



Research Survey Report

July 1, 2021 - June 30, 2022

November 2022

2021-2022 ASCO Research Survey Report

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A note about the 2021-2022 ASCO Research Survey Report . . .

This survey report covers the period July 1, 2021-June 30, 2022. Relevant endnotes and definitions follow each part of the report.

The information from this survey can be used to estimate the total research funds provided to schools and colleges of optometry, estimate the time that optometry faculty use to conduct research and quantify the types of research conducted at the schools and colleges of optometry. Schools can also use the information to benchmark their research portfolio.

All of the information in this report can be used to educate public officials, educators, and administrators about the research conducted in optometry. Researchers must continue to push the frontiers of science in order to expand the scope and ability of optometry. The information that follows assists in quantifying the ability to do so.

Twenty-two of the 23 ASCO active member schools participated in this survey. Data was collected September-November 2022.

Please contact Joanne Zuckerman, ASCO's Manager, Data Services and Special Projects, at jzuckerman@opted.org with any questions about the report.



Abbreviations of ASCO Active Member Institutions
2021-2022 ASCO Research Survey

<u>Abbreviation</u>	<u>School Name</u>
AZCOPT	Arizona College of Optometry, Midwestern University
CCO	Chicago College of Optometry, Midwestern University
IAUPR	Inter American University of Puerto Rico, School of Optometry
ICO	Illinois College of Optometry
IUSO	Indiana University, School of Optometry
KYCO	University of Pikeville, Kentucky College of Optometry
MCO	Michigan College of Optometry at Ferris State University
MCPHS	MCPHS University, School of Optometry
NECO	New England College of Optometry
NOVA	Nova Southeastern University, College of Optometry
NSUOCO	Northeastern State University – Oklahoma College of Optometry
OSU	The Ohio State University, College of Optometry
PCO/Salus	Pennsylvania College of Optometry at Salus University
PUCO	Pacific University, College of Optometry
SCCOMBKU	Southern California College of Optometry at Marshall B. Ketchum University
SCO	Southern College of Optometry
SUNY	State University of New York, College of Optometry
UABSO	University of Alabama at Birmingham, School of Optometry
UCB	University of California – Berkeley, School of Optometry
UHCO	University of Houston, College of Optometry
UIWRSO	University of the Incarnate Word, Rosenberg School of Optometry
UMSL	University of Missouri at St. Louis, College of Optometry
WUCO	Western University of Health Sciences, College of Optometry

Association of Schools and Colleges of Optometry
2021-2022 Research Survey - Part I
 (July 1, 2021 - June 30, 2022)
 (Includes 22 of 23 schools. One school did not complete the survey.)

	AZCOPT	CCO	ICO	IUSO	KYCO	MCO	MCPHS	NECO	NOVA	NSUOCO	OSU	PCO/Salus	PUCO
1. Aggregate full time equivalent (FTE)¹ of all faculty² employed by Optometry	23.00	21.00	57.00	41.00	24.40	17.50	23.00	44.33	41.00	35.00	30.80	68.32	27.95
2. Aggregate FTE³ of all faculty⁴ participating in research	23.00	4.00	50.00	22.00	24.40	2.00	14.00	15.35	41.00	17.00	25.80	7.00	17.06
<i>Proportion of faculty FTE who participate in research (#2/#1)</i>	1.00	0.19	0.88	0.54	1.00	0.11	0.61	0.35	1.00	0.49	0.84	0.10	0.61
3. Aggregate FTE⁵ of all faculty⁶ that is paid for conducting research by external funding	0.00	0.00	0.50	5.27 ⁷	0.00	0.00	0.00	2.52	0.00	0.00	4.28	2.60	0.10
<i>Proportion of total faculty FTE paid by external funding for participating in research (#3/#1)</i>	0.00	0.00	0.01	0.13	0.00	0.00	0.00	0.06	0.00	0.00	0.14	0.04	0.00
4. How many students are enrolled in Master's programs⁸ that are optometry or vision-related?	1	2	0	7	0	0	12	25	11	Not Applicable	38	0	18
5. How many students are enrolled in PhD programs⁹ that are optometry or vision-related?	Not Applicable	Not Applicable	0	16	0	0	0	0	0	Not Applicable	8	10	10
6. How many post-doctoral fellows are in optometry?	Not Applicable	Not Applicable	0	3	0	0	0	2	0	0	1	0	1
7. How many support staff participate in funded research?¹⁰	2	0	1	28	0	1	0	5	0	0	32	2	1
8. # square feet of space in optometry used specifically for clinical research¹¹	300	480	2600	14965	353	0	3070	1081	2800	0	13737	2775	4538
9. # square feet of space in optometry used specifically for basic science¹² or translational research¹³	750	495	1730	13226	705	300	1400	2374	1500	200	3373	3430	4538
10. How many square feet of space in optometry are used specifically for animal care?	0	0	740	1260	0	0	0	1423	0	0	0	2277	0
11. Federally negotiated on-campus research indirect cost rate¹⁵	50.0%	50.0%	52.0%	59.0%	43.0%	30.0%	55.0%	78.0%	50.0%	52.0%	57.5%	42.0%	38.0%
12. Typical indirect cost rate¹⁵ for investigator-driven industry-sponsored research	30.0%	30.0% ¹⁶	30.0%	59.0%	43.0%	30.0%	20.0%	35.0%	Not Applicable	52.0%	30.0%	Not Applicable	25.0%
13. Typical indirect cost rate¹⁵ for contract research (not investigator-driven)	25%-50%	30.0% ¹⁶	30.0%	59.0%	Not Applicable	30.0%	20.0%	35.0%	Not Applicable	52.0%	30.0%	Not Applicable	25.0%

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**Association of Schools and Colleges of Optometry
2021-2022 Research Survey - Part I**

(July 1, 2021 - June 30, 2022)

(Includes 22 of 23 schools. One school did not complete the survey.)

