

## PERSONAL QUALITIES OF BRILLIANT SURGEONS: A MYTH OR REALITY

Haroon Sabir Khan, Rehan Ahmed Khan\*, Joharia Azhar\*\*

Pakistan Naval Ship Shifa Karachi Pakistan, \*Riphah International University Rawalpindi Pakistan, \*\*Princess Nourah Bint Abdulrahman University Riyadh Saudia Arabia

### ABSTRACT

**Objective:** To explore the qualities of brilliant surgeons that makes them distinctive.

**Study Design:** A qualitative exploratory study.

**Place and Duration of Study:** The study was conducted in Armed Forces Hospitals, Rawalpindi, from Jan to Jul 2017.

**Material and Methods:** A purposive sampling technique was applied for in-depth, semi-structured interviews of 19 members (ten surgeons, six anesthesiologists and three operation room assistants) having experience of surgical environment for more than 20 years in different institutions. Computer Assisted Qualitative Data Analysis Software (CAQDAS) was employed for thematic data analysis using software NVIVO 11 Pro.

**Results:** Study participants reported observation of distinctive personality characteristics of a few surgeons hitherto termed as “brilliant”. Multifaceted aspects of their personality were identified and categorized into five major themes: mental, psychological and emotional, social, mechanical, and structural strength. The first three themes were found to be common among brilliant achievers in all other professions as well, however, the mechanical and structural strength domains were considered to have unique and substantial bearing on the achievement of brilliance in surgery.

**Conclusion:** A category amongst the surgeon has been identified and termed as “brilliant”. These brilliant surgeons were gifted in five domains of their personality with a distinct set of qualities which made them outclass their contemporaries.

**Keywords:** Aptitude, Brilliant, Domain, Personal, Qualities, Surgeon, Traits.

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## INTRODUCTION

The importance of effectiveness of a brilliant surgeon cannot be over emphasized.

The adjective “Brilliant” literally means very bright, splendid, causing great admiration because of being very clever, and highly skilled. Evidence suggests that brilliance and success in life depends upon a few specific traits. All highly successful people of varied professions have distinct sets of traits in common<sup>1-5</sup>. Evaluation of world class performers has identified the importance of a few common personality traits that steer human excellence in virtually all domains: cognitive, psychomotor and affective<sup>6</sup>. Similarly evidence also identifies “brilliant surgeons” as those who have extraordinary operative skills<sup>7</sup>. They are bold and skillful

enough to operate upon challenging and extremely difficult cases<sup>8,9</sup>. They consistently perform high stake and complicated surgeries with outstanding results<sup>10</sup>. Their preoperative workup and diagnostic skills are exceptional as they know better when to and when not to operate<sup>11</sup>. Their operative outcomes are unmatched and their postoperative care is impeccable resulting in minimal or no post-operative complications<sup>12,13</sup>. They are also recognized amongst their peers as the most skillful and brilliant in the craft of surgery. There are studies that have shown positive correlation of spatial ability and psychomotor skill or aptitude with better surgical performance in clinical situation, however, very few studies, besides anecdotes, have worked on the personality aspects of the surgeons<sup>14</sup> that might be important for becoming a successful and brilliant surgeon. Evidence suggests that a peculiar surgical personality exists<sup>15-19</sup>. Studies that have identified the personality traits or

**Correspondence:** Dr Haroon Sabir Khan, Consultant Urologist, PNS Shifa Karachi Pakistan (Email: [hskhan27@gmail.com](mailto:hskhan27@gmail.com))

