Medical Students’ Exposure to Plastic Surgery: A Cross-sectional Review of Scholarly and Academic Opportunities

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Background: Specialty exposure is most influential in a medical student’s decision to pursue plastic surgery training. We aimed to understand what opportunities exist for students through national plastic surgery organizations.

Methods: The American Board of Plastic Surgery, American Society of Plastic Surgeons, and The Aesthetic Society provide online lists of related organizations. Cross-referencing lists yielded 47 unique organizations. Screening for presence of annual meeting and relevance to student and resident education yielded 14 organizations. Bylaws/web-domains were reviewed for information related to the annual meeting, leadership opportunities, membership, grants, and travel scholarships. If available, previrtual/in-person and virtual meeting prices were collected. Lastly, discrepancies between webpage information and phone/email correspondence were noted.

Results: All (100%) organizations welcomed students at annual meetings. Eleven promoted student presentation/submission. Average student registration fee was $109.3 ± SD$136.5 compared with $181.20 ± SD$157.20 for residents. Of organizations providing previrtual and virtual pricing (n = 10, 71.4%), there was an average price reduction in student registration of $92 (range: $0–375). Average student membership was $31.70/year ± SD $45.50 compared with $38.80 per year ± SD $65.90 for residents. The percentages of organizations offering student research grants, travel scholarships, and national student leadership were 21.4% (n = 3), 35.8% (n = 5), and 28.6% (n = 4) respectively. No organizations had student chapters/committees. All organizations (100%) contained at least one discrepancy between webpage/bylaw and email/phone.

Conclusions: Our results suggest that although national opportunities seem to be limited, a role exists for further engagement, with interested students eager to take the initiative. Virtual conferences present a lower-cost alternative for students and residents. (Plast Reconstr Surg Glob Open 2022;10:e4239; doi: 10.1097/GOX.0000000000004239; Published online 31 May 2022.)

INTRODUCTION

Over the past decade, integrated plastic surgery residency programs have experienced a rapid upstroke in medical student applicants.1,2 Entering the specialty has become increasingly more competitive, as these applicants represent a subset of students with some of the highest United States Medical Licensing Examination Step 1 and 2 scores, Alpha Omega Alpha Honor Medical Society membership rates, and research productivity.2–8 The most influential factor in pursuing plastic surgery is exposure during one’s medical education.1,9 More studies extend this claim to any surgical subspecialty applicant, but make special mention of plastic surgery.9–17 A recent nationwide survey revealed that interested students perceived the coronavirus disease 2019 (COVID-19) pandemic as negatively impacting their education, likely owing to limitations in clinical exposure and mentorship.18 Moreover, a scoping review validates the importance of mentorship during these unprecedented times.19 In fact, mentorship specifically by a plastic surgeon was shown to be the most important factor driving students’

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desire to apply when compared with other factors, such as income and lifestyle.\textsuperscript{20–22}

Additionally, recent studies assessing student perception of plastic surgery demonstrated a limited understanding of how plastic surgeons contribute to medicine, quite often underestimating the breadth of procedures and techniques.\textsuperscript{17,23–27} A study from the United Kingdom reports two major reasons: distortion of the field by social media exposure and lack of specialty exposure through curriculums, the latter being a longstanding issue across multiple institutions.\textsuperscript{28–31} The reliance on exposure is even more important for students without home programs.\textsuperscript{32}

Although exposure to plastic surgery continues to be an institutional-level issue, no studies have assessed the landscape of students’ exposure to plastic surgery at state, regional or national levels.\textsuperscript{33–35} This study examines available opportunities related to professional development, academic leadership, and research engagement through national plastic surgery organizations within the United States.

METHODS

This is a cross-sectional study in which data collection occurred during November 2020–May 2021.

