



Plastic Surgery Foundation (PSF) Funding Trends and Application Metrics for Awardees: A 10-year Retrospective Analysis on Successful Applicants

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Background and Methods:

- When stratifying NIH grant funding from 2011-2020 by medical specialty, **Plastic Surgery ranks last of all studied specialties**, in both of total funding amount and number of funded grants¹
- The Plastic Surgery Foundation (PSF) thus represents the primary source of funding for plastic surgery investigators
- Per their *Mission Statement*, the PSF endeavors toward supporting innovative plastic surgery projects for future extramural funding, thus the **purpose of this study is to investigate the breakdown between PSF funding and NIH grant awards**.
- Previously, PSF applications have been analyzed to identify metrics characteristic of “successful” PSF grant projects; however, the factors which predict **objective outcome metrics**, including publication or future extramural funding **remain incompletely characterized**.
- Our group **hypothesized** that differences in applicant prestige factors, including training background, project mentor and institution, would predict PSF grant award success, but would not predict future NIH funding for the awarded project.
- Our group **analyzed** applicant demographic information, publication history, previously-validated readership and impact metrics (Mendeley Readership score and Altmetric score) and extramural funding from **319 awarded PSF grants over 10 years (2004-2013)**.
- Additionally, for each **applicant's home institution**, we identified yearly School of Medicine and Department of Surgery Funding **NIH funding ranking** for from the Blue Ridge Institute for Medical Research (BRIMR) to **interrogate funding inequity in applicants**

Table 1: Publication Data Stratified by Project Type

	Basic Science (n = 190)	Clinical (n = 47)	p-value
Years to Publication	3.13 ± 0.15	3.94 ± 0.40	**0.0225
Average IF	3.17 ± 0.14	2.85 ± 0.29	0.3134
Average Altmetric Score	2.02 ± 0.82	5.82 ± 1.90	**0.0469
Average Number of Citations	28.64 ± 2.48	36.60 ± 5.57	0.1646
Average Mendeley Reader Score	30.24 ± 1.77	46.09 ± 3.96	**0.0001
PI H-Index	17.86 ± 0.88	28.02 ± 2.47	**0.0001
Mentor H-Index	39.15 ± 1.53	37.34 ± 2.51	0.5870

Table 2: Publication Data Stratified by Additional Non-Clinical Training Degree

	Dual Degree (n = 75)	Single Degree (n = 162)	p-value
Years to Publication	3.16 ± 0.24	3.36 ± 0.19	0.5356
Average IF	3.16 ± 0.26	3.08 ± 0.14	0.7682
Average Altmetric Score	3.29 ± 2.05	2.38 ± 0.59	0.5800
Average Number of Citations	32.09 ± 4.28	29.35 ± 2.70	0.5764
Average Mendeley Reader Score	35.95 ± 3.31	32.20 ± 1.92	0.2996
PI H-Index	23.51 ± 1.89	18.37 ± 1.01	**0.0156
Mentor H-Index	38.23 ± 1.83	39.05 ± 1.76	0.7751