	SCCOMBKU	SCO	SUNY	UABSO	UCB	UHCO	UIWRSO	UMSL	WUCO	TOTALS
1. Aggregate full time equivalent (FTE)¹ of all faculty² employed by Optometry	47.95	56.00	83.00	34.55	74.50	56.00	32.00	22.00	30.50	890.80
2. Aggregate FTE³ of all faculty⁴ participating in research	17.00	20.00	29.62	26.75	31.00	28.00	32.00	7.00	12.00	465.98
<i>Proportion of faculty FTE who participate in research (#2/#1)</i>	0.35	0.36	0.36	0.77	0.42	0.50	1.00	0.32	0.39	0.52
3. Aggregate FTE⁵ of all faculty⁶ that is paid for conducting research by external funding	0.74	0.00	2.30	4.26	0.00 ⁷	5.50	0.00	0.00	0.33	28.40
<i>Proportion of total faculty FTE paid by external funding for participating in research (#3/#1)</i>	0.02	0.00	0.03	0.12	0.00	0.10	0.00	0.00	0.01	0.03
4. How many students are enrolled in Master's programs⁸ that are optometry or vision-related?	12	Not Applicable	24	11	0	14	0	Not Applicable	Not Applicable	175
5. How many students are enrolled in PhD programs⁹ that are optometry or vision-related?	0	Not Applicable	14	21	33	32	4	Not Applicable	Not Applicable	148
6. How many post-doctoral fellows are in optometry?	0	Not Applicable	5	4	29	5	0	0	0	50
7. How many support staff participate in funded research?¹⁰	3	0	15	10	15	16	4	0	0	135
8. # square feet of space in optometry used specifically for clinical research¹¹	2379	3200	1500	1300	3000	2500	1100	700	1108	63486
9. # square feet of space in optometry used specifically for basic science¹² or translational research¹³	1500	0	13800	15900	20000	17500	1100	400	858	105079
10. How many square feet of space in optometry are used specifically for animal care?	0	0	4200	0 ¹⁴	500	0 ¹⁴	0	0	160	10560
11. Federally negotiated on-campus research indirect cost rate¹⁵	60.0%	Not Applicable	62.0%	48.5%	61.0%	55.0%	Not Applicable	57.0%	43.0%	52.2%
12. Typical indirect cost rate¹⁵ for investigator-driven industry-sponsored research	50.0%	Not Applicable	35.0%	36.0%	26.0%	31.0%	Not Applicable	33.0%	43.0%	35.4%
13. Typical indirect cost rate¹⁵ for contract research (not investigator-driven)	50.0%	Not Applicable	35.0%	30.0%	26.0%	31.0%	Not Applicable	33.0%	20.0%	33.5%¹⁷

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Part I Endnotes

¹FTE is during the faculty member's working period, regardless of whether the faculty member is on a 9 or 12 month appointment. Does not include faculty from other institutions who collaborate on research projects. Aggregate FTE in this question means the sum of the total FTE of each faculty member, regardless of whether the faculty member conducts administrative, clinical, didactic, or research duties.

²All faculty include tenure track, clinical track, and research track faculty who are paid by optometry.

³This is the FTE of the faculty who participate in research, not the FTE that they *use* to participate in research. FTE is during the faculty member's working period, regardless of whether the faculty member is on a 9 or 12 month appointment. Does not include faculty from other institutions who collaborate on research projects. Aggregate FTE in this question means the sum of the total FTE of each faculty member that participates in research, regardless of whether the faculty member conducts administrative, clinical, didactic, or research duties.

⁴Includes all tenure track, clinical track, and research track faculty who are optometry personnel who participate in research as a PI, masked examiner, statistician, etc. Does not include faculty from outside units who collaborate on research projects.

⁵FTE is the amount of FTE that a faculty member receives from external funds to participate in research. Does not include faculty from other institutions who collaborate.

⁶Includes all tenure track, clinical track, and research track faculty who are optometry personnel who receive external funding to participate in research as a PI, masked examiner, statistician, etc.

⁷For IUSO, includes summer salary. UC does not allow except for summer salary.

⁸Includes students enrolled in programs at the institution both within and outside of the school of optometry. Includes students enrolled in combined OD/MS programs.

⁹Includes students enrolled in programs at the institution both within and outside of the school of optometry. Includes students enrolled in combined OD/PhD programs.

¹⁰Includes staff members who are paid from sponsored research projects who work in research for any amount of time.

¹¹Clinical research = healthcare science that determines the safety and efficacy of medications, devices, diagnostic products and treatment regimens intended for human use; they may be used for prevention, treatment, diagnosis or relieving symptoms.

¹²Basic research = scientific research to improve scientific theories for improved understanding or prediction of phenomena.

¹³Translational research = applied findings from basic science to enhance human health and well-being; translation of fundamental research findings into meaningful health outcomes.

