## Factors Influencing Residency Rank List Among Matched Black Orthopaedic Surgery Residents

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INTRODUCTION:

The field of orthopaedics has long struggled with diversity and representation, particularly regarding recruiting and retaining Black residents. Only 5% of orthopaedic faculty, 1.5% of practicing orthopaedic surgeons, and 4.2% of all orthopaedic residents are Black. National efforts have been made to address these disparities and improve the recruitment and retention of Black orthopaedic residents. However, despite these efforts, a noticeable gap still exists. It is widely recognized that diversity in the workplace enhances the overall work environment and patient care. While studies have identified common factors considered by all residents when choosing a residency program, there may be unique factors specific to minorities that have not been thoroughly explored. This research study aims to assess the opinions of recently matched Black orthopaedic surgery residents regarding the factors that influenced their rank list order (both preand post-match). It offers a novel perspective by gathering data from multiple institutions, encompassing diverse cohort years, and presenting the post-match reflections of applicants.

METHODS: A 13-item questionnaire was emailed to the program coordinator at every ACGME-accredited program in the United States in March 2023. The questionnaire was instructed to be distributed to all orthopaedic surgery residents (3,692 residents in total) and medical students who successfully matched during the 2023 cycle. The survey sought to identify the factors that influenced their rank lists, such as social interactions with residents/faculty, hospital characteristics, and personal considerations. Two reminder emails were sent to the program coordinators in April and May 2023.

## **RESULTS:**

There are currently 168 self-identified Black orthopaedic surgery residents in the US. Forty-four completed the survey, representing approximately 26% of the total population. Of these participants, 41% were female, and 59% were male (Table 1). The top five factors that significantly contributed to their rank lists were the impression after the interview (95.45% ranked very important or essential), advice from mentors (93.18%), resident camaraderie (90.91%), personal interactions with residents (88.64%), and the perceived commitment to diversity, equity, and inclusion demonstrated by the program and program director (88.64%) (Table 2 &3). The number of minority residents within the program (86.36%) was also a significant factor for applicants. Interestingly, the number of minority faculty members (70.45%) and the existence of a diversity, equity, and inclusion committee (56.82%) were not considered highly important.

After matching into their program, the five main concerns expressed by applicants were adequate preparation for the OITE (43.18% ranked very or extremely concerning), difficulty finding a mentor of the same race/sex (36.36%), availability of academic resources (34.09%), the possibility of being fired from the program (34.09%), and research opportunities (31.82%) (Table 4).

## **DISCUSSION AND CONCLUSION:**

Black orthopaedic surgery residents face a unique set of challenges when applying to residency; limited representation in the applicant pool, implicit bias and stereotypes, lack of mentorship and support networks, limited financial resources, and inadequate exposure to orthopaedic surgery prior to medical school. Once Black residents transition from medical school to residency, additional obstacles include unsupportive work environments and work-life balance challenges. Concern regarding interactions with co-residents and the prospects of working alongside colleagues for the next 5-6 years emerged as the most significant factors for Black orthopaedic surgery residents when making their rank lists. They aspire to join programs that exhibit a genuine commitment to improving diversity, equity, and inclusion rather than being the sole minority representative. Post-match, the most substantial concerns include finding appropriate mentors and avoiding dismissal from the program. Orthopaedic surgery programs should focus on enhancing diversity among faculty and consider collaborating with other orthopaedic organizations to facilitate mentorship opportunities for residents, thereby addressing their concerns. Additionally, mentorship programs tailored to minority medical students and residents can play a pivotal role in promoting the success and retention of Black students. Collaborative efforts among medical schools, residency programs, professional organizations, and healthcare organizations are essential to effect meaningful change in recruiting and retaining Black orthopaedic surgery residents.

Table 2: Hospital/Program Characteristics Considered Prior to Making a Rank List

Sex	
Female	18
Male	26
Year in Residency	
Newly matched	10
PGY1	9
PGY2	3
PGY3	15
PGY4	5
PGY5	2
Location of Residency Program	n
Northeast	14
Midwest	9
Southeast	11
Southwest	6
West Coast	1
East Coast	2
Pacific Northwest	0

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toprida Prior	22%	11.14%	MAN.	Ski Ps	24,79%	12.79%
Economic Streets, Squity and Sections (SE)						
Description of	100%	12.60	12.00	34,90%	13.72%	30.02%
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Name of Street	1274	(A.Lets	36.00%	33.75%	28.47%	40,16%
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			26.75%			20,79%
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members.	a seri	8.00%	6.87%	40.18%	50.00%	93 1196
Personal preference for specific prographic breation	4100	100	11.68	11 1206	50.00%	77.796
	0.000					
Nav of city/town Location of macleuricatended	*****	18.19%	22.73%	36,36%	22.73%	59.09%
family	4.55%	8.09%	31.82%	18.18%	36.36N	54,59%
Distance to covering/rotating bossite!	682%	1597%	27.27%	34.09%	15496	Hom.
Sprawidgaifficant other's preference for geographic foration	100	1176	4104	612%	40.075	4176
Cost of living in	6.82%	34,00%	15.91%	21.00%	18.18%	40.18%
Advice from other applicants	15 91%	11.67%	15.00%	21.00%	3.27%	27.77%
Moonlighting monortunities	22,27%	40.97%	11.36%	13.60%	0.80%	13.65%
Availability of childrens	29.49%	13.60%	4.19%	632%	6.87%	11666
Additional financial support for underrepresented minorities	419%	10%	682%	2.2%	227%	4.9%

Table 4: Biggest Concerns after Matching							
Factors	Na Concern	Of Late Constra	Somewhat Concerned	Yeey Concerned	Extremely Concerned	Contrined No Concern & Of Little concern	Combined Ver Concerned & Extremely Concerned
Adequate proporation for the OFFE	6.82%	30.49%	29.55%	25.00%	DOM:	27.27%	40.18%
Officially finding a mention of the	DAN	22.79%	21.00%	28.48%	ISSES	MWS	34.30%
Academie researce (skills lab, beek meary, bud, leaner, stri	20.67%	21.00%	20.60%	21.00%	100	41.4%	31.0%
Parability of being fixed from the program	25.89%	20.6%	13.00%	22.13%	11.30%	65.675	36.00%
Rowards apportunities	30.67%	21.79%	21.00%	28,33%	227%	43.0%	31.82%
Matching into your desired followedsig	18.19%	22.79%	20.45%	8.00%	22.19%	40.87%	31.82%
Salary	20.47%	29.59%	18.18%	28.45%	9.89%	50.80%	29.59%
Cost of Sking	20.47%	212%	22.75%	28.45%	9,89%	42,73%	29.59%
Call Schedule	9.99%	29.59%	38.64%	18.18%	439%	38.66%	22.79%
Roldency Work Hears	4.59%	34.09%	38.66%	ILMN	11.36%	38.64%	22.79%
Support from program for materially pater mity have	15.92%	15.90%	6.82%	Kemi	9,095	31.82%	RIPS