


Exploring shared surgical decision-making from the patient's perspective: is the personality of the surgeon important?

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Abstract

Aim The aim was to determine the importance of a colorectal surgeon's personality to patients and its influence on their decision-making.

Methods We present a two-part mixed methods study using the Guidance for Reporting Involvement of Patients and the Public (GRIPP-2) long form. Part 1 was an online survey (25 questions) and Part 2 a face-to-face patient and public involvement exercise. Part 1 included patient demographics, details of surgery, overall patient satisfaction (net promoter score) and patient views on surgeon personality (Gosling 10 Item Personality Index). The thematic analysis of free-text responses generated four themes that were taken forward to Part 2. These themes were used to structure focus group discussions on surgeon–patient interactions.

Results Part 1 yielded 296 responses: 72% women, 75.3% UK-based and 55.1% aged 40–59 years. Inflammatory bowel disease (45.3%) and cancer (40.2%) were the main indications. 84.1% of respondents reported satisfaction with their surgical experience (net promoter score). Four key themes were generated from Part 1 and validated in Part 2: (i) surgeon personality stereotypes (media differed from patients' perspective); (ii) favourable and unfavourable surgical personality

traits (openness, conscientiousness, emotional stability preferred over risk-taking and narcissism); (iii) patient–surgeon interaction (mutual respect and rapport valued); (iv) impact of surgeon personality on decision-making (majority unaware of second opinion option; management of postoperative complications).

Conclusion Patients believe surgeon personality influences shared decision-making. Low levels of emotional stability and conscientiousness are perceived by patients to increase the likelihood of postoperative adverse events. Further work is required to explore the potential influence of surgeon personality on shared decision-making and postoperative outcomes.

Keywords surgeon, personality, patient and public involvement, PPI

What does this paper add to the literature?

This is the first study to explore patient perceptions of the influence of the surgeon's personality on shared decision-making. Patients believe high levels of openness, conscientiousness and emotional stability are positive personality traits in surgeons and believe that, if lacking, the management of postoperative outcomes can be negatively influenced.

Introduction

Shared decision-making is a fluid process, with surgeons and individual patients working together to achieve mutual agreement on the optimal clinical investigations and treatments for that specific patient [1]. This process

empowers patients to make decisions regarding their own care and is diametrically opposed to the traditional, paternalistic ('surgeon knows best') approach. Shared decision-making brings together two expert sources: the clinician (discussing diagnosis, disease aetiology, prognosis, possible treatment options and potential outcomes – including risks and benefits) and the patient (bringing their own knowledge and experience of illness along with their social circumstances, personal values,

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attitude to risk and personal preferences) [1,2]. It is accepted that the patient's personality plays a key role in shared decision-making, and numerous studies have shown the influence of patient personality on outcomes in surgical specialties including cardiac [3,4], bariatric [5,6], transplantation [7,8] and colorectal [9,10]. Conversely, the influence of the personality of the surgeon is rarely acknowledged or explored.

In one of the few published studies on surgical personality and decision-making, Moug *et al.* [11] reported that personality testing on 50, predominantly UK-based, colorectal surgeons found high levels of emotional stability (capacity to remain emotionally balanced under stress) and conscientiousness (diligent, methodical) compared to a non-clinical population. In addition, when clinical scenarios were presented to the surgeons, specific personality traits were associated with altered decision-making. For example, in the hypothetical scenario of working with an unfamiliar anaesthetist where the surgeon's last two patients had experienced an anastomotic leak, surgeons who displayed low levels of openness (a dislike of change, preference for routine) reported that their decision to perform an anastomosis would be influenced. In another proposed scenario in which surgeons had not had an anastomotic leak for over a year, surgeons who scored high in openness (tendency to superstition, creativity) reported that such a good run of results would influence their next anastomotic decision. With the scenarios neutralizing the influence of patient factors, these results suggest that the personality of the surgeon influences the shared decision-making process, a bias that patients and the wider medical community may be unaware of.

Aims

Building on this previous work, this study aimed to explore whether the personality of the colorectal surgeon was important to patients, and whether the surgeon's personality influenced shared decision-making. Our secondary aim was to determine if future research regarding the exploration of surgeon personality would be of value to patients undergoing colorectal surgery.

Method

To achieve our aims, we performed a two-part mixed methods study: Part 1 was an online patient survey and Part 2 a face-to-face patient and public involvement (PPI) exercise.

Briefly, the survey was designed to explore and identify themes related to decision-making from a colorectal patient perspective. Identified themes were then taken

forward to Part 2. Discussion in Part 2 allowed expansion and/or validation of these identified themes. Ethical approval was not necessary following the recommendation of the NHS Health Research Authority ethical approval decision tool [12].

