The Utility of a Master of Business Administration Degree in Plastic Surgery: Determining Motivations and Outcomes of a Formal Business Education Among Plastic Surgeons

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Background: With the increasing complexity of health care, the knowledge of business in medicine is growing more valuable. Plastic surgeons in all practice settings are constantly forced to navigate endeavors that could be better faced with the leadership, management, and administrative skills honed through a formal business education. The purpose of this study was to gather data and draw conclusions related to the motivations and outcomes of plastic surgeons with a Master of Business Administration degree (MBA).

Methods: An online survey was distributed to plastic surgeons in the United States who have earned an MBA. The survey was divided into 4 main sections: demographics, MBA program description, objective assessment, and subjective assessment.

Results: The majority of plastic surgeons with an MBA are in practice at an academic medical center. The 2 most popular tracks of completing the degree are during medical school and after 5 years of practice. A large proportion of plastic surgeons with an MBA experienced changes in their existing career position, namely in patient care and business roles outside of clinical practice. The most important skills surgeons subjectively felt they had improved as a result of their business education were in the areas of leadership, management, and administration.

Conclusions: Overall, all the plastic surgeons felt that their MBA experience met their expectations and would recommend the degree to fellow physicians. Prime motivations included adding a new dynamic to their existing career, satisfying entrepreneurial drive, and gaining credibility in business, with monetary gains being low on the list. (Plast Reconstr Surg Glob Open 2018;6:e1796; doi: 10.1097/GOX.0000000000001796; Published online 6 June 2018.)

INTRODUCTION

The business of plastic surgery is booming. According to figures from the American Society of Plastic Surgeons, $13.3 billion was spent on cosmetic procedures in 2015 in the United States, up 4% from 2014.¹ In all, 15.9 million cosmetic procedures and 5.8 million reconstructive procedures were performed by U.S. plastic surgeons in 2015, an increase of 2% and 1%, respectively, from the preceding year. From 2000 to 2015, there has been a 115% rise in cosmetic procedures and 35% rise in breast reconstruction procedures.

Why is it then that plastic surgeons are being left by the wayside in terms of compensation and job satisfaction? Although there are many factors contributing to this, a recent survey found that plastic surgeons experienced an overwhelming amount of time spent on paperwork and administrative tasks with a year-on-year 0% increase in compensation.² As a result, only 51% of plastic surgeons are satisfied with their income and 47% of plastic surgeons are satisfied with their career.²

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Plastic surgeons are uniquely positioned to utilize business acumen in their practice. Whether in private or group practices, they deal with not only the intricate navigation of complex health care systems and plans, but also with the paying cosmetic customer, be it by cash upfront or by payment plans. In an academic medical center (AMC), plastic surgeons do not just perform clinical work but are also increasingly involved in administrative duties, with 62% of them spending 10 hours or more per week on the latter. Combine this with the inevitable interweaving of mainstream and social media with the specialty, and it is clear that plastic surgeons can no longer survive solely on the rigorous surgical training they receive. With the changing practice of medicine, where business is becoming increasingly entangled with clinical practice, plastic surgeons will need to develop a new skill set to stay ahead.

Many of the lessons learned in business school help students hone their leadership, management, communication, and decision-making skills, in addition to other deliverable action elements. So as the pool of physicians holding business degrees continues to grow, it is worth investigating the motivations and outcomes of the relatively few plastic surgeons who have chosen to add formal business education to their training.

To date, there is little information in the literature investigating the utility of formal business education among plastic surgeons. The purpose of this study was to gather data and draw conclusions related to the motivations and outcomes of formal business education among plastic surgeons. We hope that our findings will shed light on the utility of business education in the field of plastic surgery and help plastic surgeons determine whether or not a business degree program is of interest when considering their future career aspirations.

