Carl Hoegerl*, DO, MSc

Organizational behavior among academic medical school faculty

<https://doi.org/10.1515/jom-2020-0065>

Received March 30, 2020; accepted September 2, 2020;
published online February 19, 2021

Abstract: The study of organizational behavior in an academic medical school setting has many variables for consideration, including fragmentation, responsibilities, professionalism, burnout, and gender. In this Commentary, the author highlights some major factors affecting osteopathic physicians who practice in an academic setting, to bring to the attention of the medical community some of the inherent problems with modern academic medical education structure.

Keywords: burnout; faculty; medical school; organizational behavior; professionalism.

Academia is among the most interesting areas in which to study human organizational behavior. It is a competitive system in which rewards are based on research output, grant funding, publications, academic rank, and tenure; as such, it can highlight the best and worst tendencies of people who operate within that structure. Therefore, it creates an ideal setting to study the relationships between individuals in that organizational setting, including which personality types and characteristics lend themselves to success.

In 2001, Trowler published a book [1] characterizing academia as a complex relationship of “academic tribes and territories.” Subsequently, there also seems have been an increase in specialization and subspecialization, leading to increased fragmentation within the academic profession [2]. Many describe academic medicine as a collection of “silos” or “towers” where each specialty tends to isolate, and there seems to be a lack of interprofessional collaboration amongst various departments or specialties. Different cultures can start to develop within in each fragmented specialty “silo”; the role of a Dean or Provost is

to help them function in unison, which is not always an easy task.

Within the framework of academic medicine, faculty members have many roles. They are involved in teaching residents, fellows, and students as well as caring for patients, which makes them a unique subset for analysis. The demands and schedules can be especially grueling, as can metrics that must be met for promotion or incentive payments. This level of stress can cause poor attitudes and create an environment that is not conducive to learning, which affects residents and students. For example, a previous study [3] showed that the more stress and burnout was experienced by academic faculty, the less likely they were to implement changes in their teaching approaches. If efforts are made to change behavior, then a more nurturing atmosphere can be attained that will promote learning and safety for both learners and patients [4]. Wellness programs may help to improve the lives of faculty members, which could ultimately have possibility for improvements in other areas, such as student education and patient safety. In at least one previous study [5], wellness programs were shown to have a positive impact on faculty members, thereby improving their lives and their working environments.

Some of the aspects that can affect the atmosphere of academic medicine are addressed in this Commentary.

Faculty fragmentation

Factors such as “silos” and “a culture of silence” were identified in a previous study of academic medicine environments [6]. The term “silo” is commonly used in academia to describe various disciplines working independently, not participating in interdisciplinary events or activities, thereby becoming “fragmented.”

Faculty fragmentation is influenced greatly by the culture or environment cultivated at an institution. Because academia – and especially academic medicine – is hierarchical, its very nature contributes to a culture of fragmentation [7]. In a hierarchical environment, people at lower levels may be more “silent” about organizational

*Corresponding author: Carl Hoegerl, DO, MSc Liberty University
College of Osteopathic Medicine, 306 Liberty View Lane, Lynchburg,
VA 24502-2291, USA, E-mail: hoegerl@yahoo.com

governance [8]. Medical students and residents are often at the bottom of this hierarchy and therefore may be reluctant to speak up if they do not understand something, which can affect the patient care with which they are simultaneously charged.

Concurrent responsibilities

The demands on academic medical faculty are great. They are expected to be teachers, researchers, caregivers, and leaders. Stress generated from these demands can be extreme [9]. Complicated schedules requiring physicians and faculty to be at multiple locations in a single day can be taxing for everyone involved. Academic medical faculty, especially clinical faculty, have multiple roles that influence an institution's culture. Clinical faculty often work as clinicians, researchers, and educators, while their salaries tend to be lower than those of private practitioners [10].