Part 1: Online survey

The study team (including surgeons and a patient representative) developed a 25-item online survey (SurveyMonkey Inc., San Mateo, California, USA; www.surveymonkey.co.uk) (Appendix S1). In addition to age range, gender and country of residence, respondents were asked about their diagnosis, details of surgery including stoma formation and postoperative complications. The remainder of the questions explored patient perceptions of decision-making and surgeon personality, the latter guided by the Gosling 10 Item Personality Index (Appendix S2) [13]. To explore the overall health experience, net promoter scores (NPS) were calculated (subtracting the percentage of very dissatisfied patients from the percentage of very satisfied patients using Question 19) [14] and a single free-text question asking 'what would you change about your surgeon?' was provided. An NPS of greater than 50 is generally regarded as a 'good' indicator by industry [15].

The online survey was distributed via social media platforms (Twitter using @plato_project, www.twitter.com, and Facebook, www.facebook.com) with potential participants (patients who had undergone colorectal surgery and were aged over 18 years) invited via posts on both public pages and patient groups accessible to our PPI representative (ND). Twitter Analytics reported 10 572 impressions from the survey link shared by @plato_project. The study team closed the survey after 72 h when over 200 participants had responded.

Quantitative analysis was performed using Microsoft Excel (Microsoft Corps, Redmond, Washington, USA) and SurveyMonkey® and reported using the Guidance for Reporting Involvement of Patients and the Public (GRIPP-2) long-form checklist (Appendix S3) [16]. Qualitative thematic analysis was performed via the Five Step Framework described by Ritchie *et al.* [17] to report the free-text answer in the survey. This approach involves (i) familiarization of scribed or reported notes (free text), (ii) inductive coding to recognize themes, (iii) review of codes to group similar items, (iv) charting of a thematic framework using the grouped codes and (v) interpretation of the results. Themes were coded by two authors (CB and SM) through the assistance of Wordle™ (an online visual word cloud generator), with final interpretation by all authors.

Part 2: Face-to-face PPI exercise

The PPI exercise was performed over 1 day and in accordance with INVOLVE principles [18]. A total of 11 patients were identified and invited from a prospective single centre colorectal database. All had undergone elective rectal cancer resection within the last 6 months with curative intent. A total of four (36%) patients attended accompanied by three family members. Five members of the study team were present (four surgeons and one patient representative) to facilitate discussion and scribe notes for the thematic analysis.

Using the themes identified from Part 1, the PPI exercise was structured into four sections following introductions, definitions (e.g. anterior resection, personality) and explanation of Part 1 of the study. The four sections were (i) discussion on surgeon personality (including 'surgeon stereotypes' portrayed in popular culture and the media); (ii) surgeon personality traits, favourable and unfavourable; (iii) discussion regarding surgeon-patient interactions and (iv) discussion of patient views and priorities on the impact of surgeon personality on decision-making. To ensure balanced viewpoints, patients, their relatives and surgeons were distributed and rotated in the small group discussions. Transcripts underwent thematic analysis using the same approach as in Part 1.

Results

Part 1: Online survey

Demographics

A total of 296 respondents completed the online survey. The majority were women (72.3%), aged 40–59 years (55.1%) and UK based (75.7%) (Table 1). Most respondents underwent their surgery for inflammatory bowel disease (45.3%) or cancer (40.2%) with the remaining indications for surgery being diverticular disease (4.7%), trauma (3.4%) or 'other' (6.4%) (prolapse, polyposis syndromes, congenital abnormalities, functional bowel conditions, fistulas, perianal sepsis and volvulus). Most (74.0%) respondents had their surgery performed electively, with 97.9% reporting stoma formation (reversed in 28.0% of cases). Postoperative complications were reported by 48.7% with wound complications (including infection, dehiscence or hernia – 26.9%) and pain (12.9%) the commonest. 51.2% of respondents required unplanned hospital admission for treatment. Overall, 85.1% reported a positive or very positive health experience (29.4% positive; 55.7% very positive). The NPS for satisfaction was 52.7% (Table 2).

Table 1 Age and country of residence of online survey responders (Part 1).

Age range (years)	Number of responders (%)	Country of residence	Number of responders (%)
18–29	17 (5.7)	UK	224 (75.7)
30–39	51 (17.2)	Ireland	11 (3.7)
40–49	79 (26.7)	USA	39 (13.2)
50–59	84 (28.4)	Canada	6 (2.0)
60–69	51 (17.2)	Australia	4 (1.4)
70–79	10 (3.4)	The Netherlands	3 (1.0)
80+	4 (1.4)	Other*	9 (3.0)

*Channel Islands, Croatia, Denmark, France, New Zealand, South Africa, Switzerland.