¹⁴For UABSO, all animal care space is outside of optometry. For UHCO, animals are housed in the UH Animal Care Operations 31,000 sq ft of vivariums in one of the buildings in which optometry resides.

¹⁵These are costs incurred by the university due to a research project, such as departmental accounting, network support, equipment depreciation, building and facilities operation and maintenance, library, and sponsored projects administration. These costs are charged as a percent of some of the direct cost elements. For example, if the indirect rate is 50%, then the sponsor pays an additional \$50,000 on a \$100,000 project. "Not Applicable" indicates that an institution does not have a standard indirect cost rate.

¹⁶For CCO, 30% is the average: 50% when direct costs (DCs) are >\$100K; 25% when DCs are \$50K-\$99,999; 15% when DCs are <\$50K.

¹⁷Ranges/multiple percentages are not included in the overall average.

Association of Schools and Colleges of Optometry
2021-2022 Research Survey - Part II
(Includes Direct Costs Awarded July 1, 2021 - June 30, 2022)
(Includes 19 of 23 schools; 3 had no awards and 1 did not participate in the survey)

	AZCOPT	ICO	IUSO	MCO	MCPHS	NECO	NOVA	OSU	PCO/Salus	PUCO
By Source:										
Federal, NEI:	\$0	\$46,223	\$3,284,096	\$0	\$0	\$934,741	\$0	\$3,023,403	\$270,662	\$695
Federal, NIH:	\$851	\$0	\$0	\$0	\$0	\$0	\$7,050	\$0	\$0	\$0
Federal, Other:	\$0	\$0	\$932,403	\$0	\$0	\$246,348	\$0	\$12,468	\$0	\$0
State:	\$0	\$0	\$120,267	\$0	\$0	\$44,948	\$0	\$0	\$14,589	\$0
Private Foundation:	\$0	\$1,000	\$597,339	\$24,680	\$4,000	\$11,306	\$157,500	\$229,281	\$18,150	\$0
Industry:	\$95,034	\$489,213	\$1,623,489	\$10,000	\$22,500	\$65,744	\$0	\$411,916	\$250,380	\$40,156
Other, Including Research Contracts & Subawards:	\$0	\$0	\$119,990	\$7,751	\$12,000	\$44,834	\$0	\$283,090	\$37,454	\$20,689
By Science:										
Clinical:	\$95,885	\$536,436	\$74,872	\$27,781	\$12,000	\$499,343	\$107,050	\$1,920,926	\$305,984	\$695
Translational:	\$0	\$0	\$6,352,755	\$0	\$26,500	\$297,740	\$0	\$842,544	\$0	\$59,641
Basic:	\$0	\$0	\$212,730	\$0	\$0	\$485,418	\$57,500	\$1,108,076	\$285,251	\$1,204
Training Grant:	\$0	\$0	\$37,227	\$0	\$0	\$65,419	\$0	\$88,612	\$0	\$0
Other:	\$0	\$0	\$0	\$14,650	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$95,885	\$536,436	\$6,677,584	\$42,431	\$38,500	\$1,347,920	\$164,550	\$3,960,158	\$591,235	\$61,540

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	SCCOMBKU	SCO	SUNY	UABSO	UCB	UHCO	UIWRSO	UMSL	WUCO	GRAND TOTALS
<i>By Source:</i>										
Federal, NEI:	\$0	\$6,929	\$1,696,791	\$2,903,082	\$5,321,045	\$3,231,546	\$28,306	\$0	\$0	\$20,747,519
Federal, NIH:	\$17,649	\$0	\$0	\$0	\$1,523,992	\$384,177	\$0	\$0	\$0	\$1,933,719
Federal, Other:	\$0	\$0	\$0	\$77,988	\$266,366	\$99,719	\$0	\$0	\$0	\$1,635,292
State:	\$0	\$0	\$187,969	\$0	\$0	\$0	\$0	\$0	\$0	\$367,773
Private Foundation:	\$0	\$2,000	\$219,087	\$263,702	\$331,085	\$58,097	\$0	\$0	\$36,588	\$1,953,815
Industry:	\$67,987	\$294,632	\$3,431,894	\$163,693	\$2,545,595	\$175,207	\$0	\$0	\$194,398	\$9,881,838
Other, Including Research Contracts & Subawards:	\$0	\$0	\$279,007	\$7,333	\$639,628	\$0	\$0	\$2,623	\$0	\$1,454,399
<i>By Science:</i>										
Clinical:	\$85,636	\$303,561	\$3,700,901	\$0	\$749,794	\$868,082	\$0	\$0	\$230,986	\$9,519,932
Translational:	\$0	\$0	\$0	\$1,300,328	\$1,160,578	\$939,324	\$0	\$0	\$0	\$10,979,410
Basic:	\$0	\$0	\$1,841,893	\$2,115,470	\$7,889,176	\$2,079,836	\$0	\$0	\$0	\$16,076,554
Training Grant:	\$0	\$0	\$254,671	\$0	\$828,163	\$61,504	\$28,306	\$0	\$0	\$1,363,902
Other:	\$0	\$0	\$17,283	\$0	\$0	\$0	\$0	\$2,623	\$0	\$34,556
Total	\$85,636	\$303,561	\$5,814,748	\$3,415,798	\$10,627,711	\$3,948,746	\$28,306	\$2,623	\$230,986	\$37,974,354