Professionalism

Professionalism is a consistent and deliberate mindset of approaching one's work that encompasses communication skills, clinical reasoning, and technical skills in the care of patients and interactions with colleagues that takes into account the various emotions and values of oneself and others [11]. Unprofessional behavior can play a role in patient care, and it can also have a significant impact on an institution's academic culture, which may have a detrimental effect on medical students' and residents' education and training [4].

The importance of providing a culture of safety has been recognized by The Joint Commission (the accrediting body of U.S. hospitals) [12]. A culture of safety is one in which everyone acts in a professional manner and helps others improve. This includes having systems in place to support that culture, as well as having leaders who provide models of appropriate behavior, amongst other things [13]. Whether from the student who is afraid to ask a "dumb question" or the resident who has less experience with a procedure, any question should be able to be asked without rebuke. Trainees must have teachers who model professionalism in their respect for one another and how they treat others.

The ripple effects of unprofessional behavior and a poor learning environment can be long-lasting and have costly effects for fellow faculty members, administrators, and students. Medical school is inherently difficult and stressful for students because of the academic demands

imposed on them. Rotenstein et al. [14] found that the overall depression rate among medical students was 27.2%, and the prevalence of suicidal ideation was 11.1%. For comparison, prior to the novel coronavirus 2019 pandemic, the overall national depression rate was at about 10.6% [15]. Another study revealed that 42% of students reported being mistreated. As a medical community, it is our responsibility to recognize that the environment in which our trainees work may be part of the problem. Faculty behavior plays a large role in creating the environment at each medical school, and a professional and safe environment will likely have a positive effect on students. A culture of professionalism is heavily influenced by the leadership of the respective organization.

Burnout

Burnout is another factor to consider when examining medical school academic faculty, and this concept has been well demonstrated in previous studies [16–18]. Shah et al. [19] discussed additional factors related to burnout that should be considered when thinking about organizational behavior and theory in medical education; these factors include faculty retention and satisfaction. In addition, women in medical education have reported higher rates of burnout compared with men [20]. Ganeshan et al. [21] estimated that burnout affects at least 35% of academic faculty [21]. That study [21] also cited ways that organizations can decrease burnout, such as physician appreciation and engagement.

Gender

There have been many studies on gender differences in academic medicine, some of which were reviewed for this Commentary [22–24]. For example, even in 2021, there is a difference in the number of publications by men and women. Men publish more frequently than women, especially as they climb the academic ladder [25]. The difficulties for and numbers of minority women in medicine are even greater [26]. The Association of American Medical Colleges reports that there continues to be few women professors or leaders in medicine, which can be the result of multiple factors [27], including underrepresentation of women in academics, deficiencies in mentorship, social exclusion, unprofessional behavior, and stereotypes [28]. Some programs or interventions have proven effective in helping to compensate for gender bias when programs are struggling; for example, one study [29] showed that a

mentoring program can have lasting effects on preventing attrition among women faculty members. Within this mentoring framework, it is important to consider the unique situations and needs of underrepresented individuals; women have a unique situation when they are employed as academic medical faculty.

In 2018, the total number of women who comprised academic faculty reached 45%; however only 18% of tenured faculty were women and only 11% were department chairs, 28% were division chiefs, and 13% were center directors. Another source indicates that women represent 34% of academic faculty, while 50% of the students entering medical school are women [30]. Despite this fact, women continue to struggle in various ways in academic medicine. For example, the number of grants awarded to women [31], the number of publications published by women [25], and the representation of women in academic leadership continue to lag behind their male counterparts [31, 32], even though the number of women in academic medicine is increasing [32].

One previous study examined the number of grants women have received compared with men and there clearly was a difference [31]. In another study [33], the authors compared the number of National Institutes of Health (NIH) grants awarded to women compared to men, but so few women received NIH grants that they were not able to analyze the results sufficiently; however, a difference was apparent. Thankfully, there are efforts to mitigate this divide in grant funding for women [34].

Krupat et al. [35] stated, “The culture of academic medicine has been described as hierarchical, competitive, and not highly supportive of female or minority faculty.” Thankfully, changes are being attempted. In 2013, for example, the Learning Action Network was created to help academic institutions to mitigate differences such as bias, diversity, and gender gaps in academic medicine [35].