METHODS

Survey Creation and Distribution

We created a deidentified survey using Google Forms and distributed it via e-mail to a list of plastic surgeons who have documented Master of Business Administration (MBA) degrees, including combined degree (MD/MBA), full-time, part-time, and executive MBA (EMBA) curriculums. These surgeons were identified using a Google search for plastic surgeons with an MBA. This search was not necessarily inclusive of all plastic surgeons with an MBA because not all choose to list this information online. Their contact information was confirmed by the American Society of Plastic Surgeons database. Thirty-one plastic surgeons holding MBA degrees were identified. The survey was divided into 4 main sections: (1) demographics; (2) MBA program description; (3) objective assessment; and (4) subjective assessment.

The demographics section was used to collect general information about the participant, including personal information (age and sex), and employment information.

The MBA program description section focused on gathering general information related to the business program each participant pursued, including institution, program type, cost, and curriculum.

The objective assessment asked questions that aimed to quantify the measurable outcomes of each participant's business education, including questions related to career changes, daily activity changes, and salary changes.

The subjective assessment comprised statements with which each participant would qualitatively evaluate their degree of agreement. For this section, each participant would rank the statement on a Likert scale of 1–5, 1 indicating strong disagreement and 5 indicating strong agreement. For reporting purposes, responses of 4 and 5 were combined into a general “Agree” response. Likewise, responses of 1 and 2 were grouped into a general “Disagree” response. A response of 3 was reported as “Indifferent.” This method of grouping responses was done for ease of presentation and interpretation of the data and did not affect how the data were discussed.

The study received an Institutional Review Board waiver from the home institution’s ethics board.

Data Analysis

Data were collected in the Google Forms system, and then analyzed and reported graphically using Microsoft Excel.

RESULTS

Demographics

Of the 31 plastic surgeons contacted, 19 responded (61% response rate; Table 1). There were 18 male respondents (94.7%) and a single female respondent. The majority of respondents were between the ages of 41 and 50 years old (n = 8, 42.1%). The largest group currently practices at an AMC (n = 13, 68.4%), which coincides with the majority who practiced at an AMC before business education (n =

| Table 1. Demographics of Respondents. |
|---------------------------------------|
| Total Number of Respondents N = 19 (%)|
| Sex, n (%)                           |      |
| Male                                  | 18 (94.7) |
| Female                                | 1 (5.3)   |
| Age                                   |      |
| 30–40                                 | 4 (21.1)  |
| 41–50                                 | 8 (42.1)  |
| > 50                                  | 7 (36.8)  |
| Current practice setting              |      |
| Academic medical center               | 13 (68.4) |
| Private practice                      | 5 (26.3)  |
| Community-based hospital              | 1 (5.3)   |
| Employment before MBA                 |      |
| Academic medical center               | 12 (63.2) |
| Private practice                      | 2 (10.5)  |
| None/student                          | 5 (26.3)  |
| Years of practice before MBA          |      |
| 0                                     | 6 (31.6)  |
| 1–5                                   | 2 (10.5)  |
| 6–10                                  | 4 (21.1)  |
| > 10                                  | 7 (36.8)  |
| Years post-MBA                        |      |
| 0–3                                   | 6 (31.6)  |
| 4–6                                   | 4 (21.1)  |
| 7–9                                   | 4 (21.1)  |
| > 9                                   | 5 (26.3)  |
| Previous business experience          |      |
| No                                    | 16 (84.2) |
| Yes                                   | 3 (15.8)  |
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12, 63.2%). Following those who currently practice at an AMC, the second largest group of respondents currently work at a private practice (PP) (n = 5, 26.3%), leaving 1 plastic surgeon working in a community–based hospital (5.3%). In terms of years of practice before their MBA, the 2 largest groups were those who had more than 10 years of practice experience (n = 7, 36.8%) and those who had no practice experience (n = 6, 31.6%). Similarly, the majority of respondents were 3 years or less postbusiness school (n = 6, 31.6%), with those greater than 9 years postbusiness school having the second largest group of responses (n = 5, 26.3%). Sixteen plastic surgeons (84.2%) reported having no previous business experience before their MBA.

