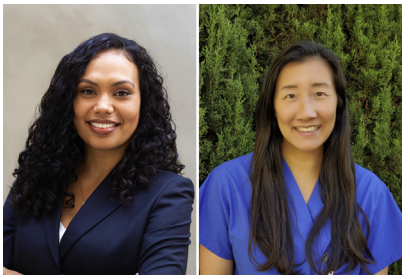
See Article page 282.

Commentary: American Association for Thoracic Surgery foundation research grants: An opportunity to shape the future of cardiothoracic surgery

Rosyli F. Reveron-Thornton, MD, MS,[a] and Natalie S. Lui, MD, MAS[b]



Rosyli F. Reveron-Thornton, MD, MS, and Natalie S. Lui, MD, MAS

CENTRAL MESSAGE

AATS awardees demonstrated academic achievements, but the true impact of the awards cannot be determined without additional data, leaving an opportunity to promote diversity, equity, and inclusion.

In this issue of *JTCVS Open*, Aranda-Michel and colleagues[1] describe the scholastic and career impacts of 2 American Association for Thoracic Surgery (AATS) Foundation research grants for early-career cardiothoracic (CT) surgeons. The Research Scholarship started in 1986 and is awarded in the basic sciences, whereas the Surgical Investigator Program started in 2014 and focuses on clinical and translational research. Study participants include the 42 recipients of the Research Scholarship and 24 recipients of the Surgical Investigator Program.

Faculty who received these awards had significant subsequent academic achievements by several measures. Awardee publications were cited a median of 4733 (Research Scholarship) and 1346 (Surgical Investigator Program) times with a median H-index of 33 and 17, respectively. Most awardees were academically promoted (71%), and close to one-half currently hold leadership positions. Most impressively, 45% of awardees (across both grants) secured subsequent funding from the National Institutes of Health (NIH). In the Research Scholarship cohort, 54% of the eligible awardees secured subsequent NIH funding, with 85% of these grants being K-, R-, or P-level mechanisms. Of the Surgical Investigator Program awardees, already 26% of eligible awardees secured NIH funding (all of which were K-, R-, and U-level grants). The funding rates are much greater than the overall 20.6% success rate of grants funded by the NIH in the 2020 fiscal year.[2]

It is clear that the AATS Foundation research grants are associated with substantial academic success. However, the primary limitation of this study is the lack of a comparison group, making it challenging to determine the true effect of the awards. In addition, several variables that affect advancement, such as race, age, training institution, and previous grants, were not available.[3-7] It was shocking to learn that only 2 (4.8%) women have been awarded the Research Scholarship and 4 (16.7%) the Surgical Investigator Program recipients. Although these proportions reflect the demographics of our specialty over the long time period, there is much room for improvement in promoting diversity, equity, and inclusion. It is estimated that 17%, 5%, and 3% of CT surgeons in academia are women, Hispanic, and Black, respectively with the latter 2 subgroups composing 3% and 5% of CT surgical faculty, respectively.[8] The impact of gender bias within surgery, especially in CT surgery, where women make up <10% of the specialty, has been documented extensively.[9-11] Furthermore, the study did not comment on the research fields, but the awards focus on basic

From the [a]Department of Surgery and [b]Division of Thoracic Surgery, Department of Cardiothoracic Surgery, Stanford University School of Medicine, Stanford, Calif.

Disclosures: Natalie Lui has research grants from Intuitive Foundation. Rosyli Reveron-Thornton reported no conflicts of interest.

The *Journal* policy requires editors and reviewers to disclose conflicts of interest and to decline handling or reviewing manuscripts for which they may have a conflict of interest. The editors and reviewers of this article have no conflicts of interest.

Received for publication Dec 8, 2021; revisions received Dec 8, 2021; accepted for publication Jan 13, 2022; available ahead of print March 15, 2022.

Address for reprints: Natalie S. Lui, MD, MAS, Division of Thoracic Surgery, Department of Cardiothoracic Surgery, Stanford University School of Medicine, 300 Pasteur Dr, Falk Building, Stanford, CA 94305 (E-mail: natalielui@stanford.edu).

JTCVS Open 2022;10:291-2
2666-2736

https://doi.org/10.1016/j.xjon.2022.01.025

science and clinical and translational research. There is an opportunity for the AATS Foundation to encourage other areas of research, such as health equity and education.

In summary, AATS Foundation research grant awardees excelled at their research endeavors, but the impact of the awards themselves is difficult to determine without a comparison group and information about other important variables. Looking ahead, it is important to obtain these data about recipients and applicants to understand the impact of research funding. Purposeful awarding of these research grants has the ability address some of the systemic issues plaguing various surgical fields today, such as diversity and low rates of surgeon scientists. As the importance of diversity (including gender, race, and area of research) on innovation, work environment, and patient care continues to be documented, the level of detail at which we track these effects must be improved to help us draw clearer conclusions with limited research funds.

References

1. Aranda-Michel E, Luketich JD, Rao R, Morell VO, Arnaoutakis GJ, Kilic A, et al. The effect of receiving an award from the American Association for Thoracic Surgery Foundation. *J Thorac Cardiovasc Surg Open*. 2022;10:282-9.
2. Research Project Grants. Competing applications, awards, and success rates. Accessed December 8, 2021. https://report.nih.gov/nihdatabook/report/20
3. Kravitz HM. Sex differences in grant funding. *JAMA*. 2019;322:578-80.
4. Lee CJ, Grant S, Erosheva EA. Alternative grant models might perpetuate Black–White funding gaps. *Lancet*. 2020;396:955-6.
5. Wahls WP. The NIH must reduce disparities in funding to maximize its return on investments from taxpayers. *Elife*. 2018;7:e34965.
6. Ratcliffe MB, Howard C, Mann M, del Nido P. National Institutes of Health funding for cardiothoracic surgical research. *J Thorac Cardiovasc Surg*. 2008;136:3927; discussion 398-9.
7. Niederhuber JE. An old problem that may be getting worse. *Ann Surg*. 2008;247:222-3.
8. Ceppa DP. Social disparities in the thoracic surgery workforce. *Thorac Surg Clin*. 2022;32:103-9.
9. Weiss A, Lee KC, Tapia V, Chang D, Freischlag J, Blair SL, et al. Equity in surgical leadership for women: more work to do. *Am J Surg*. 2014;208:494-8.
10. Zhuge Y, Kaufman J, Simeone DM, Chen H, Velazquez OC. Is there still a glass ceiling for women in academic surgery? *Ann Surg*. 2011;253:637-43.
11. Boiko JR, Anderson AJM, Gordon RA. Representation of women among academic grand rounds speakers. *JAMA Intern Med*. 2017;177:722-4.