Inequities in advancement are notable in academic medicine. This is especially true among underrepresented physicians [36]. There is a need for creative solutions to help resolve differences in the number of women and minorities in medicine. Mentoring programs have been successful; one systematic review [37] found many mentoring programs for women that were very successful regardless of the type of program.

If an organization is deliberate and sincere about culture change and tries to be inclusive, it can be done. A study conducted at the University of California San Diego showed that with the implementation of deliberate evidence-based intervention programs, the proportion of women increased from 31 to 40% of all faculty over a 10-year period, among other findings [38].

While many of the same issues outlined here pertain to racial and ethnic disparities in academic medical organization representation, that issue deserves a well-supported literature review, as the implications are deep and wide. As such, they are beyond the scope of this Commentary, but merit review and consideration by the reader.

A personal perspective

Traditional academic medical center models are well-established and continue to dominate the academic medicine landscape. However, other models – such as the community and distributive models that have existed in osteopathic medicine for years – should perhaps be considered at other places across the country [39–41]. These models offer significant changes in academic medical culture and engages more participants in the process; for example, connecting primary care physicians to the educational process can help to inspire change and improve the overall program [42]. Shifting the burden and model of teaching from academic medical centers to community health centers and clinics might be a step in the right direction, as it seems to be successful in many parts of the country and by several organizations [43, 44].

Increasing gender and racial diversity in academic medicine would also be a start. Having a healthcare workforce that is more representative of the communities in which they serve may ultimately help with patient care. By helping to improve the diversity in medicine, patients may feel more comfortable going to their doctor, which may increase patient compliance [45].

As a physician, I’ve always been taught that what matters is the best possible patient care. No matter the barriers we face, we must maintain the highest quality and most compassionate care that can be achieved. The study of organizational behavior in medicine can help us to identify those potential barriers and reduce or remove them, thereby refocusing on patient care.

Everyone, at every level of the hierarchy in the care of patients, needs to feel safe in their environment. We have all heard that leadership drives culture. Leadership is the one element that sets the expectations for the entire organization. Employees will rise to meet expectations, so we should take great care to establish expectations that the academic medical environment remains professional and nurturing for those who are willing to make the changes and do the work.

Conclusions

Academic culture is unique due to its hierarchical structure. The academic medicine culture is even more distinctive in that it has very specialized demands at so many different levels. Patient safety and care are also involved, heightening the importance of the situation. More research is required to clearly understand all factors that play a role in this unique culture of critical importance.

Research funding: None declared.

Author contributions: The author has accepted responsibility for the entire content of this manuscript and approved its submission.

Competing interests: The author states no conflict of interest.