Selection Criteria

A total of 47 unique plastic surgery organizations were identified from cross-referencing lists provided on webpages of three accredited sources, including The American Board of Plastic Surgery, Inc., American Society of Plastic Surgeons (ASPS), and The Aesthetic Society. (Fig. 1)

This preliminary list was screened for relevance to the field of plastic surgery by two independent researchers. Once the initial list was narrowed to 23, organizations were further excluded via the following criteria: organization without annual meetings, local/state/regional or international organizations, and organizations targeting providers of associated plastic surgery procedures other than surgeons, residents, or medical students (eg, physician assistants or nurses). After a final review by the authors, a total of 14 national plastic surgery-related organizations were included for subsequent review.

DATA COLLECTION

Two investigators independently reviewed bylaws and webpages of 14 national organizations for information related to the annual meeting, leadership opportunities, organizational membership, grants and travel scholarships (Table 1). Variables relevant to residents were also collected. Descriptive statistics (eg, mean, range, and SD) were used to analyze variables. Gathered variables are described below.

Takeaways

**Question:** What is the landscape of educational opportunities for medical students within national plastic surgery organizations?

**Findings:** A comprehensive review of national plastic surgery organizations reveals that opportunities exist for medical students to attend and present research at national conferences. However, involvement within national committees and leadership is limited. In addition, virtual conferences present a lower-cost alternative for students and residents.

**Meaning:** Our results suggest that although national opportunities seem to be lacking, a role exists for further engagement with interested students eager to take the initiative.

![Fig. 1. Methodology for inclusion and exclusion of plastic surgery organizations.](image)
Regarding annual meetings, the authors recorded costs of attendance for both students and residents and the lowest available registration fee if rates differed between early-bird and late sign-up fees. Registration fees were noted based on availability at the time of search. In the event that future meeting registration pricing tiers had not been finalized or made publicly available, pricing for the upcoming meeting or that of the last annual meeting was gathered via email/phone communication with organization correspondents. If available, previous (ie, in-person) and virtual registration prices were collected (Table 2). In addition, if presentation of research occurred, willingness for the organization to allow student abstract submission was captured. If multiple organizations co-hosted an annual meeting, attendee registration and research opportunities were considered separately.

### Table 1. National Plastic Surgery Organizational Review

| Organization | Annual Meeting | Open to Medical Students | Is Research Presented at Annual Meeting? | Are Medical Students Allowed to Present? | [Medical Student] Cost of Attendance | [Resident] Cost of Attendance | Medical Student National Chapters | Leadership | Student Membership | [Medical Student] Lowest Membership Cost | [Resident] Lowest Membership Cost | Research Grants/Scholarships (Med Student Specific) | Travel Scholarships (Med Student Specific) |
|--------------|----------------|--------------------------|--------------------------------------|----------------------------------------|------------------------------------|-------------------------------|----------------------------------|-----------|-----------------|------------------------------------|-------------------------------|--------------------------------|-----------------------------|
| AACS         | Yes            | Yes                      | No                                   | No                                     | 925                                | 249                           | No                               | No        | No              | —                                  | 0                             | No                           | No                         |
| AAFPRS       | Yes            | Yes                      | No                                   | No                                     | 150                                | 300                           | No                               | No        | No              | 0                                  | 0                             | No                           | Yes                        |
| AAHS         | Yes            | Yes                      | Yes                                  | Yes                                    | 100                                | 200                           | 125                              | 125       | No              | No                                 | No                           | No                           | No                         |
| AAPS         | Yes            | Yes                      | Yes                                  | Yes                                    | 200                                | 200                           | No                               | No        | No              | —                                  | 0                             | No                           | Yes                        |
| ACAPS        | Yes            | Yes                      | Yes                                  | Yes                                    | 125                                | 290                           | No                               | No        | Yes             | 0                                  | 115                           | No                           | Yes                        |
| ACPA-CFA     | Yes            | Yes                      | Yes                                  | Yes                                    | 40                                 | 290                           | No                               | No        | No              | —                                  | —                            | No                           | No                         |
| ASCFS        | Yes            | Yes                      | Yes                                  | Yes                                    | 40                                 | 299                           | No                               | No        | No              | —                                  | 0                             | No                           | No                         |
| ASERF        | Yes            | Yes                      | Yes                                  | No                                     | 0                                 | 0                             | No                               | Yes        | No              | 0                                  | 200                           | No                           | No                         |
| ASMS         | Yes            | Yes                      | Yes                                  | Yes                                    | 0                                 | 0                             | No                               | No        | No              | —                                  | 0                             | No                           | No                         |
| ASOPRS       | Yes            | Yes                      | Yes                                  | Yes                                    | 450                                | 450                           | No                               | No        | No              | —                                  | —                            | No                           | No                         |
| ASPS         | Yes            | Yes                      | Yes                                  | Yes                                    | 0                                 | 0                             | No                               | No        | Yes             | 25                                 | 100                           | No                           | No                         |
| ARM          | Yes            | Yes                      | Yes                                  | Yes                                    | 45                                | 45                            | No                               | No        | Yes             | 0                                  | 0                             | Yes                          | Yes                        |
| ASSH         | Yes            | Yes                      | Yes                                  | Yes                                    | 100                                | 100                           | No                               | No        | No              | —                                  | —                            | No                           | No                         |
| PSRC         | Yes            | Yes                      | Yes                                  | Yes                                    | 0                                 | 0                             | No                               | Yes        | No              | 50                                 | 50                            | Yes                          | No                         |
| Count/average| 14             | 14                       | 13                                   | 11                                    | $109.50 ± 136.50                    | $181.20 ± 157.20               | 0                                | 3         | 6               | $31.70/y ± 45.50                    | $38.80/y ± 65.90              | 3                            | 5                          |