MBA Program Characteristics

The majority of respondents completed EMBA programs (n = 10, 52.6%), followed by those who completed MD/MBA dual-degree programs (n = 5, 26.3%; Table 2). Fifteen different business schools were represented by the respondents with the University of Chicago Booth School of Business (n = 3, 15.9%) and the University of North Carolina Kenan-Flagler Business School being the top 2 represented schools (n = 3, 15.9%). All other institutions had 1 representative.

The average cost of the MBA degree among respondents was $87,058 (range of $45,000–240,000; not adjusted for inflation). To cover this cost, plastic surgeons utilized a mix of funding sources. Fifteen respondents (78.9%) used personal finances, 5 used department funds (26.3%), and 4 used an institutional scholarship (21.1%).

Of the MBA programs that the respondents attended, 6 (31.6%) included a business- or health-related internship as part of the curriculum, and only 2 (10.5%) programs included clinical management rotations. Additionally, 10 (52.6%) surgeons obtained an MBA that included a longitudinal project.

With respect to motivations for enrolling in an MBA program, the top 3 reasons were to satisfy entrepreneurial drive (n = 13, 68.4%), to add a new dynamic to an existing career position (n = 12, 63.2%), and to gain credibility in management (n = 8, 42.1%; Fig. 1). Of note, none of the respondents completed their MBA for an increase in salary.

Objective Outcomes

With regard to income during business school, 12 (63.2%) respondents received a salary during their MBA with only 1 (5.3%) experiencing a pay-cut during that time (Table 3). After the MBA, 7 (36.8%) received a promotion. Of those who received a promotion, 5 (26.3%) experienced a pay increase of 1–10%, and 2 (10.5%) earned a raise of 11–20%. Twelve plastic surgeons (63.2%) had no change in terms of promotion or salary after completing their business education. When looking at job changes as a result of their business experience, 4 surgeons (21.1%) changed careers, 14 (73.7%) experienced change in daily activities in their current career, and 11 (57.9%) have other business roles outside of clinical work (Fig. 2).

Subjective Outcomes

Respondents felt that improvement of leadership, management, and administrative skills was a direct result of their MBA experience (Table 4). Sixteen respondents (84.2%) agreed that their business program taught practical and deliverable leadership skills. In addition, 16 plastic surgeons (84.2%) felt they now had the skills necessary to lead an AMC without their business education. When contrasted to the 3 (15.9%) respondents who felt they would have the necessary skill set to lead an AMC without their business education.

Clinically, 9 (47.4%) agreed that their time spent with patients has changed as a result of their business education, whereas 8 (42.1%) disagreed. On the whole, 13 (68.4%) see their business experience as a way to better help their patients. When it comes to working with colleagues clinically, 15 (78.9%) responded that they feel their business experience gives them greater influence over their work counterparts when it comes to making business decisions, and 8 (42.1%) responded that they feel their business experience gives them greater influence over their colleagues when it comes to making clinical decisions.

Fifteen respondents (78.9%) felt that they had gained valuable business knowledge related to the medical field, and 15 (78.9%) felt that their attitude toward business in medicine had definitely changed as a result of their business education. However, over half (n = 10, 52.6%) found it challenging to use the skills they learned in business school in their current position.