References

1. Trowler PR. Academic tribes and territories. UK: McGraw-Hill Education; 2001.
2. Gilmore T. Challenges for physicians in formal leadership roles: silos in the mind. *Organ Soc Dyn* 2010;10:279–96.
3. Arvandi Z, Emami A, Zarghi N, Alavinia SM, Shirazi M, Parikh SV. Linking medical faculty stress/burnout to willingness to implement medical school curriculum change: a preliminary investigation. *J Eval Clin Pract* 2016;22:86–92.
4. Moutier C, Wingard D, Gudea M, Jeste D, Goodman S, Reznik V. The culture of academic medicine: faculty behaviors impacting the learning environment. *Acad Psychiatr* 2016;40:912–18.
5. Brown GE, Bharwani A, Patel KD, Lemaire JB. An orientation to wellness for new faculty of medicine members: meeting a need in faculty development. *Int J Med Educ* 2016;7:255.
6. Pattani R, Ginsburg S, Mascarenhas Johnson A, Moore JE, Jassemi S, Straus SE. Organizational factors contributing to incivility at an academic medical center and systems-based solutions: a qualitative study. *Acad Med* 2018;93:1569–75.
7. Krugman RD, Jones MD Jr., Lowenstein SR. Can we learn civility? Reflections on the challenge of changing culture. *Acad Med* 2014;89:1586–8.
8. Crowe S, Clarke N, Brugha R. 'You do not cross them': hierarchy and emotion in doctors' narratives of power relations in specialist training. *Soc Sci Med* 2017;186:70–7.
9. Shah DT, Williams VN, Thorndyke LE, Marsh EE, Sonnino RE, Block SM, et al. Restoring faculty vitality in academic medicine when burnout threatens. *Acad Med* 2018;93:979.
10. Girod SC, Fassiotto M, Menorca R, Etzkowitz H, Wren SM. Reasons for faculty departures from an academic medical center: a survey and comparison across faculty lines. *BMC Med Educ* 2017;17:8.
11. Kirk LM. Professionalism in medicine: definitions and considerations for teaching. Paper presented at Baylor University Medical Center Proceedings; 2007.
12. Speck RM, Foster JJ, Mulhern VA, Burke SV, Sullivan PG, Fleisher LA. Development of a professionalism committee approach to address unprofessional medical staff behavior at an academic medical center. *Joint Comm J Qual Patient Saf* 2014;40:161–7.
13. Commission J. Tenets of a safety culture. *Sentin Event Alert* 2017;57:57.
14. Rotenstein LS, Ramos MA, Torre M, Segal JB, Peluso MJ, Guille C, et al. Prevalence of depression, depressive symptoms, and suicidal ideation among medical students: a systematic review and meta-analysis. *JAMA* 2016;316:2214–36.
15. Daly M, Sutin AR, Robinson E. Depression reported by US adults in 2017–2018 and March and April 2020. *J Affect Disord* 2020;278:131–5.
16. Del Carmen MG, Herman J, Rao S, Hidrue MK, Ting D, Lehrhoff SR, et al. Trends and factors associated with physician burnout at a multispecialty academic faculty practice organization. *JAMA Netw Open* 2019;2:e190554.
17. Rao S, Ferris TG, Hidrue MK, Lehrhoff SR, Lenz S, Heffernan J, et al. Physician burnout, engagement and career satisfaction in a large academic medical practice. *Clin Med Res* 2020;18:3–10.
18. Giess CS, Ip IK, Cochon LR, Gupte A, Dudley JC, Boland GW, et al. Predictors of self-reported burnout among radiology faculty at a large academic medical center. *J Am Coll Radiol* 2020;17:1684–91.
19. Shah DT, Williams VN, Thorndyke LE, Marsh EE, Sonnino RE, Block SM, et al. Restoring faculty vitality in academic medicine when burnout threatens. *Acad Med* 2018;93:979–84.
20. Cassidy-Vu L, Beck K, Moore JB. Burnout in female faculty members. *J Prim Care Community Health* 2017;8:97–9.
21. Ganeshan D, Rosenkrantz AB, Bassett RL Jr., Williams L, Lenchik L, Yang W. Burnout in academic radiologists in the United States. *Acad Radiol* 2020;27:1274–81.
22. Carr PL, Raj A, Kaplan SE, Terrin N, Breeze JL, Freund KM. Gender differences in academic medicine: retention, rank, and leadership comparisons from the National Faculty Survey. *Acad Med* 2018;93:1694.
23. Fishman M, Williams WA II, Goodman DM, Ross LF. Gender differences in the authorship of original research in pediatric journals, 2001–2016. *J Pediatr* 2017;191:244–9. e241.
24. Mayer EN, Lenherr SM, Hanson HA, Jessop TC, Lowrance WT. Gender differences in publication productivity among academic urologists in the United States. *Urology* 2017;103:39–46.
25. Mueller C, Wright R, Girod S. The publication gender gap in US academic surgery. *BMC Surg* 2017;17:16.
26. Hill EV, Wake M, Carapinha R, Normand SL, Wolf RE, Norris K, et al. Rationale and design of the women and inclusion in academic medicine study. *Ethn Dis* 2016;26:245–54.
27. Ellinas EH, Fouad N, Byars-Winston A. Women and the decision to leave, linger, or lean in: predictors of intent to leave and aspirations to leadership and advancement in academic medicine. *J Womens Health* 2018;27:324–32.
28. Pattani R, Marquez C, Dinyarian C, Sharma M, Bain J, Moore JE, et al. The perceived organizational impact of the gender gap across a Canadian department of medicine and proposed strategies to combat it: a qualitative study. *BMC Med* 2018;16:48.
29. Carnes M, Devine PG, Manwell LB, Byars-Winston A, Fine E, Ford CE, et al. Effect of an intervention to break the gender bias habit for faculty at one institution: a cluster randomized, controlled trial. *Acad Med* 2015;90:221.
30. Bates C, Gordon L, Travis E, Chatterjee A, Chaudron L, Fivush B, et al. Striving for gender equity in academic medicine careers: a call to action. *Acad Med* 2016;91:1050–2.
31. Oliveira DF, Ma Y, Woodruff TK, Uzzi B. Comparison of National Institutes of Health grant amounts to first-time male and female principal investigators. *JAMA* 2019;321:898–900.