AACS, American Academy of Cosmetic Surgery; AAFPRS, American Academy of Facial Plastic and Reconstructive Surgery; AAPS, American Association of Plastic Surgeons; ACAPS, American Council of Academic Plastic Surgeons; ACPA-CFA, American Cleft Palate-Craniofacial Association; ASCFS, American Society of Craniofacial Surgeons; ASERF, Aesthetic Surgery Education and Research Foundation; ASMS, American Society of Maxillofacial Surgeons; ASOPRS, American Society of Ophthalmic Plastic and Reconstructive Surgery; ASSH, American Society for Surgery of the Hand.
research presentation/ submission (Table 1). Four of these organizations listed this information on webpages; seven required additional email/phone correspondence.

The average registration fee for medical students was $109.30 ± SD $136.50 when compared with resident attendance fee, which was $181.20 ± SD $157.20. When examining organizations that provided virtual and virtual pricing differences (n = 10, 71.4%), we noted an average price reduction of $92 (range: $0–$375) per organization. With respect to residents, a reduction of the registration fee, on average, of $122.70 (price reduction range: $0–$375) per organization was demonstrated. (Table 2). Four (28.6%) organizations listed medical student registration fees as free of charge.

| Organization | Pre-COVID (In-person) | Pre-COVID (Virtual) | Difference Pre-COVID | Pre-COVID (In-person) | Pre-COVID (Virtual) | Difference Pre-COVID |
|--------------|-----------------------|--------------------|----------------------|-----------------------|--------------------|----------------------|
| AAFPRS       | 375                   | 150                | -225                 | 500                   | 300                | -200                 |
| AAHS         | 150                   | 100                | -50                  | 150                   | 100                | -50                  |
| AAPS         | 400                   | 200                | -200                 | 400                   | 200                | -200                 |
| ACAPS        | 125                   | 125                | 0                    | 125                   | 125                | 0                    |
| ASCPS        | 75                    | 40                 | -35                  | 500                   | 299                | -201                 |
| ASCFS        | 75                    | 40                 | -35                  | 500                   | 299                | -201                 |
| ASERF        | 0                     | 0                  | 0                    | 0                     | 0                  | 0                    |
| ASRM         | 0                     | 0                  | 0                    | 415                   | 415                | 0                    |
| ASSH         | 100                   | 100                | 0                    | 100                   | 100                | 0                    |
| PSRC         | 375                   | 100                | -275                 | 375                   | 0                  | -375                 |
| Average      | 167.50                | 75.50              | -92                  | 306.50                | 183.80             | -122.70              |
| SD           | 156.40                | 70.20              | 129.80               | 192.00                | 141.00             | 130.50               |

