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Applicant Fit and Diversity in the Orthopaedic Surgery Residency Selection Process: Defining and Melding to Create a More Diverse and Stronger Residency Program

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Admission to Orthopaedic Surgery Residency is becoming increasingly competitive, with program directors and residency application committees focusing on a combination of applicant personality, values, background, and objective resume and “on-paper” achievements^{1,2}. Conversely, applicants weigh other factors including location, surgical experience, program prestige, and research opportunities when making decisions on which programs to rank³.

Traditionally, one factor that both applicants and residency programs have strongly considered in the selection process is perceived *fit*. *Fit* has no universal definition in the medical literature but is often colloquially defined as a subjective feeling of whether a resident would meld with the program's culture and atmosphere. *Fit* is often used akin to a “like-me/us” test, that is, does the applicant share similar values and goals or, even more basically from a coresident's perspective, is the applicant sociable or does the applicant have similar interests or extracurricular activities? The lack of a true definition for *fit* allows for a subjective interpretation of what it actually means for a residency program. This makes its assessment difficult and variable from interviewer to interviewer, which diminishes its usefulness in the discussion and evaluation of applicants. Furthermore, the subjective nature of *fit* allows for implicit bias for or against an

applicant and can be a means of prejudicial dismissal of an otherwise qualified applicant. Despite the vague and variable nature of *fit* and its pitfalls, it is oftentimes touted as one of the most valuable attributes for both programs and applicants to determine during the interview day.

Another factor driving the residency selection process is diversity. Diversity within a residency, and consequently within the profession, has the benefit of fostering and emphasizing the need for cultural competency, thereby improving the understanding of, relationships with, and improving treatment outcomes for an ever increasing diverse patient population⁴⁻⁶. Beyond residency, diversity within the profession is important for improving global patient care. Multiple studies have shown that under-represented minority physicians after training are more likely to practice in medically underserved areas and regions with significant gaps in healthcare availability compared with their White colleagues^{7,8}. In addition, a diverse resident and attending faculty also allows for a variety of perspectives, experiences, and thought processes that promote excellence, innovation, and research⁹.

Diversity is generally used to describe disparities in race and sex within orthopaedic surgery, but it is also a term that can apply to a multitude of applicant demographics. Diversity

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in applicant age, socioeconomic background, and life experiences, to name a few, allow for varied thought processes that can provide a valuable lens for both medical and surgical patient care. However, it is well established that orthopaedic surgery has faced significant challenges to increase its diversity of women and under-represented minority surgeons, and these areas deserve deliberate focus by residency selection committees. Data from 2017 showed that only 14% of orthopaedic surgery residents are women compared with 50% of medical school graduates¹⁰. The disproportion of African American and Hispanic orthopaedic surgery residents is similar, comprising 4.1% and 2.7% of residents but 13.3% and 17.6% of medical school graduates, respectively^{10,11}. Orthopaedic surgery residency programs are striving to address the issue of diversity in applicant matching. For example, the Perry Initiative aims to mentor female medical students and encourage their interest in orthopaedic surgery¹². However, it is clear that other measures in residency selection need to be taken to boost the number of women and under-represented minority orthopaedic surgeons.

Fit and Diversity: A Perceived Contradiction?

As orthopaedic residency programs look to become more diverse, they are also concerned with maintaining their *fit*. There is an implicit contradiction between the values of *fit*, as traditionally applied, and diversity. The lack of a true definition and the intrinsically subjective nature of *fit* invariably leads to implicit or subconscious bias, which is discordant with, and therefore undermines, the drive for increasing diversity. Furthermore, the subjective nature of *fit* as an applicant characteristic can allow for deselecting an otherwise qualified applicant based on implicit bias and prejudice. *Fit* implies a homogenous residency population—a residency group with the highest *fit* would likely be one in which residents are near clones of each other. Diversity implies the opposite.

Understanding, Defining, and Refining Fit: Cultural/Values Fit and Cultural Add

In a discussion about furthering diversity our orthopaedics residency program, we were struck by the lack of guidance in the medical literature and so looked to other professions for concepts and ideas for structured implementation. Mainstream business literature extensively discusses *fit*, or more accurately *cultural fit* or *values fit*, and defines it as when employee, or applicant, beliefs, core values, and behaviors are aligned with those of the company or residency¹³. Therefore, in discussing *values fit*, it is imperative that an organization clearly defines its values and mission. In a residency program, this would also include defining its unique characteristics, ethics, and goals, such as work ethic, teamwork, or drive for excellence. Ensuring *values fit* is especially important in orthopaedic surgery programs that have small numbers of residents who must work closely together, and differences in these values can lead to discord in a program. As modelled after approaches in

the business literature, the next step to obtaining cultural and *values fit* in residency selection is training all its interviewers to focus on these defined values, ethics, and mission, rather than on perceived easy interactions and likability during interviews.

