

Public Perceptions of Plastic Surgery: Analysis and Implications

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Background: The general public may not fully appreciate the role that plastic surgeons play in patient care. The authors sought to identify public perceptions of plastic surgery in a major US urban setting.

Methods: A short, anonymous, survey was distributed to the public in all of the major boroughs of New York City. Respondents were asked to choose the surgeon they believed were experts in 12 specific clinical issues representative of required competencies by both the Plastic Surgery Residency Review Committee and the American Board of Plastic Surgery.

Results: A total of 1000 surveys were collected. Respondent demographics were similar by sex (53% women) and age (6% ages <21 years, 31% ages 21–24 years, 46% ages 25–40 years, 10% ages 41–54 years, and 8% ages ≥55 years). The majority also completed high school (96%). The percent of respondents who chose plastic surgeons as experts in the following procedures included rhinoplasty (61%), mandible fracture (12%), blepharoplasty (71%), cleft lip and palate surgery (46%), thumb replantation (32%), hand/finger fracture (18%), rhytidectomy (85%), breast reconstruction (87%), breast augmentation (96%), open leg wound (15%), open wound on the face (40%), and Botox (47%). Plastic surgeons were the most commonly selected experts in only 8 of these 12 domains (67%). These included rhinoplasty, blepharoplasty, rhytidectomy, Botox injections, breast augmentation, breast reconstruction, cleft lip and palate surgery, and treatment of open wound of the face.

Conclusions: Unfortunately, many conditions at the core of plastic surgery remain outside the realm of plastic surgery in the opinion of the surveyed public.

Key Words: Aesthetic surgery, cosmetic surgery, perception, plastic surgery, public

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The field of plastic surgery is vast, encompassing both reconstructive and esthetic procedures. There exist different areas of specialization, including, but not limited to, microsurgery, craniofacial surgery, and hand surgery. Further diversity is added to our specialty when considering that no territorial restrictions are placed on the plastic surgeon's anatomic map. Potential patients may not appreciate this expansive scope of plastic surgical practice.

It is accepted by some in the field of plastic surgery that the general public misunderstands the many roles plastic surgeons play in patient care.¹ The lack of knowledge regarding a plastic surgeon's scope of practice may be because of many factors. One major factor is likely the media's attention and focus on cosmetic surgery as the plastic surgeons' primary role as a physician. For example, at least 6 plastic surgery "reality" television shows have aired on major networks in the last few years. These include *Extreme Makeover* (ABC), *The Swan* (Fox), *I Want a Famous Face* (MTV), *Plastic Surgery: Before and After* (TLC), *Dr. 90210* (E!), and *Miami Slice* (Bravo).² These shows have all portrayed plastic surgeons as esthetic surgeons largely attending to the needs of cosmetic patients. Conversely, none of these shows have demonstrated the equally important role of a reconstructive plastic surgeon. Another possible cause of the public's misconceptions may be the continued subspecialization amongst plastic surgeons leading to the appearance of a more limited scope of practice. Finally, surgeons with other specialties including otolaryngology, oral maxillofacial surgery, ophthalmology, and orthopedic surgery are performing select procedures also performed by plastic surgeons. This may make these clinical areas appear outside the scope of plastic surgery.

The role that plastic surgeons are perceived to play amongst the general public must be assessed to further clarify common misconceptions. It is imperative to address these issues now so as to prevent the specialty from becoming marginalized and compartmentalized. Therefore, the objective of this study was to identify those procedures that the general public recognize to be common to the practice of plastic surgery and are perceived to be largely outside the scope of plastic surgery.

MATERIALS AND METHODS

A short, anonymous survey was distributed to the general public in all of the major boroughs (Manhattan, Queens, The Bronx, Brooklyn, and Staten Island) of New York City. People were approached at random in populated areas including coffee shops, parks, shopping centers, busy street corners, and subway stations. All those individuals who were willing to participate were included. Only English language speaking participants were included.