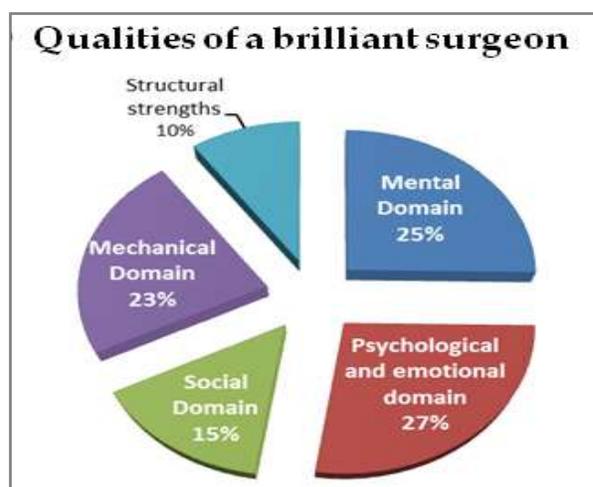
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qualities of brilliant surgeons<sup>20-23</sup> give an indication that the inherent technical traits of the personality do play a major role in becoming brilliant. The aim of the study was to explore the concept of "brilliant surgeon"<sup>24</sup> by identifying the most common personality traits of these surgeons identified as the best amongst their contemporaries.

## MATERIAL AND METHODS

A qualitative exploratory study was carried out to identify various facets of personalities of brilliant surgeons. Exploratory study is the most appropriate research design for such an analysis where little is known about a subject and when the opinion is not very well documented (i.e. very little existing research on the subject matter)<sup>25</sup>. It identifies the boundaries of the situation in which the query of interest are likely to reside and to identify the salient factors or variables that might be found there and be of relevance for future research<sup>26</sup>. The study was conducted in Armed Forces Hospitals, Rawalpindi in 2017. Purposive sampling technique was used. A total of nineteen respondents; ten surgeons, six anesthesiologists and three operation theatre assistants (OTAs), all having experience of more than 20 years, were selected for semi-structured interviews. Snow ball sampling was used (anesthesiologists identifying ten surgeons as brilliant) for inclusion of surgeons. The experience of surgeons ranged from 20 to 48 years. A pilot semi-structured interview was conducted with two surgeons before the actual interviews to improve the quality, structure and sequence of questions. After this validation the data was collected through semi-structured interviews guided by nine open ended questions, audio recorded with mobile recorder, and transcribed. The transcriptions were sent back to the interviewees for validation. Computer Assisted Qualitative Data Analysis Software (CAQDAS) was employed for data analysis using software NVIVO 11 Pro. Data analysis began by merging facts to generate clustered and evolving ideas. Abstract conceptualization was achieved by comparing the empirical data. These perceptions were then

developed further and all the segments of the interviews that fitted under a certain concept were grouped with the related pattern. The subsequent phase in the thematic analysis was to combine the associated patterns to generate sub-themes. Initially open coding was created for a raw classification of themes. Open coding was followed by axial coding. Coding comparison queries and project map design was then conducted, in order to create the interlinked themes. A substantive framework of a brilliant surgeon's personality was generated by constant evaluation of similar and contrasting themes. The credibility (internal validity) and conformability of the data was augmented by the technique of triangulation (data triangulation). The original transcription was sent to each interviewee for



**Figure-1: Five domains (Themes) of Surgeon's Personality along with their magnitude of influence.**

authentication and verification. The content of the interviews was then matched and evaluated. Dependability was achieved by saving the audio recorded tapes as soft and hard copies attached at more than one location.

## RESULTS

Consolidated criteria for reporting qualitative research (COREQ) was used as the guidelines for reporting the results of the study. The interviewees were asked about their views regarding the qualities of brilliant surgeons. All the participants agreed on the presence of a few

unique sets of personality characteristics amongst the brilliant surgeons. The five broad themes that emerged from discussions were: Mental domain, psychological and emotional domain, social domain, mechanical domain and structural strength domain (fig-1).

These domains have been found to form the

has mentioned the same quality (quoted as reference in the table).