Following completion of the survey, four key themes were identified from thematic analysis (Table 3). Responses to survey questions are grouped according to these four themes and are explored below.

Theme 1: Surgeon stereotypes

Several respondents commented that 'there was no such thing [as the stereotypical surgeon]'. In relation to surgeons in popular media, patients indicated that the three predominant surgical traits presented were 'dependable, self-disciplined' (72.0% – high conscientiousness), 'calm, emotionally stable' (68.6% – high emotional stability) and 'sympathetic, warm' (42.2% – high agreeableness).

Theme 2: Surgeon personality traits

When asked what three traits best reflected their own surgeon, patients indicated the same three traits described in theme 1: 'dependable, self-disciplined' (73.3%), 'calm, emotionally stable' (75%) and 'sympathetic, warm' (60.5%) (Fig. 1). In relation to risk-taking, 8.7% of responders perceived their surgeon as a risk-taker, whilst only 16.2% reported this as an advantageous trait.

Theme 3: Patient-surgeon interactions

84.1% of responders thought that their surgeon had listened to their concerns. A good rapport with the

Table 2 Net promoter score for colorectal surgery.

	Frequency (n)	Valid (%)
Very satisfied	162	54.7
Satisfied	87	29.4
Uncertain	37	12.5
Dissatisfied	4	1.4
Very dissatisfied	6	2.0

Table 3 Thematic analysis of online survey (Part 1) and patient and public involvement exercise (Part 2).

Theme	Significance to patients	Patient quotes [1] indicates survey responders [2] indicates focus group participants
Surgeon ‘stereotypes’ (patient views and media portrayal)	Patients did not think a stereotype exists Media portrays aggression, rudeness	Media portrayals: ‘male’, ‘arrogant’ [2] Female media portrayals: ‘emotional’, ‘aggressive’ [2]
Surgeon personality traits		
Favourable traits (i.e. high levels of openness, conscientiousness and risk aversion)	Ability to cope with pressure Team-working ability Confident leadership Honesty	‘having creative flair [to deal with problems] may be good’ [2] ‘[however] convention is the tried and tested approach’ [2] ‘patient-centred manner’ [1] ‘caring’ [1]
Unfavourable traits (i.e. high levels of narcissism, low levels of agreeableness, risk-taking)	Failure to address patient concerns Laziness, not thorough in task completion Anxious/lacking confidence	‘just felt [he] was always in a rush’ [1] ‘having a surgeon who saw me as a person rather than an opportunity to show-off’ [1]
Patient–surgeon interactions	Establishing rapport Mutual respect Opportunity for questions	‘answered any questions’ [1] ‘listened to my concerns’ [1] ‘didn’t feel qualified to ask [for a second opinion]’ [2]
Impact of surgeon personality on decision-making	Stoma formation rates Influence on postoperative recovery Influence on postoperative complications (and subsequent management)	‘[younger] surgeons need more experience to prove they are good ... might take more risks’ [2] ‘need to be team-player and listen to other staff members’ [2]

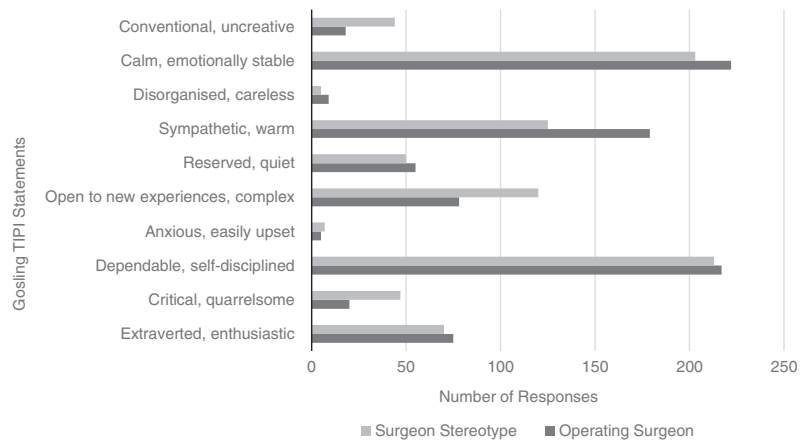


Figure 1 Comparison of patient perceptions of personality traits in the ‘surgeon stereotype’ vs their known operating surgeon.

surgeon was thought to be imperative (95.6%) with 81.8% reporting such a relationship. When asked if patients were treated with respect by their surgeon, and as an equal, 87.5% indicated that this was a regular occurrence with only 4.4% indicating that this rarely or never happened.