Respondents were asked to choose the medical specialist they believed were experts in 12 specific clinical problems representative of required competencies by both the Plastic Surgery Residency Review Committee and the American Board of Plastic Surgery. These clinical areas included rhinoplasty, fractured mandible, blepharoplasty, cleft lip and palate surgery, thumb replantation, treatment of a hand/finger fracture, rhytidectomy, breast

reconstruction, breast augmentation, treatment of an open leg wound, treatment of skin cancer of the face, and Botox (BOTOX® Cosmetic, Irvine, CA) injections. Laymen descriptors were given with procedure titles (ie, nose job for rhinoplasty). Respondents could choose any one of the following specialists: dermatologist, otolaryngologist (ear, nose, and throat), general surgeon, ophthalmologist, oral and maxillofacial surgeon (OMFS), orthopedic surgeon, and plastic surgeon. Respondents were only permitted to select 1 specialist per problem. Solicited demographic information from respondents including sex, age, ethnicity, and education level.

Only questionnaires with complete data available for all of the demographic and other responses were included. All of the incomplete questionnaires were excluded. The questionnaire also included 2 “free response” questions: “How would you describe a plastic surgeon?” and “What do you think are the 3 most common procedures a plastic surgeon performs?” These questions were on the back of the questionnaire and were only permitted to be filled out after the initial questions were completed so as to prevent bias in the initial data collection. All of the statistical analyses were conducted using SAS 9.3 software (SAS Institute, Inc, Cary, NC).

RESULTS

A total of 1000 complete surveys were collected and used for data analysis. This excludes 27 surveys that had to be removed secondary to incomplete or incorrect (>1 answer choice selected) responses. A sample questionnaire is seen in Figure 1.

There were a similar proportion of men (47%) and women (52%) respondents. There was a broad age range, with 6% of people <21 years, 31% between 21 and 24 years, the majority (46%) between 25 and 40 years, 10% between 41 and 54 years, and the remainder (8%) >55 years. The majority of respondents had a college degree (43%). A good proportion of people had a masters degree (12%) and a doctorate degree (MD/PhD/JD/other, 13%). A minority (4%) did not finish high school, 10% finished only high school/General Educational Development, and 19% completed some college. Table 1 summarizes the demographic data of the respondents.

Respondents chose varying specialists as experts in each of the 12 clinical domains. Plastic surgeons were the most commonly selected experts in only 8 of these 12 domains (67%). These included rhinoplasty, blepharoplasty, rhytidectomy, Botox injections, breast augmentation, breast reconstruction, cleft lip and palate surgery, and treatment of open wound of the face.

The study data demonstrated that another specialty was the most commonly selected expert for 4 of the 12 domains (33%). These 4 clinical areas included treatment of mandible fractures, thumb replantation, hand/finger fracture repair, and treatment of an open leg wound. Perceived experts for the treatment of mandible fracture were oral surgeons (54%), orthopedic surgeons (22%), and plastic

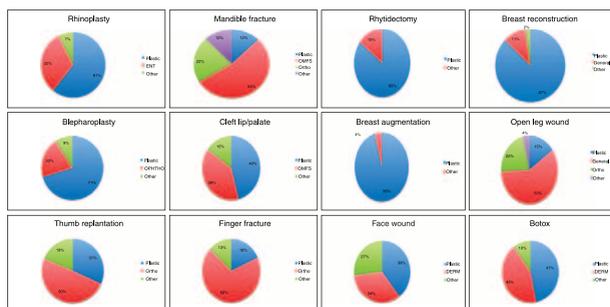


FIGURE 1. Questionnaire. Derm, indicates dermatology; ENT, ear, nose, and throat; OMFS, oral and maxillofacial surgeon; Ortho, orthopedics.

TABLE 1. Demographic Data About Respondents (n = 1000)

Sex		
Female		53%
Male		47%
Age, y		
<21		6%
21–24		31%
25–40		46%
41–54		10%
≥55		7%
Education		
Did not finish high school		4%
Finished only high school/GED		10%
Completed some college		19%
Had a college degree		43%
Masters degree		12%
Doctorate degree		13%

GED, General Educational Development.

surgeons (12%). Experts in thumb replantation were orthopedic surgeons (50%) and plastic surgeons (32%). Respondents believed experts in hand/finger fractures were predominantly orthopedic surgeons (69%), and only a minority selected plastic surgeons (18%). If a patient has an open leg wound, respondents believed the expert surgeons were general surgeons (59%), orthopedic

Age:	< 21	21–24	25–40	41–54	55 and over
Sex:	Male		Female		
Education level (highest completed):	Did not finish high school		High school/GED		
	Som college	College degree	Masters	PhD/MD/JD other doctrate	
If MD, what feild ?					