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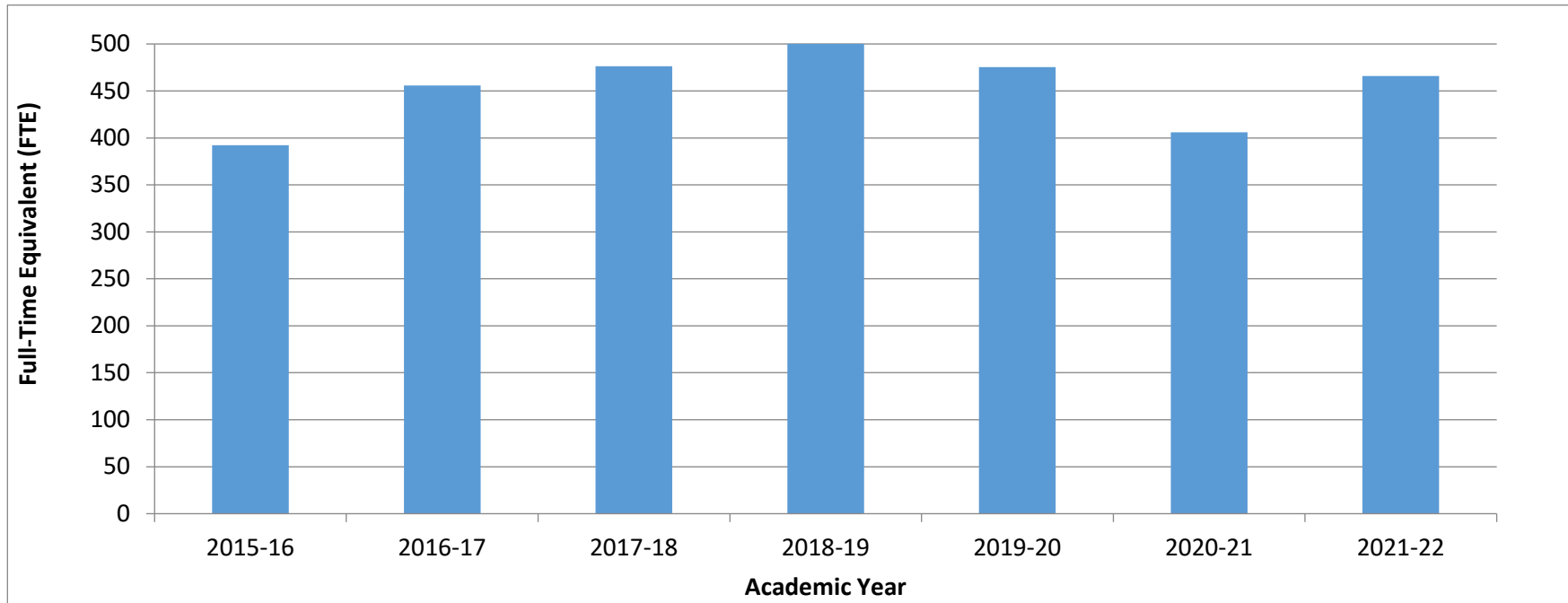
Part II Definitions

Clinical	Scientific research on clinical human healthcare practices to establish or improve safety and efficacy of devices, medications, and interventions.
Translational (T0-T4)	Scientific research designed to advance basic research towards clinical practice and to enhance adoption and impact of health practices.
T0	Basic biomedical research, including preclinical and animal studies. This type of research does not include interventions with human subjects.
T1	Translation to humans; includes Phase 1 clinical trials to study new diagnostic methods, treatments or prevention strategies.
T2	Translation to patients. This includes efficacy trials (controlled Phase 2 and 3 clinical trials).
T3	Translation to practice. This stage includes Phase 4 clinical outcomes research.
T4	Translation to community. This includes population level research to evaluate benefits to society.
Basic	Scientific research to improve understanding or prediction of phenomena.
<i>If science is basic and translational, then call it translational.</i>	
<i>If science is translational and clinical, then call it clinical.</i>	
<i>These definitions were adapted from several sources.</i>	
Federal: NIH	All other NIH institutes except National Eye Institute
Federal: Other	National Science Foundation, Department of Defense, etc.
Other (including research contracts & subawards)	Contract research activities for hire, subawards from other institutions, etc.

Aggregate FTE of Faculty Participating in Research

U.S. Schools and Colleges of Optometry

2015-2022



	2015-16 ¹	2016-17 ¹	2017-18	2018-19	2019-20	2020-21 ¹	2021-22 ¹
Aggregate FTE of All Faculty Participating in Research²	392.21	455.74	476.24	502.04	475.35	406.08	465.98

¹In 2015-16, 2016-17, 2020-21 and 2021-22, data was collected from 22 out of 23 schools. 2017-18, 2018-19 and 2019-20 include all schools.