Table 2. Annual Meeting Registration Fees: Pre-virtual and Virtual

DISCUSSION

A national US study aimed at understanding the current affairs of plastic surgery education within medical school curriculums is lacking. However, UK and Canadian studies have demonstrated that medical students have little exposure to the field during medical school.35–37 Amidst the COVID-19 pandemic, exposure to surgical subspecialties has further been limited through institutional restrictions on student observerships, clerkships, and clinical experiences.18,35,36 The pandemic prompted exploration into whether opportunities exist for students at the national level. This exploration is especially important for students without home programs who often rely on external opportunities for specialty exposure.35 Our study demonstrates that opportunities within national organizations are limited. We hope to spark a discussion in the academic plastic surgery community about how to improve these opportunities for medical students and to nurture an informed pool of applicants.

Leadership, Organizational Membership, Grants/ Scholarship

Of the 14 organizations, 42.9% (n = 6) of organizations allowed for student membership, whereas 93% (n = 13) offered resident membership. Of these, the membership fee for medical students was $31.70/year ± SD $45.50 on average compared with resident membership fees, which averaged $38.80/year ± SD $65.90. Additional documentation of educational good standing, institutional plastic surgeon support, and other requirements were noted but not included in this study (Table 1).

The percentages of organizations offering medical student research grants and travel scholarships were 21.4% (n = 3) and 35.8% (n = 5), respectively. Only four of the 14 organizations had opportunities for medical student leadership at the national level such as American Association of Hand Surgery (AAHS), American Cleft Palate-Craniofacial Association, American Society of Reconstructive Microsurgery (ASRM), and Plastic Surgery Research Council (PSRC), and no organizations contained medical student chapters/committees. (Table 1)

Availability of Information

Information gathered from webpage and bylaw collection was compared with email correspondence for all organizations. (Table 3) All (100%) organizations contained at least one discrepancy between webpage/bylaw review and email/phone response. On average, 25.0% (SD ± 12.2%) of information related to one of our 12 variables found on websites/bylaws varied from direct correspondence. The variable that varied the most was whether medical students could present research at an annual meeting (n = 10, 71.4%), followed by medical student registration costs (n = 7, 50.0%). Information on whether student chapters existed and whether research was presented at the annual meeting demonstrated no discrepancies. A Welch t-test (ie, two samples assuming unequal variances, null = 0, alpha = 0.05) failed to show a statistically significant difference (P = 0.51) between the incidence of discrepancies found on general compared with subspecialty-specific webpages.

Table 3. Availability of Information

| Organization | Medical Student Correspondence | Medical Student Correspondence | Medical Student Correspondence | Medical Student Correspondence | Medical Student Correspondence | Medical Student Correspondence |
|--------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| AAFPRS       | 0%                            | 0%                            | 0%                            | 0%                            | 0%                            | 0%                            |
| AAHS         | 0%                            | 0%                            | 0%                            | 0%                            | 0%                            | 0%                            |
| AAPS         | 0%                            | 0%                            | 0%                            | 0%                            | 0%                            | 0%                            |
| ACAPS        | 0%                            | 0%                            | 0%                            | 0%                            | 0%                            | 0%                            |
| ASCPS        | 0%                            | 0%                            | 0%                            | 0%                            | 0%                            | 0%                            |
| ASCFS        | 0%                            | 0%                            | 0%                            | 0%                            | 0%                            | 0%                            |
| ASERF        | 0%                            | 0%                            | 0%                            | 0%                            | 0%                            | 0%                            |
| ASRM         | 0%                            | 0%                            | 0%                            | 0%                            | 0%                            | 0%                            |
| ASSH         | 0%                            | 0%                            | 0%                            | 0%                            | 0%                            | 0%                            |
| PSRC         | 0%                            | 0%                            | 0%                            | 0%                            | 0%                            | 0%                            |
| Average      | 0%                            | 0%                            | 0%                            | 0%                            | 0%                            | 0%                            |