**Mental Domain**

It means constant learning accomplishments of continuous surgical education (cognitive domain). It constitutes a number of important components which are described in order of

**Table: Themes and axial codes.**

S. No.	Themes	Axial codes	References
1	Mental Domain	Good Decision making Reflection and continuous self-improvement Optimum patient care Up to date knowledge Self-awareness Organized and meticulous Prepared to take difficult cases Result oriented Predicting best treatment outcome	11 8 8 7 6 6 2 2 2
2	Psychological and Emotional Domain	Like to be challenged Perseverance, Patience and mental endurance, Empathy, Selflessness and Humble Dedication and objectivity Bold and Emergency situation handling Type A personality, Aggressive, arrogance, competitive and Adrenaline rush seeker Cautious, confident, composed and self-reliant. Dynamic and enthusiastic	12 12 8 6 6 4 4 2
3	Social Domain	Leadership qualities Good interpersonal skills Good teachers Highly responsible Straight forward Good sense of humor Glamour oriented	9 9 4 3 2 2 2
4	Mechanical Domain	Excellent surgical and tissue handling skills Natural aptitude and Manual dexterity Judicious speed and Excellent skills Mechanical work inclination Artistic abilities Enhanced psychomotor skills	13 12 10 7 3 2
5	Structural Strength	Hard worker Physical endurance Readily available	11 6 3

strong pillars that support the multidimensional framework of brilliance in a surgeon’s personality. Each domain was further subdivided into various sub-themes as shown in table, which also indicates the number of times each participant

preferences. Good decision making came out to be the most commonly stated quality of this domain. As one participant said “this ability to take a tough decision or a difficult decision at the spur of the moment literally sometimes is what

will distinguish somebody who has the ability to be a brilliant surgeon or not”.

Problem solving skills particularly thinking at the spot is an essential subset of decision making in managing surgical emergencies. The brilliant surgeons are always detail-oriented and meticulous in making a decision of a multifaceted clinical issue. Reflection with insight and analysis of what has been done, in order to effectually learn from the experiences leads to continuous self-improvement that remains an essential feature of outstanding surgeons who are never satisfied with an ordinary job. Their acute focus on optimum patient care was the

**Psychological and Emotional Domain**

These are a pivoting strength for a surgeon in an unpredictable situation because no two days will be same. This makes him to stand confidently and enjoy the diversity and variability of the situations. In these circumstances he has to have a great self-esteem to survive these pressures. In this domain the most commonly found quality amongst the brilliant surgeons was their instinct of taking the challenges head on. As one respondent said “ability to take challenges head on. I have an obsession for achieving any landmark that is presented as a challenge to me”.

The qualities of dedication, perseverance,



Figure-2: Graphic representation of various sub-themes of a Surgeon’s personality.

next common attribute that made them excel in profession. Their desire to attain the latest knowledge entails the habit of constant learning accomplishments in continuous surgical education. Most of them were self-aware of their limitations and would regard this quality essential for their drive for improvement. Majority of them were well organized and meticulous in nature and were prepared to take difficult cases. Other qualities of being result oriented, predicting best treatment outcome, involvement in research and flexibility; Were less frequently quoted qualities, however they still remain important in achieving brilliance in the craft of surgery.

patience, mental endurance and objectivity came out to be next most commonly occurring qualities that were considered to have profoundly contributed to their lifelong achievements as brilliant surgeons. Empathy, selflessness and humility were also found to be an important humane component of their personalities. Majority agreed as being bold and possessing efficient emergency handling abilities as hallmark of their persona. Enthusiasm, confidence, composure, self-reliance, dynamism and competitiveness were considered essential traits to excel in profession as outstanding surgeons. Aggressive behavior and arrogance, as uncommon traits, were quoted by some

of them. Type A personality and liking for adrenaline rush was perceived by only a few as prominent characteristics. A few also quoted to be cautious, composed and self-reliant.

### **Social Domain**

Brilliant surgeons have good leadership qualities and enjoy being leaders of their teams and display strong communication skills. One of the participants said "The biggest thing about the surgeons is that they have to be leaders at least in their own environment. They have to lead the way".