Importantly, *values fit* should be the alignment of the applicant's values with the program's values, not necessarily with faculty or coresidents' interests and extracurricular activities. The assumption that "similar-to-me" means "same-program-values-as-me" can be misleading; assumptions that superficial appearances and interests translates to deeper similarities in essential, desired program characteristics are fraught with bias. Systematically defining a residency program's *values fit* will help to reduce subjective biases toward or against a candidate by allowing for characterization and selection of applicants based on their core values and underlying guiding principles^{14,15}. Furthermore, improved diversity itself can and should be included in these core values because more women and under-represented minorities in the profession will lead to improvement in the profession, as previously discussed. As one Australian software company describes it, the focus should be on *values fit* to employ those who "share our sense of purpose and guiding principles while actively looking for those with diverse viewpoints, backgrounds, and skill sets... to build a healthy and balanced culture, not a cult"¹⁶.

Another promising concept is instead of only searching for *values fit*, residency committees should discuss out loud the value of *cultural add*, thereby very consciously reframing the dynamic. This opens the door to seeking those whose bring diverse ideas and experiences and who also reflect the program's values and ethics, the combination of which enhance the program and ultimately the profession¹⁶. In the interviewing process, expanding the interviewer's mindset to a *culture add* perspective will serve to focus the evaluation on both *values fit* and diversity. Discussions held between faculty and residents about the *values fit* of interviewees can then be enhanced and strengthened by examining an applicant's *cultural add* to the program.

Understanding and Aligning Prospective Residents' Unique Contributions

Once the program has actively and thoughtfully defined its values, it is necessary to define what *values fit* and diversity actually imply when evaluating prospective residents. *Values fit* and diversity can apply to different aspects of the applicant's overall package, with *values fit* more relevant in evaluating an applicant's character because it relates to the program's attributes and values and diversity more relevant in evaluating an applicant's background, including culture, race, sex identity, socioeconomic status, unique life experiences, and potential contributions to the program's mission and growth. By striving to create diversity in their resident groups, orthopaedic surgery programs may actually improve resident alignment with their program values by deliberately and methodically evaluating characteristics about the program that are most important and unique, and then evaluating resident applicants for these

specific characteristics. As a program continues to develop its diversity, these diverse residents will also naturally shape, reshape, and enhance the program by their experiences and insights; this dynamic reflects back to the understanding of *cultural add*.

The issue of objectively identifying resident characteristics may become even more difficult with the recent news that United States Medical Licensing Examination step 1 will become a Pass/Fail test¹⁷. There has been a well-documented increase in quantifiable residency application characteristics and achievements that has made interview and rank selections increasingly difficult because applications have uniformly become more impressive and homogenous^{1,2,18-20}. Step 1 scores, although imperfect, have historically been used by many programs as a pseudosurrogate for an applicant's persistence, intelligence, and work ethic. Because step 1 is one of the only objective standardized universal metrics, programs will need to discern other ways to measure and evaluate the characteristics of applicants going forward. As applications lose this objective score, there will be a higher weight put on the value of intangibles such as *fit*, and thoughtful consideration of *values fit* and *cultural add* in residency selection will only become more critical.

Conclusion

Because orthopaedic surgery programs seek to maintain and develop their strengths through resident selection and diversity, it is important to understand the difference between *fit* and *values fit*. Colloquially defined *fit* can act to re-enforce implicit biases and allow prejudicial disqualification of applicants that hinders the needed progress in diversity. However, understanding and applying *values fit* and *cultural add* to residency selection can promote the drive for diversity that is essential to the growth and success of the profession. This is an issue worth great attention and effort.

The most important initial steps involve thoughtful outlining of each program's unique goals and characteristics, and then understanding the definition of *values fit* as aligning with these values. This reduces subjective bias in candidate selection and serves to promote diversity. A *cultural add*

perspective enhances the process by evaluating residents for both *values fit* and for the added strengths brought by their diversity. Uniform training of interviewers to use these lenses is critical in the process. Oftentimes, consultants are used for important business acquisitions or hirings. Use of a third-party consultant may provide the opportunity for a directed discussion defining a program's core values and for interviewee training to guide questioning and discussion with applicants to flesh out whether there is *values fit* between a program and its applicants.

One methodologic weakness in this article is that the discussion and critical analysis of *fit* and diversity are that all authors are all affiliated with only a single department. As we looked to improve diversity within our own program, we found that reviewing and discussing other professions' literature was helpful for us in conceptualizing a framework for the perceived dichotomy between *fit* and diversity and for increasing diversity in our program moving forward. The strategy, principles, and lessons discussed for applicant selection using *values fit* and *cultural add* are ubiquitous and applicable to not only other orthopaedic surgery residency programs but also to resident selection for all areas of medicine and for hiring of a program's staff physicians. ■

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