Which specialist do you think is most qualified for the following 11 Procedures?

- Dermatologist = 1
- ENT surgeon = 2
- General/trauma surgeon = 3
- Ophthalmologist = 4
- Oral maxillofacial surgeon = 5
- Orthopedic surgeon = 6
- Plastic surgeon = 7

1. Nose Job?
2. Fractured jaw?
3. Eyelid lift?
4. Cleft lip repair?
5. Reattaching a thumb?
6. Surgery for hand or finger fractures?
7. Surgery for paralysis of the face?
8. Breast reconstruction surgery?
9. Breast augmentation (boob job)?
10. Surgery to close open wounds of the leg?

11. Botox?
* A cardiologist is a doctor who takes care of hearts. How would you describe a plastic surgeon?

* What do you think are the 3 most common procedures plastic surgeons perform?

FIGURE 2. Respondent survey results. ENT, ear, nose, and throat; GED, General Educational Development.

surgeons (22%), and plastic surgeons (15%). Figure 2 summarizes the data.

For the “free response” questions, we grouped the responses by similarity. The responses were largely uniform and can be summarized as follows. The 3 most common ways a plastic surgeon would be described, in descending order of frequency, were as follows: a surgeon who specializes in “cosmetic procedures, those that enhance appearance and/or improve self-esteem,” a surgeon who specializes in “reconstruction of soft tissue,” and a surgeon who specializes in “superficial surgery and skin.” The 3 most common procedures a plastic surgeon performs, in descending order of frequency, were breast augmentation, rhinoplasty, and rhytidectomy.

DISCUSSION

There is a paucity of published literature regarding the laymen’s perceptions (and misperceptions) of plastic and reconstructive surgery. The purpose of this study was to assess the general public’s knowledge regarding the scope of practice of plastic and reconstructive surgeons, and specifically whether members of the community are aware of many of the major clinical disciplines of the specialty.

A number of studies in recent years have been published that describe the misperceptions of health care practitioners including primary care physicians, residents, medical students, and nurses with regards to the field of plastic surgery.^{3–8} Collectively, these studies have identified a general lack of knowledge regarding the role of the plastic surgeon in patient care.

A large study of 1020 primary care physicians was published by Tanna et al⁴ in 2010. These authors polled physicians by means of an online survey as to what type of surgeon (plastic surgeon, otolaryngologist, orthopedic surgeon, general surgeon, ophthalmologist, oromaxillofacial surgeon, and dermatologist) they believed were experts in 6 surgical procedures: eyelid surgery, cleft lip/palate surgery, facial fractures, hand surgery, rhinoplasty, and skin cancer of the face. The only 2 procedures that a majority of the physicians believed plastic surgeons were experts in were eyelid surgery (70%) and rhinoplasty (74%). Unfortunately, these physicians believed that 4 other major procedures performed by plastic surgeons were better left to other surgeons: cleft lip/palate surgery (oromaxillofacial surgeon 78%), facial fractures (oromaxillofacial surgeon 88%), hand surgery (orthopedic surgeon 76%), and skin cancer of the face (dermatologist 89%). These findings closely parallel those found in this study. The general public of the greater New York metropolitan area also feel that plastic surgeons are experts in esthetic surgical procedures such as rhinoplasty, blepharoplasty, rhytidectomy, breast augmentation, and Botox injections. Interestingly, however, unlike the physicians surveyed by Tanna et al, the general public in our study believes that plastic surgeons are experts in cleft lip/palate surgery and face wounds/cancer (although by a small margin).

Although the majority of publications regarding the scope of plastic surgery are largely focused on health care providers’ opinions, recent studies from Australia and the United Kingdom looked at the general public’s views on the subject. Gill et al¹ performed a cross-sectional telephone survey of 213 individuals, of whom 65% were women. The authors found that overall the public’s understanding of plastic surgery is poor. For excision of a skin cancer of the face, 47% of those surveyed would choose a dermatologist to excise the lesion, whereas only 24% would choose a plastic surgeon. This is in contrast to our study, but similar to Tanna et al.⁴ In addition, only 10% of individuals polled would see a plastic surgeon for hand surgery. Similarly, Dunkin et al³ polled 1004 individuals and found that the vast majority did not believe plastic surgeons were hand surgeons; they were more believed as esthetic surgeons. Our respondents also believed that hand surgery was not a primary discipline of plastic surgeons. These studies

address the public perceptions of plastic surgery in Australia and the United Kingdom, where cultural and professional differences from the United States may limit the translatability of the data. To our knowledge, this is the first study that has examined in detail the public perceptions of plastic surgery in the United States.

