



EXPLORING THE CAREER GOALS OF TRADITIONAL AND NONTRADITIONAL MEDICAL STUDENTS

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ABSTRACT

Purpose: To determine whether nontraditional medical students share the same career goals as their traditional counterparts. **Methods:** Medical students at a large academic medical center in the United States were offered a Questionnaire. Students self-identified whether they were traditional or nontraditional. Data collection and analysis were completed using Qualtrics. **Results:** The survey had 123 responses: 59% from traditional medical students and 41% from nontraditional. The most common previous careers for nontraditional medical students were research (31.25%), healthcare worker (16.67%), engineering (12.5%), and teaching (12.5%). Traditional students were more interested in Internal Medicine, Pediatrics, and Family Medicine, while nontraditional students preferred Emergency Medicine, Obstetrics and Gynecology (OB/GYN), Psychiatry, and Urology. 80.0% of traditional and 70.2% of nontraditional students expressed interest in fellowship or advanced training. Traditional (56.9%) and nontraditional (63.8%) students aspired to careers in academic medicine instead of private practice. Overall, the Bachelor's degrees for traditional students were 26.2% for Bachelor of Arts and 70.8% for Bachelor of Science, compared to 46.8% for Bachelor of Arts and 40.4% for Bachelor of Science in nontraditional students. Traditional students reported lower stress levels than nontraditional students. **Conclusion:** This study delved into the career preferences and characteristics of traditional and nontraditional medical students. Both groups shared a strong inclination toward academic medicine. Traditional students favored Bachelor of Science degrees, while nontraditional students often held Bachelor of Arts degrees. However, it's important to note that nontraditional students reported higher stress levels, highlighting the unique challenges in their medical education journey.

KEYWORDS: traditional medical students, non-traditional medical students, career goals, choice of specialty intended by medical students, effect of COVID-19 on medical students.

INTRODUCTION

The Association of American Medical Colleges (AAMC) 2020 Matriculating Student Questionnaire reports that over 90% of enrolled medical students decided to pursue medicine before receiving their Bachelor's degree.^[1] This percentage has been stable in subsequent reports. Over the same timeframe, there has been a subtle decrease in individuals who enrolled within a year of graduation from college, from 36.7% in 2018 to 33.7% in 2020. According to the report, 48.5% worked in another career, 23.2% pursued graduate studies, 47.8% worked in research, and 9.7% worked internationally in 2020. With the varied composition of matriculating students, it is questionable whether nontraditional medical students share the same career goals as their traditional counterparts and, if not, to what degree they diverge. There is a good number of nontraditional medical students in our institution. Traditional medical students attend medical school soon after completing their undergraduate education. On the other hand, a

nontraditional medical student enters medical school a few years after completing the undergraduate degree. There is a significant difference in career building between a traditional medical student and a nontraditional medical student. Traditional medical students plan to build up their careers from high school by getting straight As, taking biology or chemistry, doing volunteer community service, and establishing a pre-med track in college. On the other hand, nontraditional medical students come from diverse backgrounds. After college graduation, they spend a few years outside medicine before entering the stressful medical school environment. There are three types of nontraditional medical students: Applicants with Science Degrees, Non-Science Applicants with Arts and Humanities, and Mature Applicants. So, traditional and nontraditional medical students have different backgrounds, experiences, and ages. One study by Baill et al. showed that nontraditional medical students had a slight persistent academic lag in the first two years of medical

school and on USMLE step 1. Still, by USMLE step 2, the difference disappeared.^[2] Medical educators make many comments about nontraditional medical students. They are more self-confident, focused, and goal-oriented.^[3] This study explores whether the career goals of nontraditional medical students differ from those of traditional medical students.

METHODS

The study was conducted in an urban large medical school (Sidney Kimmel Medical College, Thomas Jefferson University, Philadelphia, United States). It was a single-center study. The study was performed using the online software <https://www.qualtrics.com>. The study was approved by the Institutional Review Board (IRB). An anonymous online survey of 16 questions was emailed to all medical students. Participating in the survey was voluntary. No surveys were excluded. The collected data was analyzed using Qualtrics. The study period was from April 1, 2023, to May 10, 2023. No written or verbal consent was obtained from the subjects before the study.

Exclusion criteria: Medical students who did not want to participate in the study were excluded.

Statistics: The sample size was adequate, and simple mathematical calculations were performed using Qualtrics.

RESULTS

123 medical students responded to the survey. Of them, 59% were traditional medical students, and 41% were nontraditional medical students. The students answered the 16 questions with complete liberty. Medical students

from each year participated in the survey. The most common previous careers for nontraditional medical students were research (31.25%), healthcare worker (16.67%), engineering (12.5%), and teaching (12.5%). The survey questions and their responses are shown in Table 1, Table 2, and Figure 1. The summary of their responses is as follows.

1. Average age: traditional medical students were 24.7 years vs nontraditional 28.6 years.
2. Sex: Male - 41% traditional medical students vs 44% nontraditional medical students.
3. Ethnicity: Traditional students: 65.6% white, 3.3% black, 8.2% Hispanic/Latino, and 23.0% Asian vs Nontraditional students: 70.7% white, 2.4% black, 7.3% Hispanic/Latino, and 9.8% Asian.
4. Traditional students were more interested in building up their careers in Internal Medicine, Pediatrics, and Family Medicine. In contrast, nontraditional students preferred Emergency Medicine, Obstetrics and Gynecology (OB/GYN), Psychiatry, and Urology.
5. 80.0% of traditional and 70.2% of nontraditional students expressed interest in fellowship or advanced training.
6. 56.9% of traditional and 63.8% of nontraditional students aspired to pursue careers in academic medicine instead of private practice.
7. Overall, traditional students received 26.2% Bachelor of Arts and 70.8% Bachelor of Science degrees, compared to 46.8% Bachelor of Arts and 40.4% Bachelor of Science degrees for nontraditional students.
8. Stress levels were lower in traditional students compared to nontraditional students.
9. Impact of COVID-19 pandemic - physically, academically, mentally, and financially: Nontraditional students were likelier to report than traditional students.