12.8% felt that their surgeon did not give them adequate information or counselling on the risk of postoperative complications and their implications. 4.1% of patients (n = 12) thought about asking for a second

opinion but did not pursue, as they thought it would detrimentally affect their care.

Theme 4: Impact of surgeon personality on decision-making

67.2% of responders believed that surgery was the only option for their condition. Of those where other options were described, 6.1% reported that other options were explained negatively by the surgeon, 15.2% neutrally and 11.5% positively. Some responders

commented that other professionals (such as gastroenterologists) may be more likely to discuss non-operative management options than surgeons, particularly in the management of inflammatory bowel disease. 78.7% of responders indicated that they felt able to and were offered the opportunity to make decisions regarding their care.

Most respondents reported positive surgical experiences including indicating 'nothing' when asked what they would change about their surgeon. Respondents stated 'patient-centred [care]', 'being listened to' and 'discussions [with explanations and answers]' as important in decision-making. For those who had a negative surgical experience, this was perceived by patients to be a result of poor communication, particularly postoperatively, including 'not explaining what to expect with pain postoperatively, how long it would go on for', 'didn't want to scare me with details, but I wanted to know' and 'refusing to accept things went wrong [is concerning]'.

Part 2: Face-to-face PPI exercise

In summary, the PPI exercise unanimously agreed that the four themes from Part 1 were important with no additional areas required (Table 3). Discussions are described below.

Theme 1: Surgeon stereotypes

Supporting the results of Part 1, when participants were asked to describe what traits the 'stereotypical surgeon' possessed, they tended to draw from their own experiences of the surgeons they had met and stated that they did not believe a stereotype existed. This discussion was facilitated by showing images of and exploring the roles of well-known actors and actresses portraying surgeons across a variety of UK- and US-based film and media. Following this, patients maintained their opinion that there was no 'real' surgeon stereotype.

Theme 2: Surgeon personality traits

Participants considered that scoring highly in agreeableness and emotional stability (low narcissism) were preferable traits in colorectal surgeons. High levels of openness were also considered advantageous, as openness is associated with problem-solving and 'thinking outside the box'. There was unanimous agreement that being 'calm, emotionally stable' (i.e. high levels of emotional stability) was important. In contrast, patients believed that surgeons who have low levels of conscientiousness (disorganized, carelessness), emotional stability (anxious) or openness (uncreative, lacking insight) may

be more likely to have higher rates of postoperative complications.

Theme 3: Patient–surgeon interactions

The first meeting with the surgeon was crucial for patients, with the majority describing that rapport was 'instantaneous'. Others reported requiring multiple consultations to establish rapport via 'finding common ground'. Overall, all participants felt rapport was imperative. Active listening, addressing concerns and respecting the patient were all reported as key factors. Preoperative written information was helpful, and there were no concerns regarding inadequate information giving. Most patients were unaware that a second opinion was an option regarding their care.

Theme 4: Impact of surgeon personality on decision-making

All patients indicated that surgeon personality may not directly increase the number of postoperative complications, unless the surgeon was a 'risk-taker'. However, surgeon personality was considered an influencing factor on mental and physical recovery from both surgery and complications. Surgeon personality was also felt to be highly influential on subsequent decision-making following a postoperative complication. PPI participants unanimously felt that better understanding of the potential influence of surgeon personality on postoperative outcomes was worthwhile researching.

Discussion

This study adds a new dimension to the understanding of the influences in shared decision-making, finding the personality of the colorectal surgeon to be important to patients. Differing from the media surgeon 'stereotype', patients reported 'favourable' and 'unfavourable' surgeon personality traits that were perceived to influence the management of postoperative outcomes. In addition, good rapport with their surgeon, being treated with respect and as an equal were all perceived by patients as essential to allow patient engagement within the shared decision-making process.

The first theme identified was the media surgeon 'stereotype', where surgeons are often portrayed as rude, arrogant and difficult to work with [19,20]. Whilst acknowledging this stereotype, patients disagreed, and from their own healthcare experiences did not believe that such a typical surgical personality exists. This is in alignment with the small number of studies in the current literature attempting to define the typical surgical personality, where no consensus on specific

traits has been achieved either in colorectal surgery or other specialties [11,21,22].

