What it Takes to be Great: ChatGPT's Top 5 Descriptors of Great Surgeons by Race, Gender, and Sexual Orientation

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INTRODUCTION

Implicit bias in academic surgery is pervasive and can manifest in subtle alterations in language, such as adjective choice, separating people into stereotypical groups.

We hypothesized that the AI system known as ChatGPT could provide insight into existing implicit bias in its descriptions of surgeons of differing gender, race, and sexual orientation.

METHODS

ChatGPT is "trained" by human users, mainly through accessing large volumes of available text. Therefore, the software can "learn" biases through content it is exposed to on a large scale.

To assess for bias in descriptions of surgeons, we queried ChatGPT about "the top 5 descriptors of great [X] surgeons" of differing gender, race, and sexual orientation.

We specified descriptors as in the figure legend.

FINDINGS

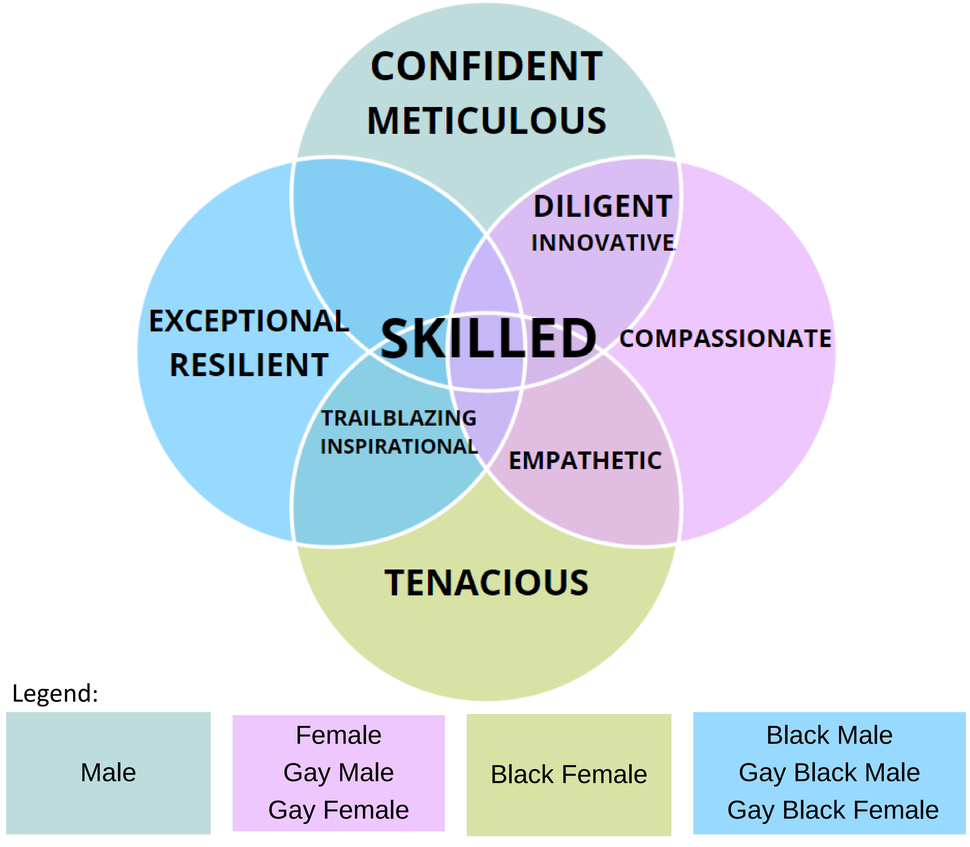


Figure. The descriptors for each phenotypic group of surgeons as generated by ChatGPT when querying "the top 5 descriptors for great [X] surgeons" for different race, gender, and sexual orientation groups are overlaid here.

RESULTS

- While all "great surgeons" were **skilled**, the remaining adjectives differed depending on demographics (Figure).
- The "great surgeon" and "great male surgeon" were the same: **confident**, **meticulous**, **skilled**, **diligent**, **innovative**.
- The "great female surgeon", "great gay male surgeon" and "great gay female surgeon" all share a set of descriptors: **skilled**, **compassionate**, **diligent**, **innovative**, and **empathetic**.
- "Great black male surgeons", "great black gay male surgeon[s]" and "great black gay female surgeon[s]" were **exceptional**, **resilient**, **trailblazing**, and **inspirational** in addition to being **skilled**.
- "Great black female surgeons" were uniquely tenacious, while sharing characteristics of **trailblazing** and **inspirational** with other "black surgeons" and **empathic** with other "female" and "gay male" surgeons .

CONCLUSIONS

Using AI, we have shown how intersectionality can impact the definition of greatness for surgeons and can see biases laid out essentially algorithmically.

These findings suggest the reality of entrenched biases that many of us already feel on a daily basis and can serve as food for thought for leaders in the field trying to mitigate these biases.

Conflict of Interest: The authors have no conflict of interest to report.