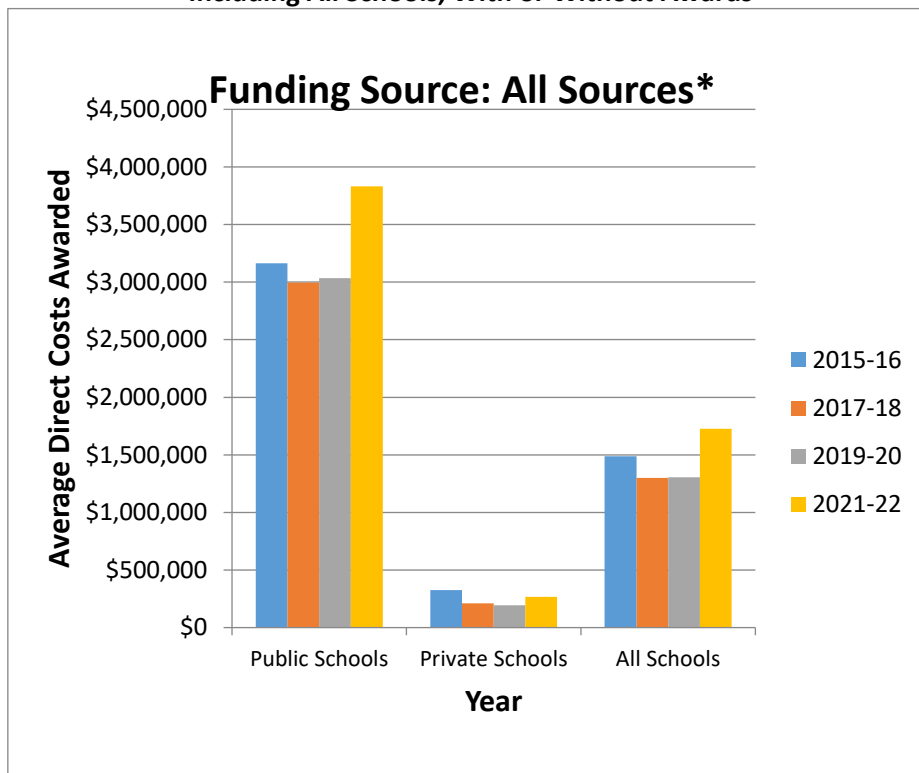
²This is the FTE of the faculty who participate in research, not the FTE that they use to participate in research. FTE is during the faculty member's working period, regardless of whether the faculty member is on a 9 or 12 month appointment. Does not include faculty from other institutions who collaborate on research projects. Aggregate FTE in this question means the sum of the total FTE of each faculty member that participates in research, regardless of whether the faculty member conducts administrative, clinical, didactic, or research duties. Includes all tenure track, clinical track, and research track faculty who are optometry personnel who participate in research as a PI, masked examiner, statistician, etc. Does not include faculty from outside units who collaborate on research projects.

Average Research Funding, Public & Private Schools

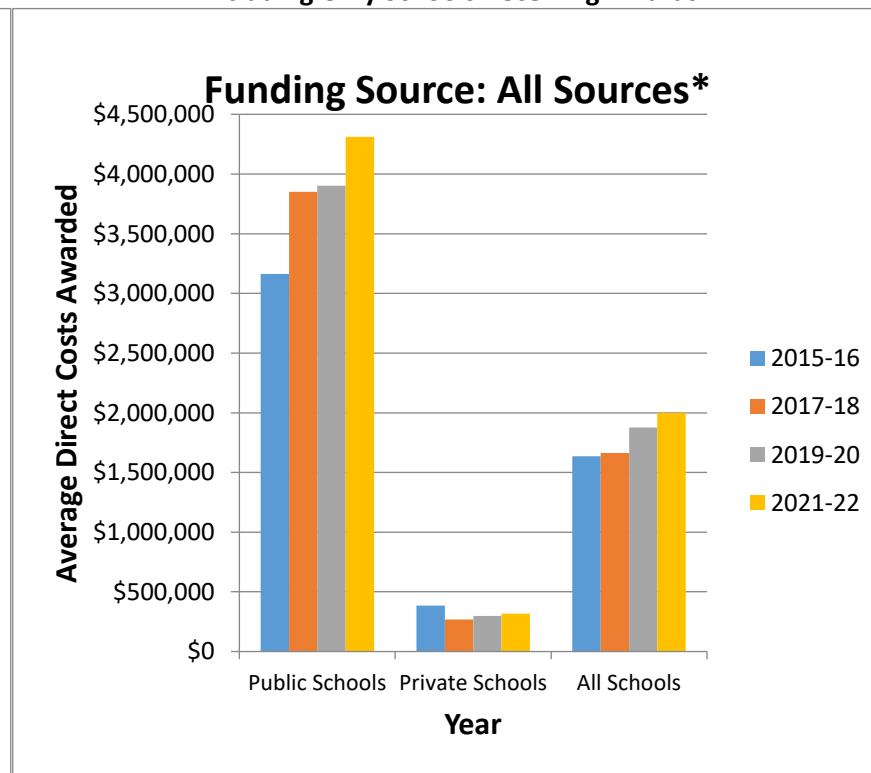
U.S. Schools and Colleges of Optometry

Direct Costs Awarded 2015-2022

Including All Schools, With or Without Awards



Including Only Schools Receiving Awards



Average Funding per School, Based on All Participating Schools				Average Funding per School, Based on Schools Receiving Awards			
	Public Schools	Private Schools	All Schools		Public Schools	Private Schools	All Schools
2015-16				2015-16			
22 of 23 schools	\$3,163,844	\$325,694	\$1,486,755	20 schools w/awards	\$3,163,844	\$384,911	\$1,635,431
2017-18				2017-18			
23 of 23 schools	\$2,995,173	\$211,249	\$1,300,611	18 schools w/awards	\$3,850,936	\$268,862	\$1,661,891
2019-20				2019-20			
23 of 23 schools	\$3,034,793	\$192,521	\$1,304,715	16 schools w/awards	\$3,901,876	\$299,478	\$1,875,527
2021-22				2021-22			
22 of 23 schools	\$3,832,200	\$268,043	\$1,726,107	19 schools w/awards	\$4,311,225	\$316,778	\$1,998,650

