Supplemental Online Content

Nguyen M, Chaudhry SI, Asabor E, et al. Variation in research experiences and publications during medical school by sex and race and ethnicity. *JAMA Netw Open*. 2022;5(10):e2238520. doi:10.1001/jamanetworkopen.2022.38520

eTable 1. Characteristics of US MD Graduates Between 2018 to 2019 and 2019 to 2020 by Medical School NIH Research Funding Rank

eTable 2. Characteristics of US MD Graduates Between 2018 to 2019 and 2019 to 2020 by MCAT Score and Time to Graduation

eTable 3. Association of Sex and Race and Ethnicity With Publication Count Among 2018 to 2020 MD Graduates

This supplemental material has been provided by the authors to give readers additional information about their work.
### Table 1. Characteristics of US MD Graduates Between 2018 to 2019 and 2019 to 2020 by Medical School NIH Research Funding Rank

| Medical School NIH Research Ranking | p-value |
|------------------------------------|---------|
| Top 40                             | Not Top 40 |
| **Total: 31,474**                  |          |
| N=8,976                            | N=22,498 |
| **Sex**                            | <0.001  |
| Male                               |          |
| 4,617 (51.4%)                     | 10,542 (46.9%) |
| Female                             |          |
| 4,359 (48.6%)                     | 11,956 (53.1%) |
| **Race/ethnicity**                | <0.001  |
| NH White                           |          |
| 5,150 (57.4%)                     | 13,483 (59.9%) |
| NH Asian                           |          |
| 2,133 (23.8%)                     | 4,296 (19.1%) |
| NH Black/African American          |          |
| 542 (6.0%)                        | 1,557 (6.9%) |
| Hispanic                           |          |
| 490 (5.5%)                        | 1,641 (7.3%) |
| NH American Indian/Alaska Native   |          |
| 27 (0.3%)                         | 50 (0.2%) |
| NH Hawaiian Native/Other Pacific Islander |          |
| 13 (0.1%)                         | 24 (0.1%) |
| NH Multiracial                     |          |
| 621 (6.9%)                        | 1,447 (6.4%) |
| **MCAT quartiles**                | <0.001  |
| 1st (lowest)                      |          |
| 758 (8.4%)                        | 6,198 (27.5%) |
| 2nd                               |          |
| 1,605 (17.9%)                     | 7,505 (33.4%) |
| 3rd                               |          |
| 1,762 (19.6%)                     | 4,590 (20.4%) |
| 4th (highest)                     |          |
| 4,851 (54.0%)                     | 4,205 (18.7%) |
| **Years to graduation**           | <0.001  |
| ≤ 4 years                         |          |
| 7,329 (81.7%)                     | 20,207 (89.8%) |
| > 4 years                         |          |
| 1,647 (18.3%)                     | 2,291 (10.2%) |
| **Research experiences, quintiles** |        |
| *Median, IQR*                     | <0.001  |
| 0-1                               |          |
| 3.00 (2.00-5.00)                  | 3.00 (1.00-4.00) |
| 2                                 |          |
| 1,285 (14.3%)                     | 6,075 (27.0%) |
| 3-4                               |          |
| 1,757 (19.6%)                     | 5,032 (22.4%) |
| >4                                |          |
| 3,567 (39.7%)                     | 7,446 (33.1%) |
| **Publication count, quintiles** | <0.001  |
| *Median, IQR*                     |          |
| 0-1                               |          |
| 5.00 (2.00-10.00)                 | 3.00 (1.00-7.00) |
| 2-4                               |          |
| 1,455 (16.2%)                     | 6,805 (30.2%) |
| 5-8                               |          |
| 2,470 (27.5%)                     | 6,904 (30.7%) |
| >8                                |          |
| 2,326 (25.9%)                     | 4,939 (22.0%) |
| **Publications per research experience (Median, IQR)** |          |
| 1.60 (1.00-3.00)                  | 1.25 (0.50-2.33) |

