

Surgical Education

Can I cut it? Medical students' perceptions of surgeons and surgical careers



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Abstract

BACKGROUND: Recent years have seen a significant drop in applications to surgical residencies. Existing research has yet to explain *how* medical students make career decisions. This qualitative study explores students' perceptions of surgery and surgeons, and the influence of stereotypes on career decisions.

METHODS: Exploratory questionnaires captured students' perceptions of surgeons and surgery. Questionnaire data informed individual interviews, exploring students' perceptions in depth. Rigorous qualitative interrogation of interviews identified emergent themes from which a cohesive analysis was synthesized.

RESULTS: Respondents held uniform stereotypes of surgeons as self-confident and intimidating; surgery was competitive, masculine, and required sacrifice. To succeed in surgery, students felt they must fit these stereotypes, excluding those unwilling, or who felt unable, to conform. Deviating from the stereotypes required displaying such characteristics to a level exceptional even for surgery; consequently, surgery was neither an attractive nor realistic career option.

CONCLUSIONS: Strong stereotypes of surgery deterred students from a surgical career. As a field, surgery must actively engage medical students to encourage participation and dispel negative stereotypes that are damaging recruitment into surgery.

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Application numbers to general surgery training have fallen over the last decade in the United States,¹⁻⁵ a pattern

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reflected in many countries worldwide.⁶⁻⁸ This is a worrying trend, which not only has ramifications for recruitment of the best candidates into surgical careers,¹ but in the long term could jeopardize the quality and standard of surgical care we are able to deliver.^{4,9,10} Furthermore, it is well established that although women comprise a considerable proportion of the medical workforce, they continue to be under-represented in surgical specialties, further depleting surgery's recruitment pool.¹¹⁻¹³

Could general surgery, and perhaps surgery in general, be heading for a major recruitment crisis?

Many students are unwilling to consider a surgical career,¹⁴ a decision that may be taken even before they begin clinical training.¹⁵ To explain the pattern of students' applications to surgical training, we first need to understand the perceptions and experiences influencing their career choices. Many studies have sought to identify predictive factors for an individual choosing a career in surgery.^{16–22} Factors predicting such a choice that recur in the literature include exposure to and participation within a surgical specialty,^{16,19,20} perceived lifestyle or work-life balance,^{16,17,19,22,23} access to role models,^{17,21,22,24} derivation of satisfaction from surgery,^{16,18} and gender.^{2,11,25,26} Female students have differing and negative experiences of surgery,²⁶ perceive a lack of fit between their perceptions of themselves and of what a surgeon must be,²⁷ and are significantly more likely to pursue surgery if they train in a hospital with abundant and prominent female role models.²² While there has been considerable emphasis by researchers on identifying these factors, few studies have considered *how* and *why* they may explain reluctance to engage in a surgical career. Hence, we propose an in-depth exploration of students' perceptions of surgery and surgeons, with a focus on stereotypes.

Stereotypes are cultural models, which reflect social prototypes; they are not conjured from nowhere, but neither are they necessarily drawn from direct personal contact. Rather, they are socially and culturally derived figures, which signal what is normal and what is not, and, which are so deeply embedded in everyday life that they frequently go unnoticed. They consequently act as shortcuts to make assumptions about an individual quickly:²⁸ in all human social interaction we rely on social scripts and stereotypes to a certain extent to function effectively in the world. Medicine is no different, and it is populated by a large number of specialized professionals, which may mean that stereotyping of particular specialties may be more likely.

In an ethnographic work undertaken in the 1990s, Cassell provides us with a strong surgical stereotype:

The "iron surgeon" powerful, invulnerable, untiring. Those trained by him pass on the mystique, transmitting from one surgical generation to the next an embodied professional ethos. The iron surgeon does battle with death, exterminates disease, declares war on softness, sloth, and error. He is technically brilliant, clinically astute, technologically sophisticated. His feelings, if he has any, are private; his inner life, if he has time for one, is unengaged by his work. The feelings of his patients are also private. Their personalities, problems, hopes, aspirations, are irrelevant. The iron surgeon's task is to excise disease. The rest is for nurses or social workers.

Cassell²⁹

This picture portrays surgeons in terms of decisive, masculine perfection; by implication surgeons do not display weakness or emotion, nor spare thought for communication or family issues which, if raised, are

positioned as contradictory to their role. This potentially discourages anyone whose values or personal characteristics do not align with such a portrayal.

If students decide against a career in surgery before exposure to it,¹⁵ we must assume that they have strong preconceptions of surgery. To understand this phenomenon, we must consider the nature of surgical stereotypes, and how they influence students' opinions of surgical careers. While existing studies have focused on identifying predictive factors and correlations among large groups, the exploration of *why* such factors are powerful requires a different type of research, and there has been a call for more qualitative research within our field.^{30,31} Employing novel research strategies not typical for the surgical domain, namely discourse analysis, we undertook to answer the research questions: What stereotypes of surgeons and surgery exist among medical students? And *how* do these stereotypes influence students' ideas about surgical careers?

Methods

Setting

Ethical approval was granted by The University of Manchester Research Ethics Committee (Ref No: 11314). We conducted this study within a research-intensive UK medical school, which trains approximately 450 students across 5 year groups. The university has a prominent surgical society and students are exposed to clinical surgical rotations in their first clinical year (Year 3) without exception. The medical school comprises 4 major teaching hospitals, each with a high turnover of surgical cases.

Summary of approach

This study took a qualitative approach, employing exploratory open-ended questionnaires grounded in the literature, to gain insight into students perceptions, further explored in-depth via individual interviews, for triangulation of the research subject.

Exploratory questionnaires

We advertised for participants via the student intranet. We undertook purposive sampling of those who responded, to achieve representativeness in terms of year group and gender, while also including a broad range of career intentions. Of the sample ($n = 46$), 59% were female; the group was evenly spread across the 5 year groups; and 45% were considering a surgical career. In the open-ended questionnaires, which had been previously piloted, we asked students to provide descriptions of a typical surgeon and of a positive and negative surgical experience; we also asked them to share their hints about what would aid or hinder success in a surgical career. Analysis occurred alongside data collection, and questionnaire data were interrogated via qualitative analysis, isolating

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