They are highly responsible, straight forward and honest in their behavior; And provide guidance freely to the team members. In addition they exhibit good sense of humor and are generally found to be glamour oriented.

### **Mechanical Domain**

It is required of a brilliant surgeon to have flawless hand dexterity in synchronization with economy of movements as he has to work with extremely sharp tools, where without perfection and precision the results can be catastrophic. This was the most commonly stated domain identified by our respondents. All the surgeons identified their enhanced psychomotor abilities in the form of excellent surgical and tissue handling skills as the essential talent to excel in operative surgery. It was their mechanical work inclination and extraordinary manual dexterity that made them exceptional. A participant said "My dexterity skills and my passion to perform with my own hands helped me outclass others".

During surgery a judicious speed with exceptional tissue dissection was also considered a hallmark of their brilliance. Their natural aptitude towards the extraordinary artistic skills like sketching, painting and handicraft abilities was identified as their prime talents that stimulated their interest in surgery and helped them in becoming brilliant in learning the craft of surgery.

### **Structural Strength Domain**

Enormous physical energy, stamina and hard work are required of a surgeon to endure

the long, irregular working hours and attending to odd time emergencies. The brilliant surgeons have them in abundance as expressed by the respondents. As one of them said "The ability to do the extremes of hard work made me excel in surgery, as to reach the level of virtuoso it is extremely vital". This *métier* stands equaling to the often heard phrase of availability and affability which can be included in the long list of the qualities for successful surgical practice.

### **DISCUSSION**

A good surgeon, good surgery and good surgical skills are those terminologies which have always been of interest to critics<sup>13,14</sup>. It has always been a complicated query to answer. However, one cannot comment on these three facets in isolation. If the result of a surgery is poor one cannot label the surgical skill as good, although it might be outstanding if considered in isolation. Therefore, one needs to appraise the subject holistically and recognize the multiple aspects of an outstanding surgeon working in the surgical atmosphere to achieve brilliance<sup>27</sup>. Those who are successful in surgery have to be ready not just to learn a great deal, but have the right kind of personality for the job<sup>28</sup>. The surgeon has a cult image of brilliance generally because of performing highly skilled tasks with outstanding manual dexterity. However, in reality a successful surgeon requires not only a highly proficient physical agility but rather many other cognitive and non-cognitive traits<sup>29,30</sup>, which play an equally essential role in his pursuit of excellence. On the basis of our study we can classify these various skills into: mental, social, psychological, mechanical and constitutional. Evidence suggests that Mental, Social and Psychological domains contain those personality traits that are common in highly successful people belonging to varied walks of life<sup>1-5</sup>. They form a foundational framework essential for the competitive environment. Anyone not having these basic qualities cannot achieve brilliance in his field. Similarly to achieve excellence in surgery these common traits are also vital, however to reach the zenith of the craft of surgery we have identified two additional

personality facets which are categorized as “mechanical aptitude” and “structural strength”. In fact our respondents rated these two abilities to be most essential for the surgeon to outclass his contemporaries. It was this aptitude and ability which led them to decide to join surgery as their future endeavor. At every stage of their career, the craft of surgery and its physical challenges never posed any difficulty or trouble in learning and achieving the mastery in the surgical skills. They outclassed their contemporaries and reached the zenith of surgery very early in their career. All of them had identified some form of manual dexterity aptitude in the form of painting, pencil sketching, handicraft and interest in outdoor sports as their inclination and choice for surgery. This elucidates the fact that surgery is primarily a psychomotor skill. To summarize in the end, fig-2 graphically represent the most frequently quoted qualities of brilliant surgeon.

## CONCLUSION

A category amongst the surgeons has been identified and termed as “brilliant”. These “Brilliant” surgeons were gifted in five domains of their personality with a distinct set of qualities which made them outclass their contemporaries.

## CONFLICT OF INTEREST

This study has no conflict of interest to declare by any author.

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