Table 3: Publication Data Stratified by School of Medicine NIH Funding Rank

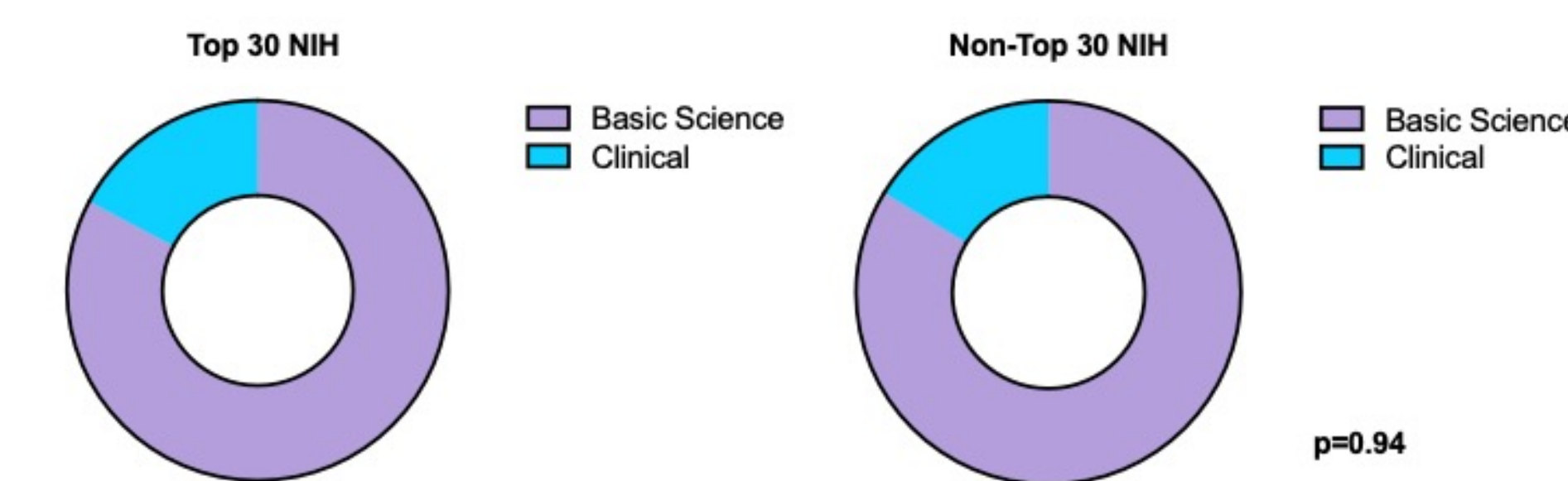
	Top 30 NIH Funding (n = 149)	Non-Top 30 NIH (n = 88)	p-value
Years to Publication	3.13 ± 0.18	3.48 ± 0.25	0.3394
Average IF	3.12 ± 0.17	3.08 ± 0.18	0.8783
Average Altmetric Score	2.79 ± 1.11	2.47 ± 0.83	0.8396
Average Number of Citations	29.60 ± 3.04	31.30 ± 3.37	0.7196
Average Mendeley Reader Score	33.24 ± 2.13	33.66 ± 2.73	0.9039
PI H-Index	18.91 ± 1.11	22.56 ± 1.03	**0.0277
Mentor H-Index	40.18 ± 1.07	35.34 ± 1.01	**0.0027

Table 4: Publication Data Stratified by Gender

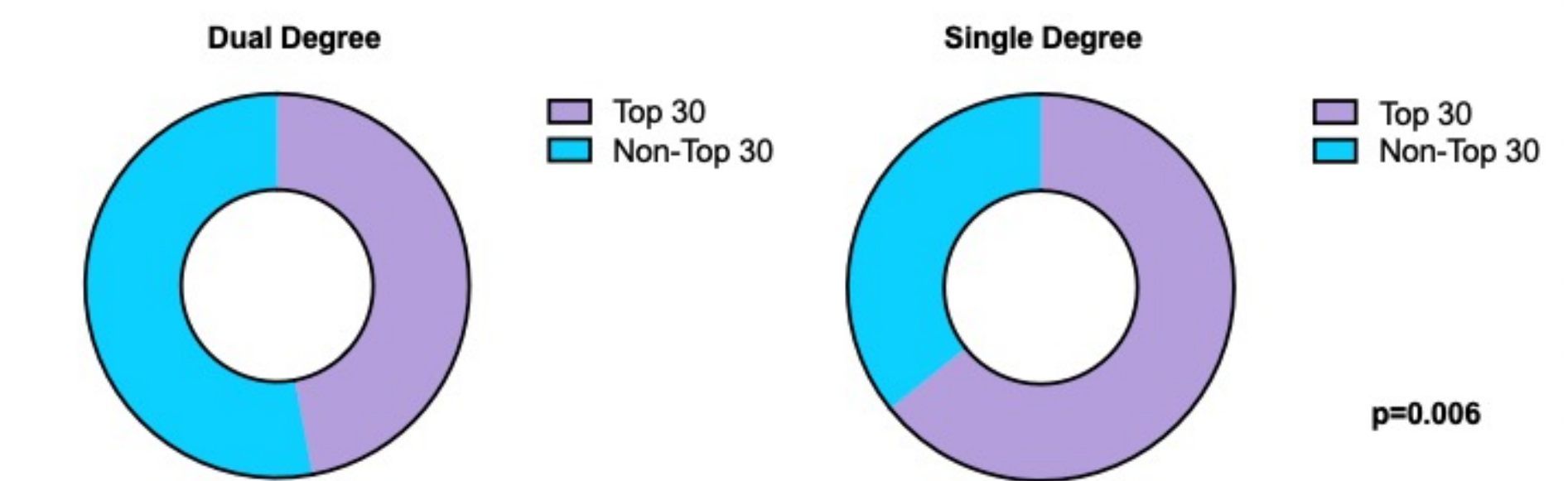
	Males (n = 181)	Females (n = 56)	p-value
Years to Publication	3.16 ± 0.17	3.75 ± 0.33	0.0942
Average IF	3.07 ± 0.13	3.21 ± 0.32	0.6311
Average Altmetric Score	2.22 ± 0.54	4.11 ± 1.74	0.1691
Average Number of Citations	29.18 ± 2.83	35.59 ± 2.88	0.2154
Average Mendeley Reader Score	31.79 ± 1.98	38.55 ± 3.40	0.0890
PI H-Index	19.89 ± 1.07	19.86 ± 2.05	0.9891
Mentor H-Index	37.98 ± 1.63	41.42 ± 2.37	0.2751