*Includes Federal NEI, Federal NIH, Federal Other, State, Private Foundation, Industry, Other Including Research Contracts and Subawards

Association of Schools and Colleges of Optometry

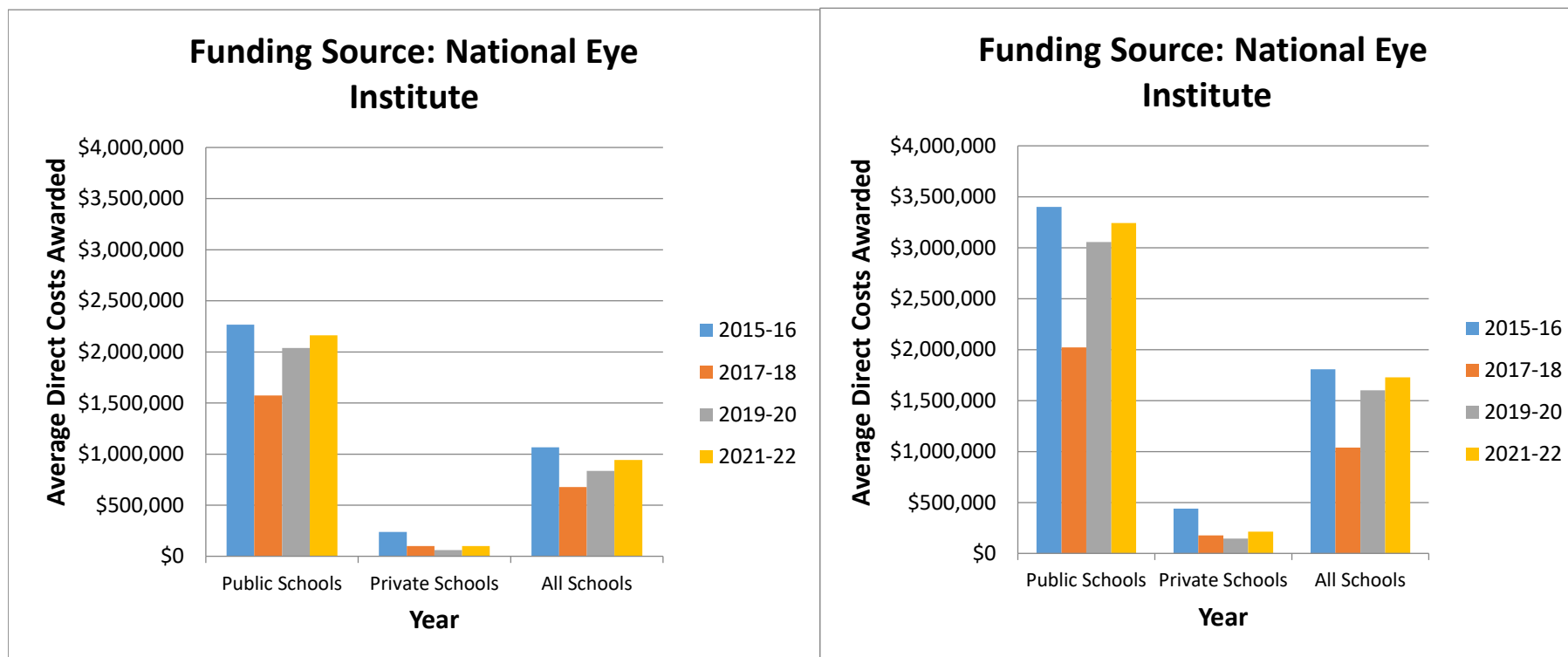
Average Research Funding, Public & Private Schools

U.S. Schools and Colleges of Optometry

Direct Costs Awarded 2015-2022

Including All Schools, With or Without Awards

Including Only Schools Receiving Awards



Average Funding per School, Based on All Participating Schools				Average Funding per School, Based on Schools Receiving Awards			
	Public Schools	Private Schools	All Schools		Public Schools	Private Schools	All Schools
2015-16 22 of 23 schools	\$2,267,163	\$237,013	\$1,067,529	2015-16 13 schools w/awards	\$3,400,745	\$440,167	\$1,806,587
2017-18 23 of 23 schools	\$1,572,472	\$101,124	\$676,869	2017-18 15 schools w/awards	\$2,021,750	\$176,967	\$1,037,866
2019-20 23 of 23 schools	\$2,038,140	\$61,947	\$835,240	2019-20 12 schools w/awards	\$3,057,210	\$144,542	\$1,600,876
2021-22 22 of 23 schools	\$2,162,218	\$99,043	\$943,069	2021-22 12 schools w/awards	\$3,243,327	\$214,593	\$1,728,960