### Table 2. MBA Program Characteristics

| Characteristics                                      | N (% of All Respondents) |
|-----------------------------------------------------|--------------------------|
| Program type                                         |                          |
| MD/MBA combined                                      | 5 (26.3)                 |
| Full-time MBA                                        | 2 (10.5)                 |
| Part-time MBA                                        | 2 (10.5)                 |
| EMBA                                                | 10 (52.6)                |
| Business schools represented                         |                          |
| University of Chicago (Booth)                        | 3 (15.8)                 |
| University of North Carolina (Kenan-Flagler)         | 3 (15.8)                 |
| Auburn University (Harbert)                          | 1 (5.3)                  |
| Benedictine University                               | 1 (5.3)                  |
| Brandeis University (Heller)                         | 1 (5.3)                  |
| Duke University (Fuqua)                              | 1 (5.3)                  |
| Harvard Business School                              | 1 (5.3)                  |
| Massachusetts Institute of Technology (Sloan)         | 1 (5.3)                  |
| McGill University                                    | 1 (5.3)                  |
| University of Massachusetts (Isenberg)               | 1 (5.3)                  |
| University of New Haven                              | 1 (5.3)                  |
| University of Pittsburgh (Katz)                      | 1 (5.3)                  |
| Western Governors University                         | 1 (5.3)                  |
| Widener University                                  | 1 (5.3)                  |
| Yale School of Management                            | 1 (5.3)                  |
| Cost of degree (noninflation adjusted)               |                          |
| Average cost                                        | $87,058                  |
| Range                                               | $45,000–240,000          |
| Top 3 funding sources                               |                          |
| Personal finances                                    | 15 (78.9)                |
| Department funds                                     | 5 (26.3)                 |
| Institutional scholarship                            | 4 (21.1)                 |
| MBA included a business- or health-related internship|                          |
| Yes                                                 | 6 (31.6)                 |
| No                                                   | 13 (68.4)                |
| MBA included clinical management rotations           |                          |
| Yes                                                 | 2 (10.5)                 |
| No                                                   | 17 (89.5)                |
| MBA included a longitudinal project                  |                          |
| Yes                                                 | 10 (52.6)                |
| No                                                   | 9 (47.4)                 |
In terms of the business education program, only 1 (5.3%) respondent felt that previous business experience was necessary to be successful, and the majority (n = 10, 52.6%) felt indifferent about having previous experience. Overall, the group of respondents was fairly equivocal on whether the MD and MBA experiences were well integrated, whether their medical knowledge was well integrated into the business curriculum, and whether there was adequate mentorship during the program. A large majority (n = 12, 63.2%) felt indifferent about their business program preparing them for a role in clinical medicine.

When it comes to the motivations for applying to their particular MBA program, the majority did so because of the school’s reputation (n = 10, 52.6%) and because it was their home institution (n = 10, 52.6%). The majority did not choose their program because of its track record for producing physician-businessmen (n = 11, 57.9%).

Looking at their overall experience, 18 (94.7%) surgeons felt their MBA program met their expectations, and 17 (89.5%) felt their business degree helped them reach their postgraduate goals. All respondents felt their MBA is valuable. Seven respondents (36.8%) foresee a change in their career path in the future, whereas 12 (63.2%) do not (Table 5). Some of the anticipated career changes include moving to a solely administrative role, becoming the CEO or COO of a health care system, becoming a clinical chairperson, and leaving medicine for entrepreneurial work. Additionally, all respondents recommend getting an MBA to fellow physicians. In terms of a timeline for when to get an MBA, the respondents were asked to elaborate on their business roles outside of clinical work if this pertained to them.

Table 3. Objective Assessment of MBA Outcomes

| Outcome                                      | N (% of all respondents) |
|----------------------------------------------|--------------------------|
| Received a salary during MBA                 |                          |
| Yes                                          | 12 (63.2)                |
| No                                           | 7 (36.8)                 |
| Received a pay-cut during MBA                |                          |
| Yes                                          | 1 (5.3)                  |
| No                                           | 18 (94.7)                |
| Received a promotion as a result of MBA      |                          |
| Yes                                          | 7 (36.8)                 |
| No                                           | 12 (63.2)                |
| Pay increase as a result of MBA (%)          |                          |
| 0                                            | 12 (63.2)                |
| 1–10                                         | 5 (26.3)                 |
| 11–20                                        | 2 (10.5)                 |
| Changed careers as a result of MBA           |                          |
| Yes                                          | 4 (21.1)                 |
| No                                           | 15 (78.9)                |
| Experienced change in daily activities in current career as a result of MBA | |
| Yes                                          | 14 (73.7)                |
| No                                           | 5 (26.3)                 |
| Have other business roles outside of clinical work since graduating from business school | |
| Yes                                          | 11 (57.9)                |
| No                                           | 8 (42.1)                 |
of the degree as an attending with less than 5 years of experience, and 7 (36.8%) indicated the degree should be completed as an attending with greater than 5 years of experience. No one recommended pursuing an MBA during residency or fellowship.