Our results clearly indicate that the general public is inadequately educated regarding the scope of plastic and reconstructive surgery. Although community members routinely identified plastic surgeons as the experts in esthetic surgery procedures, their capacity to identify plastic surgeons as experts in reconstructive procedures varied widely. Specifically, people believed that plastic surgeons do not tend to focus on operations involving bony structures or upper/lower extremity surgery. It was interesting to find that those procedures that were least commonly identified as plastic surgical disciplines (mandible fracture, hand/finger fracture, and open leg wound) were selected as plastic surgery problems by those who had a college education or higher. This is encouraging in that education of the public may be a direct means by which to improve the understanding of plastic surgery in the community.

In terms of craniofacial procedures, OMFSSs were considered by our population to be the experts in mandibular fractures and second to plastic surgeons for cleft lip and palate surgery. Interestingly, only 12% of individuals believed that plastic surgeons were experts in mandibular fractures, less than the 22% who believed orthopedic surgeons were experts in this surgery. Perhaps this is because many believed that a plastic surgeon only pertains to “soft tissues” and not “bone surgery.” The fact that more than one fifth of respondents felt orthopedic surgeons were experts in an operation, they rarely if ever perform calls to question the need for better educational efforts.

Identifying community member perceptions will allow us to begin to understand how people view plastic surgeons. This understanding should give us the ability to begin tackling the misperceptions and better educate society about plastic surgery. It is imperative for our specialty to make both community members and health care professionals aware of the true scope of practice of plastic surgery for a number of reasons. First, as long as people are uninformed about many of our core disciplines, we risk losing patients. In addition, although esthetic surgery is a robust and important part of our field, it is just 1 aspect of plastic surgery. We need to take action by educating our communities at large so our field is not marginalized by its portrayal in the media. Finally, and perhaps most importantly, by educating the public about the great diversity of problems plastic surgeons treat, our specialty will continue to see the challenging surgical issues that have traditionally driven our specialty forward through creativity and ingenuity.

There are many ways to address increasing public awareness about the scope of plastic surgery. Increasing awareness through advertising campaigns would reach large numbers of individuals. Educating our colleagues in other general and subspecialized areas of medicine is critically important. This process should start way before years into practice, ideally during medical school. Medical school plastic surgery interest groups should be aimed at not only recruiting plastic surgery residents but also informing future doctors about the breadth of our specialty. In turn, these physicians will educate their patients about our expertise. Ultimately, it is our responsibility as plastic surgeons on the front line to educate our own patients who may come to us for 1 procedure that we have a large scope of practice as a specialty, and they should have confidence in a board-certified plastic surgeon’s ability to execute a variety of procedures.

One major limitation of our study was that it was based purely on a survey dispensed to the public and filled out voluntarily by community members. This may bring inherent biases into the data because those who are willing to stop and take the time to fill out the survey may be the individuals who are either more educated or more

interested in the research process. This is an inherent problem in all of the survey studies, however, involving the general public. This is the first attempt to begin to understand how citizens of the United States perceive the scope of practice of plastic surgeons by sampling a large, assorted group of individuals in one of the most diverse cities in the country. Future studies may also like to examine these similar questions on a larger, multigeographical scale.

CONCLUSIONS

Conceivably, this cohort of young, highly educated urbanites may represent the savviest level of understanding of the medical professions. Unfortunately, many conditions that are at the core of plastic surgery remain outside the realm of plastic surgery in the opinion of this group. Although plastic surgeons were consistently identified with esthetic procedures, involvement with reconstructive conditions varied considerably. Perhaps owing to presumptions about the soft-tissue focus of plastic surgery, conditions involving fractures, in particular, were largely not believed to be in the domain of plastic surgery, whereas fields outside the actual scope of practice of these conditions received large representation.

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