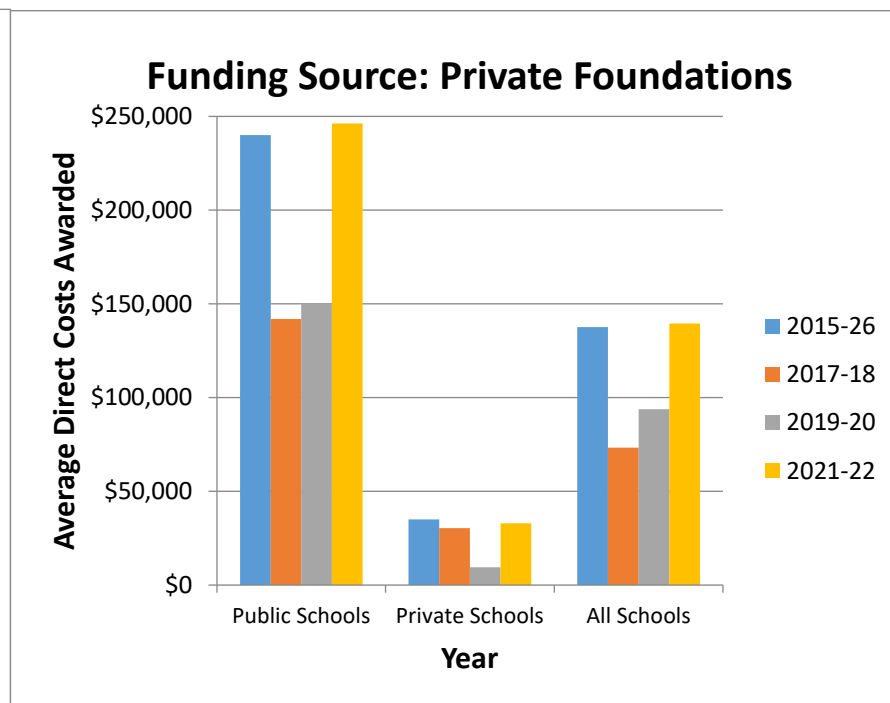
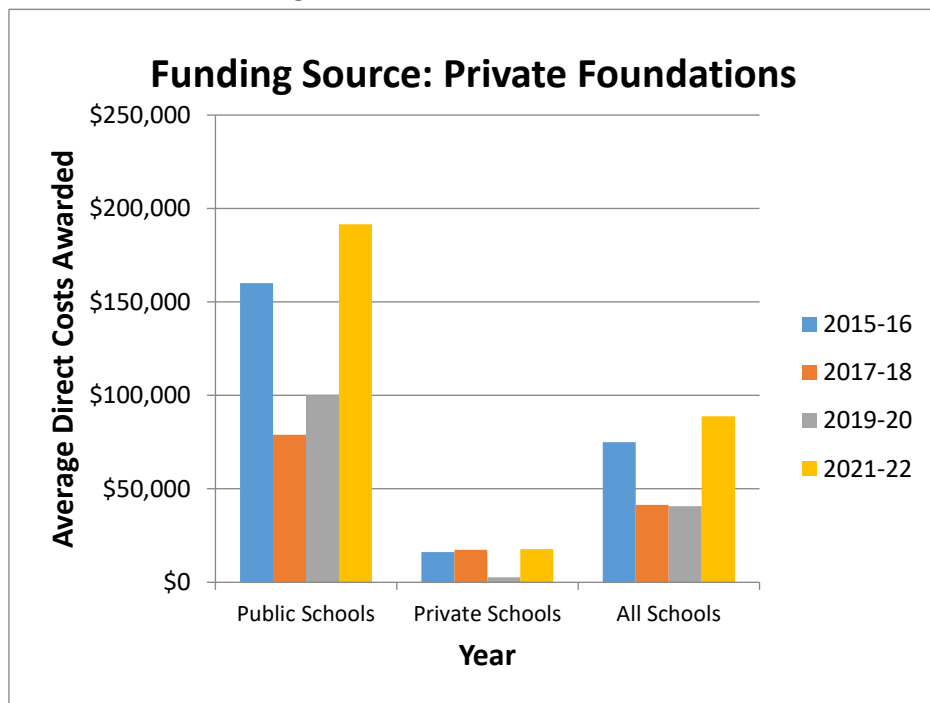
Average Research Funding, Public & Private Schools