**Table 4. Subjective Assessment of MBA Outcomes**

| Question                                                                 | Agree, n (%) | Indifferent, n (%) | Disagree, n (%) |
|--------------------------------------------------------------------------|--------------|--------------------|-----------------|
| I felt that previous business experience was necessary to be successful in my business education program. | 1 (5.5)      | 10 (52.6)          | 8 (42.1)        |
| I felt that my business education integrated my medical knowledge well into the curriculum. | 7 (36.8)     | 8 (42.1)            | 4 (21.1)        |
| My business program taught practical leadership skills. | 16 (84.2)    | 2 (10.5)            | 1 (5.3)         |
| My business program taught deliverable leadership skills. | 16 (84.2)    | 2 (10.5)            | 1 (5.3)         |
| I feel prepared to take on administrative roles as a result of my business education. | 18 (94.7)    | 1 (5.3)             | 0 (0)           |
| My business program was focused on preparing me for a role in clinical medicine. | 2 (10.5)      | 12 (63.2)           | 5 (26.3)        |
| My MD and MBA experiences were well integrated. | 8 (42.1)     | 4 (21.1)            | 7 (36.8)        |
| My business education program had adequate mentorship. | 8 (42.1)     | 5 (26.3)            | 6 (31.6)        |
| As a result of my business education, I find myself retrained in skills I previously forgot. | 5 (26.3)     | 8 (42.1)            | 6 (31.6)        |
| As a result of my business education, I have improved my management skills. | 17 (89.5)    | 2 (10.5)            | 0 (0)           |
| As a result of my business education, I have improved my leadership skills. | 18 (94.7)    | 1 (5.3)             | 0 (0)           |
| As a result of my business education, I have gained valuable business knowledge related to the medical field. | 15 (78.9)    | 2 (10.5)            | 2 (10.5)        |
| As a result of my business education, my attitude towards business in medicine has changed. | 15 (78.9)    | 3 (15.9)            | 1 (5.3)         |
| I feel the student body of my MBA program was diverse. | 18 (94.7)    | 0 (0)               | 1 (5.3)         |
| I find it challenging to use the skills I have learned from my MBA training in my current position. | 10 (52.6)    | 2 (10.5)            | 7 (36.8)        |
| I chose my MBA program because of the school’s reputation. | 10 (52.6)    | 5 (26.3)            | 4 (21.1)        |
| I chose my MBA program because it is known for producing physician businessmen. | 3 (15.9)     | 5 (26.3)            | 11 (57.9)       |
| I chose my MBA program because it was my home institution. | 10 (52.6)    | 2 (10.5)            | 7 (36.8)        |
| I chose my MBA program because of financial issues. | 6 (31.6)     | 5 (26.3)            | 8 (42.1)        |
| I feel that my business education gives me a larger influence over my colleagues when it comes to business decisions. | 15 (78.9)    | 4 (21.1)            | 0 (0)           |
| I feel that my business education gives me a larger influence over my colleagues when it comes to clinical decisions. | 8 (42.1)     | 4 (21.1)            | 7 (36.8)        |
| I feel that my business program provided me with too broad an education. | 1 (5.3)      | 5 (26.3)            | 13 (68.4)       |
| As a result of my business education, I feel I have the skills necessary to lead an academic medical center. | 16 (84.2)    | 3 (15.9)            | 0 (0)           |
| Without a business education, I feel I would not have the necessary skills to lead an academic medical center. | 11 (57.9)    | 5 (26.3)            | 3 (15.9)        |
| My MBA program met my expectations. | 18 (94.7)    | 1 (5.3)             | 0 (0)           |
| My MBA program helped me reach my post-graduate goals. | 17 (89.5)    | 1 (5.3)             | 1 (5.3)         |
| I feel my MBA is valuable. | 19 (100)     | 0 (0)               | 0 (0)           |
| As a result of my business education, my time spent with patients has changed. | 9 (47.4)     | 2 (10.5)            | 8 (42.1)        |
| I see my business experience as a way to better help my patients. | 13 (68.4)    | 3 (15.9)            | 3 (15.9)        |