32. D'Armiento J, Witte SS, Dutt K, Wall M, McAllister G. Achieving women's equity in academic medicine: challenging the standards. *Lancet* 2019;393:e15–6.
33. Warner ET, Carapinha R, Weber GM, Hill EV, Reede JY. Gender differences in receipt of National Institutes of Health R01 grants among junior faculty at an academic medical center: the role of connectivity, rank, and research productivity. *J Womens Health* 2017;26:1086–93.
34. Westring A, McDonald JM, Carr P, Grisso JA. An integrated framework for gender equity in academic medicine. *Acad Med* 2016;91:1041–4.
35. Krupat E, Pololi L, Schnell ER, Kern DE. Changing the culture of academic medicine: the C-Change learning action network and its impact at participating medical schools. *Acad Med* 2013;88: 1252–8.
36. Silver JK, Bean AC, Slocum C, Poorman JA, Tenforde A, Blauwet CA, et al. Physician workforce disparities and patient care: a narrative review. *Health equity* 2019;3:360–77.
37. Farkas AH, Bonifacino E, Turner R, Tilstra SA, Corbelli JA. Mentorship of women in academic medicine: a systematic review. *J Gen Intern Med* 2019;1–8.
38. Wingard D, Trejo J, Gudea M, Goodman S, Reznik V. Faculty equity, diversity, culture and climate change in academic medicine: a longitudinal study. *J Natl Med Assoc* 2019;111:46–53.
39. Shenkman E, Hurt M, Hogan W, Carrasquillo O, Smith S, Brickman A, et al. OneFlorida Clinical Research Consortium: linking a clinical and translational science institute with a community-based distributive medical education model. *Acad Med* 2018; 93:451.
40. De Villiers M, Van Schalkwyk S, Blitz J, Couper I, Moodley K, Tali Z, et al. Decentralised training for medical students: a scoping review. *BMC Med Educ* 2017;17:1–13.
41. Chowdhary S. Learning with the community: an enriching experience. *Int J Med Stud* 2017;5:81–3.
42. Bitton A, Ellner A, Pabo E, Stout S, Sugarman JR, Sevin C, et al. The Harvard Medical School Academic Innovations Collaborative: transforming primary care practice and education. *Acad Med* 2014;89:1239–44.
43. Talib Z, Jewers MM, Strasser JH, Popiel DK, Goldberg DG, Chen C, et al. Primary care residents in teaching health centers: their intentions to practice in underserved settings after residency training. *Acad Med* 2018;93:98–103.
44. Lochner J, Lankton R, Rindfleish K, Arndt B, Edgoose J. Transforming a family medicine residency into a community-oriented learning environment. *Fam Med* 2018;50:518–25.
45. Cooper-Patrick L, Gallo JJ, Gonzales JJ, Vu HT, Powe NR, Nelson C, et al. Race, gender, and partnership in the patient-physician relationship. *JAMA* 1999;282:583–9.