DISCUSSION

A national US study aimed at understanding the current affairs of plastic surgery education within medical school curriculums is lacking. However, UK and Canadian studies have demonstrated that medical students have little exposure to the field during medical school.35–37 Amidst the COVID-19 pandemic, exposure to surgical subspecialties has further been limited through institutional restrictions on student observerships, clerkships, and clinical experiences.18,35,36 The pandemic prompted exploration into whether opportunities exist for students at the national level. This exploration is especially important for students without home programs who often rely on external opportunities for specialty exposure.35 Our study demonstrates that opportunities within national organizations are limited. We hope to spark a discussion in the academic plastic surgery community about how to improve these opportunities for medical students and to nurture an informed pool of applicants.

Conference Presentation, Registration Fees, and Travel Scholarships

A handful of opportunities seem to exist for students to present research at a national level. Although many organizations welcome student presentations, barriers precluding student involvement still remain. Only four of 11 organizational websites formally advertised whether medical student research was permitted, and only five provided travel scholarships for students, of which, only one, at the time of review, formally advertised such scholarship
Table 3. Availability of Information

| Organization | Is Research Presented at Annual Meeting? | Are Medical Students Allowed to Present? | [Medical Student] Cost of Attendance | [Medical Student] Cost of Membership | Medical Student National Chapters Leadership | [Resident] Cost of Attendance | [Resident] Cost of Membership | Research Grants/ Scholarships (Not Travel) | Total % Discrepancy per Organization |
|--------------|----------------------------------------|----------------------------------------|-----------------------------------|-----------------------------------|---------------------------------------------|----------------------------|----------------------------|----------------------------------------|----------------------------------------|
| AACS         | 1                                      | 0                                      | 1                                 | 0                                 | 0                                           | 0                          | 0                          | 0                                      | 0                                      | 17%                           |
| AAFPRS       | 0                                      | 0                                      | 0                                 | 0                                 | 0                                           | 0                          | 0                          | 0                                      | 0                                      | 0                             |
| AAHS         | 0                                      | 0                                      | 1                                 | 0                                 | 0                                           | 0                          | 0                          | 0                                      | 0                                      | 0                             |
| AAPS         | 0                                      | 0                                      | 1                                 | 1                                 | 0                                           | 0                          | 0                          | 0                                      | 0                                      | 0                             |
| ACAPS        | 0                                      | 0                                      | 0                                 | 0                                 | 0                                           | 0                          | 1                          | 0                                      | 0                                      | 0                             |
| ACP-CA       | 0                                      | 0                                      | 1                                 | 1                                 | 1                                           | 0                          | 0                          | 0                                      | 0                                      | 0                             |
| ASCFS        | 0                                      | 0                                      | 1                                 | 1                                 | 0                                           | 0                          | 0                          | 0                                      | 0                                      | 0                             |
| ASERF        | 0                                      | 0                                      | 0                                 | 0                                 | 0                                           | 0                          | 0                          | 0                                      | 0                                      | 0                             |
| ASMS         | 0                                      | 0                                      | 0                                 | 0                                 | 0                                           | 0                          | 0                          | 0                                      | 0                                      | 0                             |
| ASORPS       | 0                                      | 0                                      | 1                                 | 1                                 | 0                                           | 0                          | 0                          | 0                                      | 0                                      | 0                             |
| ASPS         | 0                                      | 0                                      | 1                                 | 0                                 | 0                                           | 0                          | 0                          | 0                                      | 0                                      | 0                             |
| ASRM         | 0                                      | 0                                      | 0                                 | 0                                 | 0                                           | 0                          | 0                          | 0                                      | 0                                      | 0                             |
| ASSH         | 0                                      | 0                                      | 1                                 | 1                                 | 0                                           | 0                          | 0                          | 0                                      | 0                                      | 0                             |
| PSRC         | 0                                      | 0                                      | 0                                 | 1                                 | 1                                           | 0                          | 0                          | 0                                      | 0                                      | 0                             |

|               | Total no. discrepancies per variable | % of discrepancies per variable | Average (per organization) SD |
|---------------|--------------------------------------|---------------------------------|-----------------------------|
|               | 1                                    | 0                               | 7%                           |
|               | 10                                   | 0                               | 71%                          |
|               | 7                                     | 5                               | 50%                          |
|               | 1                                     | 4                               | 14%                          |
|               | 2                                     | 1                               | 29%                          |
|               | 2                                     | 2                               | 14%                          |
|               | 4                                     | 4                               | 14%                          |
|               |                                      | 7%                              | 25%                          |
|               |                                      | 0                               | 12%                          |