**Table 5. Future Career and Recommendations as a Result of an MBA**

| Outcome                                                                 | N (% of all respondents) |
|--------------------------------------------------------------------------|--------------------------|
| Foresee a change in career path as a result of MBA                        | 7 (36.8)                 |
| Yes                                                                      | 12 (63.2)                |
| Anticipated career path changes                                          |                          |
| Move to administrative role                                              |                          |
| CEO/COO of health care system                                            |                          |
| Clinical chairperson                                                     |                          |
| Leave medicine for entrepreneurial work                                  |                          |
| Would recommend getting an MBA to fellow physicians                      | 19 (100)                 |
| Yes                                                                      | 0 (0)                    |
| Recommended time in career for MBA completion                            |                          |
| As a medical student (dual-degree)                                       | 6 (31.6)                 |
| As a resident/fellow                                                     | 0 (0)                    |
| As an attending with < 5 years experience                                | 6 (31.6)                 |
| As an attending with > 5 years experience                                | 7 (36.8)                 |

**DISCUSSION**

The practice of medicine and surgery is changing at an unparalleled pace. The new millennium brought with it not only groundbreaking new developments in biomedical science, but also an increasingly complex health care system. Besides patient care, challenges facing physicians include dizzying numbers of health care group mergers and acquisitions, rising health care costs, changes in medical insurance, high cost of professional liability insurance, diminished reimbursements, fear of litigation, and managed-care systems. Throughout history, physicians have started and have led hospitals and health care practices. However, as demands increased, their leadership roles started dwindling. Today, fewer than 3% of acute care hospitals are led by physician CEOs.

The aforementioned are but a few of the challenges that have brought about an urgent demand for physician-leaders, who are proficient not only in patient care and communication, but are also fluent in business and management language. Although it is not the only method of obtaining business-related education, the MBA degree has long been recognized to be the pinnacle of business education. The 1980s saw the first physician pioneers with MBAs, and since then, MD/MBA programs have been gaining increasing popularity.
Plastic surgeons continue to be at the forefront of medicine. The specialty dictates the utilization of creativity and extensive training to meet some of medicine’s most difficult challenges. Although the culture among plastic surgeons remains steadfast in its cultivation for success as an outcome of hard-work and extensive medical training, this paradigm does not hold true for the plastic surgeon involved in leadership and administration. This is perplexing especially since a large part of plastic surgical practice involves keen business acumen, be it PP, group practice, or in an AMC.

Similar studies on MDs with MBAs are scarce. In a survey of 87 MBA physician graduates of Boston University Questrom School of Business, Harvard Business School, and Wharton School of Business, Parekh and Singh found that they had obtained their MBA at a mean age of 41.4 years, 84% had completed a residency program, and on average they completed their MBA degrees 8.64 years after graduating from medical school. Lazarus found that while physicians who enter management are considered change agents for health care improvement, they receive no financial support and little encouragement from their teachers and colleagues.

Of our 19 respondents, an overwhelming majority was male (94.7%), which is perhaps reflective of the current sex bias within the surgical specialties. The largest groups of respondents either completed their MBA after at least 5 years of being in practice or before beginning practice at all. This coincides with the fact that the majority either completed an EMBA or an MD/MBA dual-degree program. From the data, it can be concluded that there are 2 overarching groups of plastic surgeons seeking additional business education. The first group is the established surgeon who is looking to add a new element to their established career. The second group is the medical student who commits to a dual-degree program looking to add business acumen to their portfolio with no professional clinical experience to draw upon. On another note, 78.9% of respondents indicated that they used some form of personal finances to pay for their business education, and less than half received any kind of outside funding, be it from their department or from a scholarship. With a reported $87,058 average cost of the degree, paying for an MBA is a hurdle that many do not get help with. Plastic surgeons are already regarded for their exceptional drive, but the data suggest even further evidence for academic and professional achievement when considering the work-life balance necessary to complete business school either during their medical education or during their established career, all the while taking on the burden of the high cost to obtain the MBA.