**Abbreviations**: NIH: National Institute of Health, NH: non-Hispanic, MCAT: Medical College Admission Test, IQR: inter-quartile range.
Table 2. Characteristics of US MD Graduates Between 2018 to 2019 and 2019 to 2020 by MCAT Score and Time to Graduation

|                         | 1st (Lowest) | 2nd | 3rd | 4th (Highest) |
|-------------------------|--------------|-----|-----|---------------|
| **Years to graduation** |              |     |     |               |
| ≤ 4 years               | 3,184 (45.77%) | 5,932 (65.12%) | 4,047 (63.71%) | 5,470 (60.40%) |
| > 4 years               | 2,873 (51.30%) | 4,505 (49.45%) | 3,446 (54.25%) | 5,491 (60.63%) |
| **Race/ethnicity**      |              |     |     |               |
| NH White                |              |     |     |               |
| Male                    |              |     |     |               |
| NH Asian                |              |     |     |               |
| NH Black/African American|            |     |     |               |
| Hispanic                |              |     |     |               |
| NH American Indian/Alaska Native| |     |     |               |
| NH Hawaiian Native/Other Pacific Islander| |     |     |               |
| NH Multiracial          |              |     |     |               |
| **Sex-Race/ethnicity**  |              |     |     |               |
| White male              |              |     |     |               |
| Asian male              |              |     |     |               |
| URiM male               |              |     |     |               |
| White female            |              |     |     |               |
| Asian female            |              |     |     |               |
| URiM female             |              |     |     |               |

© 2022 Nguyen M et al. JAMA Network Open.
*Abbreviations: NH: non-Hispanic, MCAT: Medical College Admission Test*
**Table 3.** Association of Sex and Race and Ethnicity With Publication Count Among 2018 to 2020 MD Graduates

| Medical School NIH Research Ranking | Top 40 | Not Top 40 |
|------------------------------------|--------|-----------|
| Median (IQR) | Unadjusted IRR | Adjusted IRR: MCAT + Time to graduation | Median (IQR) | Unadjusted IRR | Adjusted IRR: MCAT + Time to graduation |
| **Sex** | | | | | |
| Male | 6.00 (2.00-10.00) | (Ref) | (Ref) | 3.00 (1.00-7.00) | (Ref) | (Ref) |
| Female | 5.00 (3.00-10.00) | 0.88 (0.86 - 0.89) | 0.89 (0.87 - 0.90) | 3.00 (1.00-7.00) | 0.92 (0.91 - 0.93) | 0.93 (0.92 - 0.95) |
| **Race/ethnicity** | | | | | |
| White | 5.00 (2.00-9.00) | (Ref) | (Ref) | 3.00 (1.00-7.00) | (Ref) | (Ref) |
| Asian | 7.00 (3.00-11.00) | 1.24 (1.22 - 1.27) | 1.22 (1.20 - 1.24) | 4.00 (2.00-8.00) | 1.14 (1.12 - 1.16) | 1.13 (1.12 - 1.15) |
| Black/African American | 4.00 (2.00-8.00) | 0.95 (0.92 - 0.98) | 1.01 (0.98 - 1.05) | 2.00 (0.00-5.00) | 0.79 (0.77 - 0.81) | 0.87 (0.84 - 0.89) |
| Hispanic | 4.00 (2.00-9.00) | 1.06 (1.02 - 1.11) | 1.10 (1.06 - 1.14) | 2.00 (0.00-5.00) | 0.91 (0.88 - 0.93) | 0.96 (0.94 - 0.99) |
| American Indian/Alaska Native | 5.00 (2.00-12.00) | 0.87 (0.74 - 1.01) | 0.91 (0.78 - 1.06) | 3.00 (0.00-7.00) | 1.17 (1.03 - 1.33) | 1.23 (1.09 - 1.39) |
| Hawaiian Native/Other Pacific Islander | 4.00 (2.00-13.00) | 1.04 (0.85 - 1.28) | 1.05 (0.85 - 1.29) | 2.50 (0.50-5.00) | 0.83 (0.67 - 1.02) | 0.85 (0.69 - 1.05) |
| Multiracial | 5.00 (3.00-10.00) | 1.11 (1.08 - 1.15) | 1.13 (1.09 - 1.16) | 3.00 (1.00-6.00) | 0.97 (0.95 - 1.0) | 0.99 (0.97 - 1.02) |