Patients in this study identified high levels of openness (creative, open to new ideas), agreeableness (trustworthy, helpful) and emotional stability (composed, calm) to be 'favourable' traits in a colorectal surgeon. These are traits often associated with leadership [23]. This would appear to coincide with the current model of surgical practice within the UK, where consultant surgeons remain team leaders across theatre, endoscopy and ward settings. Surgeon traits that were identified as 'unfavourable' were perceived by patients as being potentially linked to an increased risk of postoperative complications. Whilst patients agreed that surgeon personality may not directly influence postoperative complication rates, patients believe that surgeon personality would directly affect the subsequent management of complications. Patients believe that surgeon personality could influence how complications are treated, which patients described as being equally important to the overall reduction in complication rates. 'Unfavourable' traits identified by patients were low levels of conscientiousness (impulsive, lack of self-discipline) and low levels of emotional stability (narcissistic, defensive). Such traits may be reflected in the postoperative clinical scenarios proposed by patients: inability to work as part of a team (low conscientiousness), surgeon ego (narcissistic), disregard for protocols and best evidence (low conscientiousness), as well as risk-taking (narcissistic). Overall, recognition of the complex interaction between surgeon personality and postoperative outcomes was acknowledged by patients, with one stating: 'You [surgeons] will never have a 100% record [in avoiding complications] ... which is quite a burden to carry – good luck!'

The King's Fund recommends shared decision-making conversations should 'begin by building empathy and trust ... emphasise partnership and support' [1]. Reassuringly, a high percentage of respondents in this study stated that this partnership and rapport was established from the first meeting. However, some patients reported requiring a few consultations to achieve this, something that the surgeon should consider. When asked to score their level of satisfaction with their own healthcare encounter, 84.1% were satisfied leading to a high NPS of 52.7%. Such scores are increasingly used by industry and other surgical specialties to assess participant and/or patient satisfaction. For comparison, total hip replacement has an NPS of 68%, total knee replacement 57.8%; and, in the electronics industry, Apple iPhone has an NPS of 63% compared to BlackBerry's 28% [24–26]. To the best of our knowledge, this is the first NPS in colorectal surgery and indicates overall high levels of satisfaction.

Whilst these are positive findings, there were still an appreciable number of patients who did not have rapport with their surgeon and did not feel able to ask for a second opinion due to concerns about repercussions. Indeed, one-fifth of patients felt they were not given the opportunity to make decisions regarding their own healthcare including non-operative decisions. To help surgeons, we suggest familiarization with shared decision-making guidance from the King's Fund and also the Scottish Government's 'Practising Realistic Medicine' to provide a communication framework in decision-making and alternative treatment options [27]. Regarding surgeon personality, more research is necessary to explore the interactions between decision-making, personality traits and postoperative colorectal surgery outcomes, a need expressed both by patients in this study and by the Association of Coloproctologists of Great Britain and Ireland's Research Prioritization Delphi Exercise [11,28,29]. Hypothetically, it is possible that further research into better understanding the interaction between surgeon and patient personalities may allow the 'matching' of personalities which complement one another, perhaps increasing the likelihood of rapport and shared decision-making.

We acknowledge the limitations of our study. Part 1 may have selection bias as we used social media platforms that potentially favour younger adults and those who had a stoma formed as the survey link was shared to 'ostomate' groups. Although emergency surgery numbers were low, future work should consider approaches to focus solely on emergency or elective surgery, as personality and decision-making are likely to differ in these clinical settings. Part 2 involved only a small number of participants and, although this allowed good interaction and discussion, dominant voices could have introduced bias [30]. Although both positive and negative experiences in hospital were described by patients, any opt-in survey or focus group discussion carries a risk of selection bias. It is possible that patients who did not report a postoperative complication may have a skewed view towards what a 'favourable' surgeon personality may incorporate, drawing from their probably positive, personal experiences. This is a retrospective survey which cannot account for 'first impression' analysis; therefore hindsight bias may be present as patients reflect on their initial encounter, hospital experience and subsequent management in its entirety.

Conclusion

Our study highlights that patients believe that the personality of the colorectal surgeon is influential in shared decision-making and directly affects their healthcare

experiences. High levels of conscientiousness and emotional stability, alongside having a good rapport, were deemed essential. In the event of a postoperative complication occurring, patients perceive the personality of the surgeon to be especially important. Patients believe that the surgeon's personality influences how surgeons respond to complications and the surgeon's approach to subsequent management and directly influences patient satisfaction. Further examination of the influence of surgeon personality on postoperative outcomes is required.

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Conflicts of interest

The authors have no conflicts of interest to declare.

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Supporting Information

Additional Supporting Information may be found in the online version of this article:

Appendix S1. Online patient survey reporting perceptions of surgeon personality.

Appendix S2. Gosling 10 Item Personality Index.

Appendix S3. GRIPP-2 long form.