAMP program in Spring 2022?

Yes

No

Where did you spend most of your life?

Primarily rural

Small town

Suburban

City

Prefer not to answer

What is your marital status?

Single

Married or in a domestic partnership

Widowed

Divorced

Separated

Prefer not to answer

What is your current employment status?

Employed full-time (40 or more hours per week)

Employed part-time (up to 39 hours per week)

Unemployed and currently looking for work

Unemployed and not currently looking for work

Prefer not to answer

Did you transfer from another institution?

Yes

No

What is the name of the institution you attended prior to transferring?

Was your previous institution helpful in the transfer transition?

How was your previous institution helpful?

Did your current institution assist with the transfer transition?

How did your current institution help?

How did you find out about the OK-LSAMP program? (Choose all that apply)

Campus recruitment

State-wide STEM activity (Name the activity below)

On-campus program, such as McNair Scholars, summer academy or camp (Name the program)

OK-LSAMP Website

OK-LSAMP Administrative Staff

Social Media

Friends or family

Current OK-LSAMP participant
 Professor(s)
 Other (Specify below)

You selected that you heard about the OK-LSAMP program from a professor. Where was the professor(s)?

At my previous school (If you transferred)
 At my current school
 Other (Specify below)

Please rate your OK-LSAMP experiences with the following?	Excellent	Good	Okay	Fair	Poor	Not Applicable
Academic support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social Support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Professional development support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Staff availability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Opportunity to work with other undergraduate research programs on your campus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Opportunity to work with STEM organizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interactions with other students in the program	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What can be improved?

Did you have an OK-LSAMP research mentor in Spring 2022? (Campus program manager is the OK-LSAMP person who runs the program at your home institution)

Yes, my research mentor is also the OK-LSAMP campus program manager
 Yes, my research mentor is someone other than the OK-LSAMP program manager
 No

Did you conduct research in Spring 2022?

Yes
 No

How did you conduct your research in Spring 2022?

In-person
 Remotely
 Combination of in-person and remotely

Do you have any comments regarding your Spring 2022 research experience?

Rate the helpfulness of your research mentor.

How did your research mentor help you?

How could your research mentor improve?

Have you met with your campus OK-LSAMP program manager in Spring 2022? (in person, via phone, or through Zoom or other online platform)?

Yes

No, but I know who the campus program manager is

No, I do not know who the campus program manager is

Comments about campus program manager.

How many times did you attend OK-LSAMP group meetings at your institution in the Spring 2022 semester (in person or via Zoom or other online platform)?

0

1

2

3

4

5

More than 5

Overall, how helpful were the Spring 2022 group meetings you attended? 1=Not at all Helpful; 5=Extremely Helpful

1

2

3

4

5

What was most helpful about the group meetings you attended?

What was least helpful about the group meetings you attended?

What would you change for future group meetings?

Do you have any other comments regarding group meetings?

Reasons for not attending Spring 2022 group meetings (Choose all that apply)

Not in the program at the time

There were no meetings

Schedule conflicts

Not interested in topics

Other (Specify below)

How many conferences/research symposia did you attend in Spring 2022 (in person, via phone, or through Zoom or other online platform)?

0

1

2

- 3
- 4
- 5
- More than 5

Reasons for not attending other conferences/research symposia meetings (Choose all that apply)

- Not in the program at the time
- I did not know about them
- It was too expensive
- I was not interested
- Schedule conflict
- Other (Specify below)

How many presentations did you make at the conferences/research symposia meetings you attended?

- 0
- 1
- 2
- 3
- 4
- 5
- More than 5

Did you receive financial assistance from OK-LSAMP to attend any conferences/research symposia?

- Yes
- No

Are there any conferences/research symposia you would recommend that all scholars attend?

Did you complete Responsible Conduct of Research (RCR) training in Spring 2022?

- Yes
- No
- Not Sure

Were you encouraged to participate in a summer internship?

- Yes
- No

How did you find out about internship opportunities? (Choose all that apply)

- Mentor or campus program manager
- OK-LSAMP program emails
- OK-LSAMP Social Media
- OK-LSAMP group meeting
- Friend or family
- Current OK-LSAMP participant
- Alumni/Past OK-LSAMP participant
- Other (Specify below)

Are you planning to participate in an internship in Summer 2022?

Yes

No

Were you a senior prior to beginning the Spring 2022 semester?

Yes

Did someone in the OK-LSAMP program encourage you to take the GRE?

Yes

No

Did you receive help preparing for the GRE?

Yes

No

What kind of help did you receive?

Magoosh GRE prep through OK-LSAMP

GRE prep through another program

Other

Have you taken the GRE?

Yes

No

Have you applied to any graduate schools?

Yes

No

How many graduate school applications have you completed?

0

1

2

3 or more

How many graduate school responses are you waiting for?

0

1

2

3 or more

Please rate your overall satisfaction with the OK-LSAMP program.

Please rate how the OK-LSAMP program has helped your academic career?

What are the strengths of the OK-LSAMP program?

What are the weaknesses of the OK-LSAMP program?

If you could make any changes to the OK-LSAMP program, what would those changes be?

Any other comments about your OK-LSAMP experience?