What then are the motivations behind the driven plastic surgeons that look to enroll in business school? In an early study before the explosion of the MD/MBA dual-degree programs, Gilmore stated the benefits of an MBA being immediate applicability, the ability to develop different career opportunities, and the opportunity to bridge the chasm that separated physicians and managers. A 2003 analysis of the state of MD/MBA programs in the United States found that prime motivations for the rise in this course of study were the drive to improve patient safety, health care quality, and organizational design and effectiveness. Parekh and Singh found that the top 3 motivations cited were learning about the business aspects of the health care system, obtaining a more interesting job, and surviving better in the new health care system. Enhancing personal finances was cited as 1 of the top 3 reasons by only 25% of respondents.

Our study uncovered 3 main motivations for plastic surgeons obtaining an MBA: adding a new dynamic to their existing careers, entrepreneurial drive, and credibility in management. Of note, none of the respondents chose to enroll in an MBA program with the goal of getting an increase in their salary. Taking all their motivations into consideration, it would then reflect that a plastic surgeon’s prime motivation for getting an MBA is to improve upon patient care rather than personal finances.

Having defined the motivations, it is important to examine the outcomes. When looking specifically at the utility of an MBA to physicians, Parekh and Singh compared the allocation of work time before and after the MBA and found a significant change in time spent for patient care, administrative tasks, and teaching. In our cohort, the majority (78.9%) remained in the same practice after completing their MBA; however, 73.7% of respondents noted a change in their daily responsibilities in their current career as a result of their business education, with most taking on business roles outside of their clinical work.

In terms of patient care, 47.4% felt that their time with patients had changed after their MBA. Returning to the theme of remuneration, 63.2% of respondents did not note any increase in pay as a result of their business education. With the majority of plastic surgeons experiencing changes in their current career, especially in the areas of patient care and roles outside of clinical work, accompanied by no increase in salary, the utility of an MBA in plastic surgery is objectively aligned with the motivations for enrolling in the business program in the first place.

In addition to examining the objective outcomes of obtaining an MBA, it is important to draw upon the skills learned in business school and how those affect the plastic surgeon in the health care system. There are many expostions on the qualities required of a physician-leader. A physician-CEO must possess leadership, a sense of mission and vision, good business acumen, the ability to identify and manage pitfalls, and have good networking skills. In contrast, medical school deans are expected to be competent managers and visionary leaders balancing a complex environment of education, research, and clinical care. In PP, management and business skills can be even more important, including strong leadership, assembling a high-performance team, and appropriate marketing. Parekh and Singh identified the 3 most pertinent skill sets learned in an MBA curriculum as evaluating operations and implementing improvements, learning to be a more effective leader, and comprehending financial principles. Overall, 81% of the 87 physicians in that study thought that their business degree had been useful in the advancement of their career, and most believed that 20% of all physicians should acquire an MBA degree. Similarly, a sur-
survey of 568 physician members of the American College of Physician Executives showed that 90% reported that their investment in their business education was “worth it.”19

Our study shows that the most important skills plastic surgeons feel they glean from their MBA experience are in the areas of leadership, management, and administration. In total, 84.2% believed that their business program taught them practical and deliverable leadership skills. All but one respondent indicating that their business education resulted in improved leadership skills. Applying leadership to a practical role, 84.2% of plastic surgeons felt they have the skills necessary to lead an AMC as a result of their business education. Pair this with the majority that did not believe they could lead an AMC before their business education, and the effects of an MBA on leadership ability become clear. In total, 89.5% felt their management skills improved, and all but one respondent reported they feel prepared to take on more administrative roles as a result of their business education. A large proportion (78.9%) felt that they had gained valuable business knowledge related to the medical field, with the same proportion having changed their attitude toward business in medicine after completing the MBA. The transferability of this is shown in the feeling of a larger influence over colleagues when it comes to making business decisions, with 42.1% even feeling that they have a larger influence over colleagues when it comes to making clinical decisions. Overwhelmingly, 94.7% felt that their MBA program met their expectations, and 100% feel that their MBA is valuable and would recommend it to fellow physicians. With regard to the timeline of completion, respondents were split rather evenly; however, all agreed that they would not recommend completing a business curriculum during residency or fellowship.