Table depicts discrepancies between information mined from web domains versus information gathered during phone/email correspondence. 1 denotes the presence of a discrepancy, 0 denotes no change/ discrepancy.
on their webpage. Four organizations did provide complimentary student attendance.

Costly conference fees serve as one potential barrier to students. Organizational reviews for other specialties have been conducted. Multispecialty student conferences have been conducted. Specifically, national otolaryngology organizations demonstrated an average membership fee of $73 (±$30) for medical students and an average conference fee of $366 (±300). An ophthalmology review found an average membership fee of $43 and a mean conference registration cost of $307 for students. Both otolaryngology and ophthalmology exhibit conference fees of around $200 more than plastic surgery. Ophthalmology mean membership fees are more comparable to ones seen in this study: $43 versus $31.70. However, this does not consider renewal fees or additional documentation required for membership. As described, variability exists across surgical specialties in conference and membership pricing; further investigation is required to pinpoint where plastic surgery lies.

Registration fees alone serve as only one aspect of conference participation. In addition to the up-front fee, attendees incur additional costs such as for traveling and lodging. Average pricing for such travel and lodging has not been reviewed as per our literature review. However, anecdotally, total expenses (excluding conference registration fees) are typically between $500 and $1000.

Leadership and Membership Opportunities

Our study supports the claim that opportunities outside of research presentation (ie, leadership, chapter affiliation, membership, and mentorship) remain limited. Of the organizations that did offer membership, fees were comparable to resident memberships. Moreover, our estimates do not take into account one-time application fees. Many organizations also required letters of recommendation from plastic surgery program directors or affiliated members. With regard to leadership, student committees, school chapter affiliations, positions, and national associations are lacking for interested students. In some instances, associations offered leadership positions on committees (eg, ASRM and ASPS), the Young Plastic Surgeons, and Young Microsurgeons committees, respectively. However, such committees are limited to only residents.

Students without Home Programs

Another potential roadblock for interested medical students is the absence of a plastic surgery training program at the student’s institution. In fact, although there are 172 allopathic AAMC-affiliated medical schools, there are only 84 ERAS-associated integrated plastic surgery programs. This does not take into account osteopathic programs. Students at these institutions are inherently disadvantaged when it comes to the match. Without a home institution, it is harder to be introduced to plastic surgery early-on, find mentorship, obtain letters of recommendation from plastic surgery faculty, and ultimately have to rely on away rotations for networking, all of which are crucial to a competitive application. As a way to mitigate differences in available opportunities, engagement in national organizations and participation at meetings offers a way to increase applicant competitiveness.

Implications

Many implications arise from the lack of exposure to the field. Studies have shown that the majority of medical students are unsure of which field they will pursue, with only a small portion of matriculating students knowing which specialty to pursue. Furthermore, studies assessing plastic surgery mentorship have revealed that learner motivation to pursue the specialty heavily relies on guidance and support from mentors, as well as operative exposure to the field. If opportunities to gain exposure to the comprehensive scope of the specialty are not afforded, medical students are less likely to be well-informed for a successful match. As the number of applicants to integrated plastic surgery programs increases, a more comprehensive understanding of what plastic surgery involves becomes increasingly more important.