U.S. Schools and Colleges of Optometry

Direct Costs Awarded 2015-2022

Including All Schools, With or Without Awards

Including Only Schools Receiving Awards

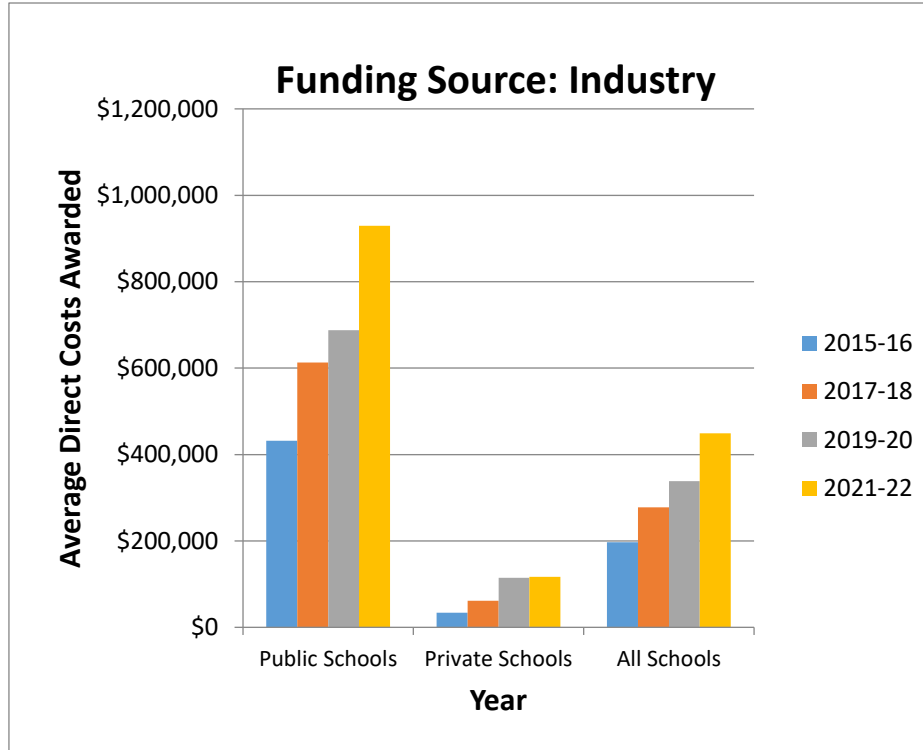


Average Funding per School, Based on All Participating Schools				Average Funding per School, Based on Schools Receiving Awards			
	Public Schools	Private Schools	All Schools		Public Schools	Private Schools	All Schools
2015-16 22 of 23 schools	\$160,051	\$16,143	\$75,015	2015-16 12 schools w/awards	\$240,076	\$34,977	\$137,527
2017-18 23 of 23 schools	\$78,879	\$17,313	\$41,404	2017-18 13 schools w/awards	\$141,982	\$30,298	\$73,253
2019-20 23 of 23 schools	\$100,113	\$2,692	\$40,813	2019-20 10 schools w/awards	\$150,169	\$9,424	\$93,871
2021-22 22 of 23 schools	\$191,475	\$17,734	\$88,810	2021-2022 16 schools w/awards	\$246,182	\$32,935	\$139,558

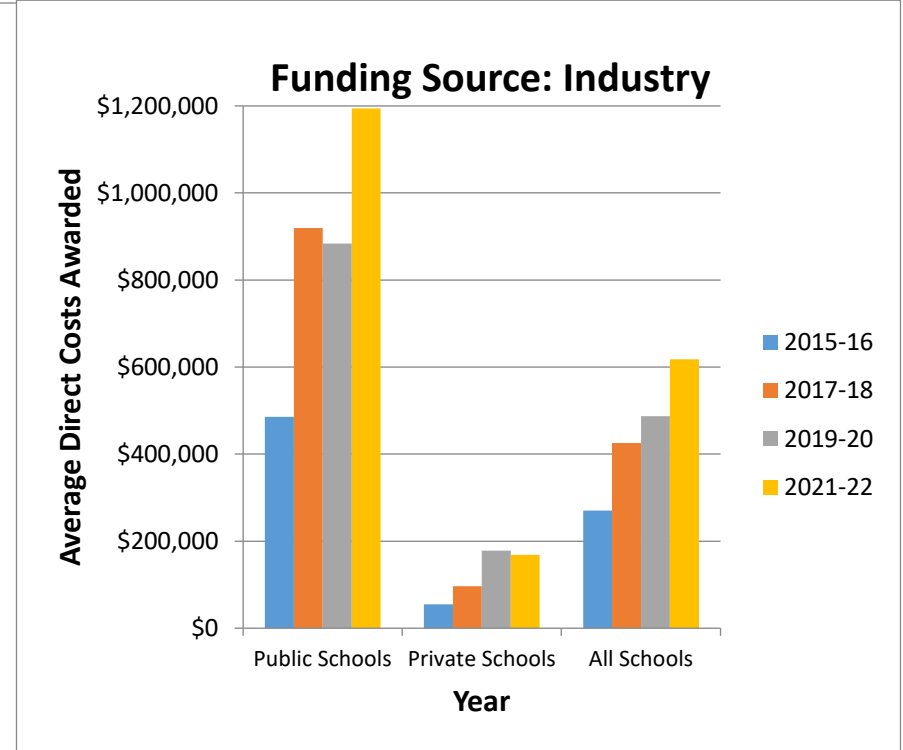
Average Research Funding, Public & Private Schools

U.S. Schools and Colleges of Optometry
Direct Costs Awarded 2015-2022

Including All Schools, With or Without Awards



Including Only Schools Receiving Awards



Average Funding per School, Based on All Participating Schools				Average Funding per School, Based on Schools Receiving Awards			
	Public Schools	Private Schools	All Schools		Public Schools	Private Schools	All Schools
2015-16 22 of 23 schools	\$431,817	\$33,900	\$196,684	2016-17 16 schools w/awards	\$485,794	\$55,088	\$270,441
2017-18 23 of 23 schools	\$613,117	\$61,802	\$277,534	2017-18 15 schools w/awards	\$919,676	\$96,136	\$425,552
2019-20 23 of 23 schools	\$687,522	\$114,413	\$338,673	2019-20 16 schools w/awards	\$883,956	\$177,976	\$486,842
2021-22 22 of 23 schools	\$929,088	\$116,926	\$449,174	2021-22 16 schools w/awards	\$1,194,542	\$168,894	\$617,615

Association of Schools and Colleges of Optometry
www.optometriceducation.org