Although the outcomes of this study are valuable, there are some limitations. Our sample size is small, but when compared with the limited number of plastic surgeons with MBA degrees to start, our response rate was significant (61%). Additionally, the present study is not attempting to claim that obtaining an MBA leads to significantly different outcomes than not obtaining an MBA or earning a different graduate degree (MPH, JD, and so on). For example, a follow-up study to the current one could compare responses to our survey from both plastic surgeons with and without an MBA, or with different graduate degrees, and test for significant differences. A study of that kind would need a large enough sample size in both groups to claim significance. On that note, this study does not want to convey the message that the only way to improve one’s leadership, management, and administrative skills is to obtain an MBA. Our study is attempting to “set the stage” and is intended to serve as a report of motivations and outcomes for as many plastic surgeons earning an MBA as we could contact. Another drawback of this study is the relatively large diversity of MBA programs represented. Although it improves the generalizability of our study, it is possible that these programs will not represent the outcomes of all business school curricula. Also, a possible bias lies in the subjective responses of plastic surgeons with MBAs. This group of individuals is highly motivated to begin with, so it is possible that subjective ratings on attributes such as leadership could be a product of their already greater sense of achievement and/or ability. This was minimized by analyzing topics of interest both pre- and post-MBA to more effectively measure outcomes. Although our study represents the opinions of only 19 physicians, it is the only comprehensive survey to date on the motivations and outcomes of plastic surgeons with an MBA, and it can help to provide a guide to others in our specialty and beyond who are considering the degree.

CONCLUSIONS

Overall, plastic surgeons with MBAs are satisfied with their business education and would recommend the degree to their fellow physicians. In the face of little financial support, the motivations for plastic surgeons entering business school matched their objective outcomes. The majority enroll looking to add new dynamics to their career, to satisfy entrepreneurial drive, and to gain credibility in business, with few entering the program in hope of increased remuneration, perhaps reflective of a prime motivation being improved patient care and not so much financial gain. The most important skills they had improved as a result of their business education were in the areas of leadership, management, and administration. The practice of medicine is ever changing, and clinicians trained in the languages of both business and medicine will help bridge the gap in a health care system sorely in need of positive change.

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REFERENCES

1. American Society of Plastic Surgeons. 2015 plastic surgery statistics. Available at http://www.plasticsurgery.org/Documents/news-resources/statistics/2015-statistics/plastic-surgery-statistics-full-report.pdf. Accessed September 8, 2016.
2. Medscape. Medscape plastic surgeon compensation report 2016. Available at http://www.medscape.com/features/2016/plastic-surgery#page=12. Accessed September 8, 2016.
3. Sufyan AS, Williams EF 3rd. Key principles in running a successful business in facial plastics. Facial Plast Surg. 2014;30:172–174.
4. Larson DB, Chandler M, Forman HP, MD/MBA programs in the United States: evidence of a change in health care leadership. Acad Med. 2003;78:335–341.
5. Parekh SG, Singh B. An MBA: the utility and effect on physicians’ careers. J Bone Joint Surg Am. 2007;89:442–447.

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6. Falcone RE, Satiani B. Physician as hospital chief executive officer. *Vasc Endovascular Surg.* 2008;42:88–94.
7. Gilmore A. Taking care of business: MDs in search of management skills turning to MBA courses. *CMAJ.* 1992;146:743–747.
8. Lazarus A. Physicians with MBA degrees: change agents for healthcare improvement. *J Med Pract Manage.* 2010;26:188–190.
9. Rich EC, Magrane D, Kirch DG. Qualities of the medical school dean: insights from the literature. *Acad Med.* 2008;83:483–487.
10. Weeks WB, Lazarus A, Wallace AE. Is a management degree worth the investment for physicians? A survey of members of the American College of Physician Executives. *J Med Pract Manage.* 2008;23:232–237.