Table 1: Survey Participant Information.

		Traditional	Non-Traditional
Participant Type	#	73	50
	Percent (%)	59.3%	40.7%
Age	Years, mean	24.7	28.6
Race	White	65.6%	70.7%
	Black/AA	3.3%	2.4%
	Hispanic or Latino	8.2%	7.3%
	Asian	23.0%	9.8%
	Other:	0.0%	9.8%
Gender	Male	41.0%	43.9%
	Female	59.0%	51.2%
	Undisclosed	0.0%	4.9%
Single / Married	Single	91.8%	78.0%
	Married	8.2%	19.5%
	Undisclosed	0.0%	2.4%
# of gap years	0 years	55.0%	0.0%
	1 year	25.0%	15.0%
	2 years	13.3%	19.0%
	3 years	5.0%	13.0%
	4 years	0.0%	23.0%
	5 years+	0.0%	28.0%
	Undisclosed	1.7%	2.0%

Year in School	MS1	16.4%	17.1%
	MS2	26.2%	19.5%
	MS3	21.3%	29.3%
	MS4	34.4%	24.4%
	Other (dual-degree)	1.6%	9.8%

Table 2: Survey Response Data by Student Status.

		Traditional	Non-Traditional
Fellowship / Advanced training interest?	Yes	80.0%	70.2%
	No	20.0%	29.8%
Academics or private practice?	Academia	56.9%	63.8%
	Private Practice	38.5%	21.3%
	Other:	4.6%	14.9%
Undergrad degree	Bachelor of Arts	26.2%	46.8%
	Bachelor of Science	70.8%	40.4%
	Other:	3.1%	12.8%
Student loans?	Yes	62.3%	61.0%
	No	37.7%	26.8%
	Undisclosed	0.0%	12.2%
How often do you feel stressed about career?	Never	3.3%	7.1%
	Rarely	21.3%	9.5%
	Sometimes	50.8%	52.4%
	Often	21.3%	16.7%
	All the Time	3.3%	14.3%
Has the COVID-19 Pandemic Affected You...			
Physically?	Yes	31.7%	57.9%
	No	68.3%	42.1%
Mentally?	Yes	61.7%	78.9%
	No	38.3%	21.1%
Financially?	Yes	25.4%	36.1%
	No	74.6%	63.9%
Academically?	Yes	50.0%	57.9%
	No	50.0%	42.1%

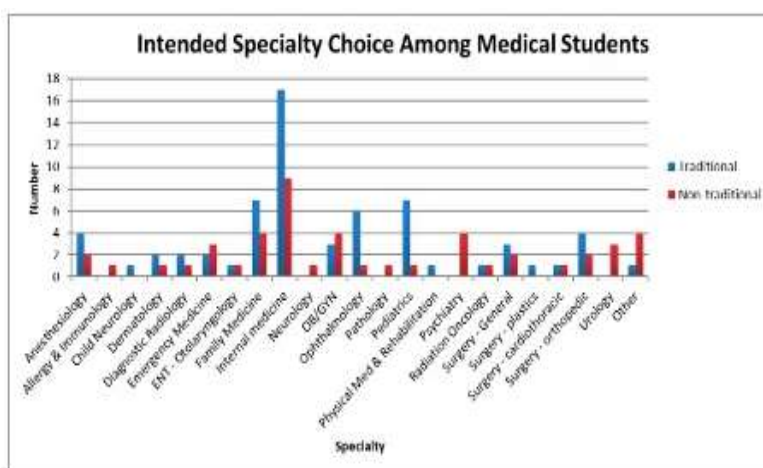


Figure 1: Intended Specialty Choice by Medical Students.

DISCUSSION

This study explored the career preferences and characteristics of traditional and nontraditional medical students, offering insights into the evolving landscape of medical education. While the two groups preferred certain specialties, there were no clear delineations of

their career goals. Both groups shared a strong inclination toward academic medicine. Educational backgrounds varied, with traditional students favoring Bachelor of Science degrees, while nontraditional students often held Bachelor of Arts degrees. These diverse trajectories underline the need for adaptable

approaches to medical education. The COVID-19 pandemic affected students at all levels of medical education in multiple ways.^[4] Our study highlighted disparities in stress levels and impact. Nontraditional students reported higher stress and more significant effects on various aspects of their lives, emphasizing the importance of tailored support for this group. The data saturation was reached for this study. One of the study's limitations was that the questionnaires needed to be validated or pilot-tested. Another limitation was that the power analysis was not performed for this study. Understanding the unique aspirations and challenges of traditional and nontraditional students underscores the need for tailored support systems, acknowledging the unique challenges faced by each group. This understanding is pivotal to creating a medical education environment that embraces diversity and meets the evolving needs of future physicians. Medical education leaders should embrace nontraditional paths in medical school to decrease the stigma related to the different routes of medical school. Further study is needed to differentiate the preferences of medical specialization between these two groups.

Lessons for Practice

- Reassuringly, a majority of both traditional and nontraditional medical students (>70%) are keenly interested in fellowship or advanced training, indicating a promising future for medical education.
- A significant (>50%) portion of traditional and nontraditional medical students are interested in pursuing their careers in academic medicine.
- Nontraditional medical students have higher stress levels than traditional medical students and may require more tailored support.

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