Opportunities for Improvement

Mentorship

The COVID-19 pandemic demonstrated the need for mentorship relationships for gaining valuable insights into the field of plastic surgery. There are several ways in which student engagement in plastic surgery could be improved. For instance, establishing formalized mentorship opportunities can easily serve as an initial step to increase involvement. Similar preceptorships have been established at the resident-attending level which can translate to the student level. Perceived mentee benefits include guidance on career choices, away rotations and interviews, introductions to other attending physicians and residents, and avenues to obtain supportive letters of recommendation. Interestingly, this mentor–mentee relationship is symbiotic in that mentors have reported increased job satisfaction and benefit from opportunities to meet future plastic surgeons. Given that these relationships are paramount, integration of mentorship programs should aim at earlier introductions to mentors. In a previous study, it was shown that over 59% of mentor–mentee relationships began during the third or fourth year of medical school. An example of such a program is one by University of California San Diego Diversity, Equity and Inclusion Department – Plastic Surgery Mentorship Program, which works in parallel with ACAPS to provide 1:1 mentorship to students of disadvantaged or underrepresented groups. ASPS has an established mentorship program called Professional Resource Opportunities in PRS Education and Leadership (PROPEL), in which a team of senior and junior plastic surgeons and residents form longitudinal relationships amongst one another. Such a program has the groundwork for student involvement. PSRC also offers a mentorship program for medical students to connect to mentors outside their institutions. This initiative exemplifies the possibility for other organizations.
Research

Additionally, summer research fellowships offer a way for students to engage in plastic surgery education in an academic setting. These fellowships provide dedicated time to advance student knowledge on plastic surgery research literature, strengthen clinical experiences, and form professional relationships and possible mentorship for future years. One such opportunity is the research program established by ASRM – The Medical Student Research Grant – for students in between years 1 and 2. Of note, correspondence with PSRC staff illuminated knowledge of a PSF combined pilot research grant. Investigation outside of our study noted this grant as a partnership between PSF and AAHS, AAPS, ACAPS, ASMS, ASRM, and PSRC. This list is not comprehensive but provides a starting point for students. Clearer language about eligible applicants, and more consistency among websites and staff are suggested.

Next Steps

Platforms provided by national organizations can serve as the foundation for further opportunities. One can look to the American Association of Neurological Surgeons’ Young Neurosurgeons Committee as a model for an organized effort to mold future surgeon leaders. The committee, in 2014, introduced AANS medical school chapters. Over the span of 5 years, the number of affiliated chapters increased ten-fold. This initiative was assessed in 2020. The study found that research productivity and participation in a nationally organized effort correlated with better match success than with highly ranked medical school or residency affiliation. The formation of these chapters allowed for streamlined channels for mentorship, projects, and opportunities for career preparedness. The latter qualities include skills related to decision-making and organization management, refined through event planning, chapter meeting leadership, and submission of yearly chapter reports.

With this in mind, we suggest consideration of a centralized effort within a governing plastic surgery organization.
(eg, ACAPS or ASPS) that acts as an umbrella organization for medical student involvement and development. An elected medical student committee led by residents and surgeons could spearhead collaboration with partner organizations and formation of medical school chapters with the goal of providing widespread opportunities and access to mentoring and academic development. Table 5 provides a more detailed list of recommendations.

LIMITATIONS

This study is not without limitations. The first limitation is the timing of data collection. This study was conducted during the COVID-19 pandemic, at which time many meetings were being held virtually, thus limiting collection of current registration pricing. To account for this discrepancy, researchers collected fees for previrtual and virtual conferences. In addition, the scope of this review only includes national organizations. Regional, state, and internationally affiliated organizations were excluded. Initiatives at these levels may provide additional opportunities for student involvement. Therefore, our results should not be generalized to the nonnational organizations. More so, our initial data pull utilized only three organizational affiliated lists. However, we believe that our list of 14 organizations is comprehensive of the national organizations in plastic surgery.

CONCLUSIONS

This article serves as a centralized plastic surgery resource for medical students on organizational opportunities in the literature. Our results suggest that although opportunities at the national level seem to be limited, there is a role for further engagement with interested students eager to take the initiative to become involved. Lastly, virtual conferences, piloted as a result of the COVID-19 pandemic, present a lower-cost alternative for both students and residents seeking to engage.  

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