**two-tailed t-test; alpha <0.05
Mean ± SEM

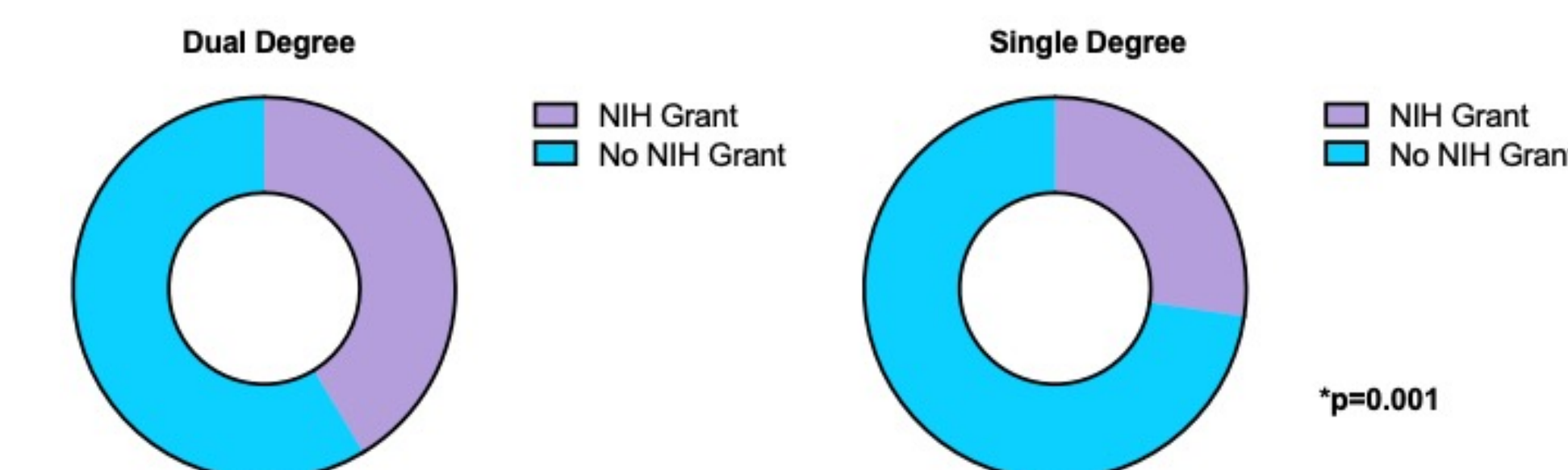
PSF Grant Award Based on NIH Ranking and Project Type



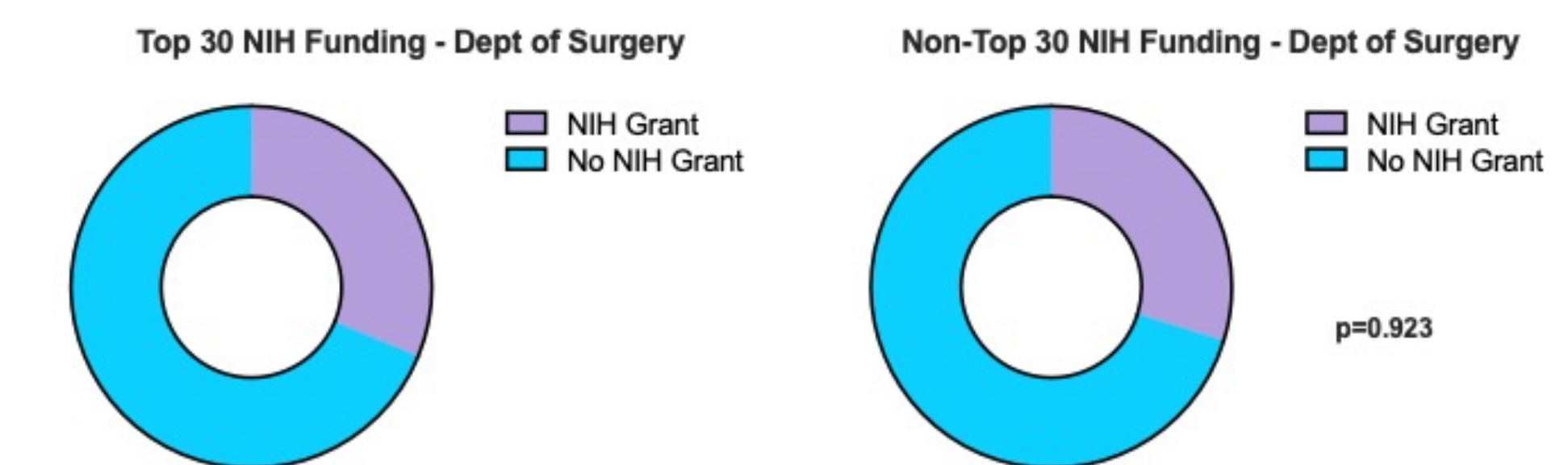
PSF Grant Award Based on Degree and NIH Funding Rank



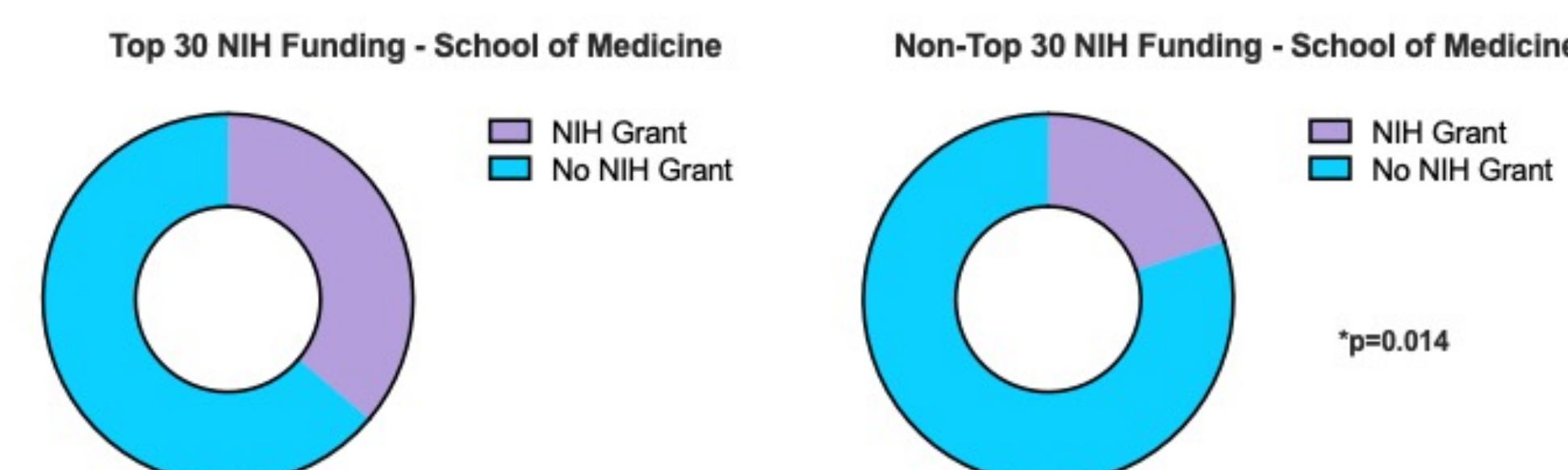
Likelihood of NIH Funding Based on Training Degrees



Likelihood of NIH Funding Based on Department of Surgery NIH Funding Rank



Likelihood of NIH Funding Based on School of Medicine NIH Funding Rank



Results and Discussion:

- 237 of 319 grants (74%) resulted in publication**. Funded PSF Grants are primarily basic science grants in all applicant demographics and institutions
- Clinical projects have higher readership metrics, but comprise less than 25% of all funded PSF grants
- Dual degree funded applicants** do not publish at a faster rate or have higher readership metrics than single degree counterparts. They **are more likely to successfully obtain NIH funding from PSF grant projects**
- Funded PSF applicants from **non-NIH Top 30 School of Medicine Programs** require more significant **publication track record** than Top 30 applicants
- 23% of funded PSF grants went to females**, who trended to have higher readership metrics than their male counterparts
- Department of Surgery NIH Funding ranking was not a significant predictor of future NIH funding in successful PSF applicants, however **School of Medicine NIH Funding ranking did predict future NIH funding success**

Reference:

¹Schlaflly A, Sebros R. Does NIH funding differ between medical specialties? A longitudinal analysis of NIH grant data by specialty and type of grant, 2011-2020. BMJ Open. 2022 Dec 30;12(12):e058191. doi: 10.1136/bmjopen-2021-058191. PMID: 36585146

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