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## Who is satisfied with general surgery clinic visits?



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### ABSTRACT

**Background:** Patient satisfaction is an important patient outcome because it informs researchers and practitioners about patients' experience and identifies potential problems with their care. Patient satisfaction is typically studied through physician–patient interactions in primary care settings, and little is known about satisfaction with surgical consultations.

**Methods:** Participants responded to questionnaires before and after a surgical consultation. The study was conducted in a diverse outpatient clinic within a county hospital in Southern California. Participants were patients who came to the surgery clinic for their first appointment after referral from a primary care provider for a surgical consultation.

**Results:** Patients' ethnicity, educational attainment, and insurance status predict their satisfaction, and patients reliably differed in their satisfaction with care providers and with the hospital where they received their care.

**Conclusions:** These findings add to knowledge about patient care by highlighting associations between patients' demographic characteristics and patients' differential satisfaction with particular entities within the context of surgical care.

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## 1. Introduction

Patient satisfaction refers to subjective, personal evaluations of the health care process by care recipients [1,2]. Patients vary in how they rate the health care institution (e.g., clinic and hospital), the activities involved with their care (e.g., communication and shared decision making), and the result of their interaction (e.g., improved health) [3–5]. Patient satisfaction can be used to compare different programs, systems, or institutions of care [6–8] to assess the quality of care [9], to highlight particular aspects of care that can be improved [10], and to identify sources of patient loyalty and commitment [1,11]. Patient satisfaction is also a reliable predictor of patients' health outcomes (e.g., better information recall,

better adherence to their provider's recommendations) [12–18]. The goal of the present study was to examine the relationship between patient demographics and satisfaction with their care in the context of surgical consultations and to answer the question of who is most satisfied with their care, with a particular focus on patients who may be vulnerable to poor care. We use the Centers for Disease Control and Prevention's definition of patient vulnerability, which includes ethnicity and socioeconomic status as key markers of vulnerability [19,20].

When measuring patient satisfaction, researchers must look beyond the face value of satisfaction ratings to examine the context surrounding these ratings, including the care setting and patient characteristics [8,21]. The present study

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focuses on an important but understudied context of surgeon–patient interactions during preoperative consultations. This context is unique because it typically requires detailed descriptions about complex and technical procedures and intense discussions about surgical and nonsurgical options for treatment, all of which occur within markedly brief interactions [22]. Moreover, these consultations are usually the first time that patients meet their surgeon, which may add additional strain into an already stressful process for patients. Understanding patient satisfaction in this context is critical because it may affect how patients proceed after the consultation. Satisfied patients are more likely to adhere to treatment recommendations (e.g., return to have surgery or complete a nonsurgical treatment regimen) [16,18] and may be more likely to pursue their next phase of treatment at the same facility than unsatisfied patients [23].

Additionally, prior research connects various demographic factors to patient satisfaction [19,24,25]. For example, patients with lower incomes and lower educational attainment tend to be more satisfied with their care [24–29] and Black Americans are more likely to be satisfied with their care than their White counterparts [30–34]. In the present study, we focus on demographic characteristics that are particularly relevant to our patient population and that might make patients vulnerable to poor care, namely ethnicity, education, and insurance status.

Overall, a counterintuitive trend seems to be emerging in the literature: primary care patients who are vulnerable to poor care [31,35,36] tend to provide higher satisfaction ratings than people who are likely to receive objectively better care. This trend informs the hypotheses for the present study explicitly concerning traditionally vulnerable patients [19,20] in the context of general outpatient surgical consultations.

We hypothesized that patients traditionally viewed as vulnerable to poor care will report greater satisfaction with their care. Specifically, we hypothesized that Hispanic patients, less educated patients, and patients with no insurance will be more satisfied with their care than their non-Hispanic, more educated, and fully insured counterparts. As a secondary goal of the study, we also explored differences in satisfaction ratings based on the entity being rated [3–5] (e.g., hospital, surgeons, and visit). We tentatively hypothesized that patients would be more satisfied with their care providers than with the hospital as an institution.

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## 2. Method

### 2.1. Participants

Participants in this study were patients from a diverse outpatient clinic within a county hospital in Southern California.

### 2.2. Procedures

#### 2.2.1. Patient eligibility, recruitment, and consent

Patients were eligible to participate if they came to the clinic for their first appointment after referral from a primary care

provider for a surgical consultation. Patients were aged between 18 and 90 y and fluent in English or Spanish. Research assistants approached eligible patients to request consent within the clinic after vitals were taken and before the patients saw the surgeon. Before the start of data collection, research assistants received extensive training in recruitment and consent procedures, unbiased interviewing, use of the materials and equipment, appropriate responses to unanticipated events (e.g., medical emergencies during interviews and inappropriate information from patients), and sensitivity to issues related to patient diversity. This training involved weekly meetings to discuss procedures, brainstorm, and role-play scenarios that might arise during the study, and rehearse the study procedures.

#### 2.2.2. Data collection

The data discussed in this article are a subset of a larger study conducted in the general surgery clinic, which included other measures regarding patients' expectations about surgery, decisional control, and emotions during surgical consultations. A primary goal of this study, although large in scope, was to examine variation in satisfaction with surgical care. See Appendix for the full patient questionnaires used in the larger study.

Two patient questionnaires are relevant to the current research questions. Patients who consented to participate completed the first of two questionnaires on tablet computers immediately following consent procedures. After completing the preconsultation questionnaire, a research assistant waited outside of the examination room, whereas the surgeon visited with the patient. After the visit, the research assistant approached the patient in the examination room to complete the postconsultation questionnaire.

Data collection occurred between November 2011 and December 2012. All materials and procedures associated with the study were approved by the institutional review boards at the participating hospital and at the university affiliation of the primary investigator. The data reflect patient interactions with a group of surgeons who worked in the clinic for the duration of the study.

## 2.3. Measures

### 2.3.1. Preconsultation questionnaire

Patients provided demographic information including age, gender, ethnicity, race, language preference, English fluency (1 = *no fluency*, 10 = *perfect fluency*), education (1 = *no high school* to 8 = *completed post-graduate degree*), health literacy ("How confident are you filling out medical forms by yourself?" 1 = *not at all*, 10 = *completely* [37,38]), employment ("Are you employed?" *yes/no/prefer not to say*), and insurance status ("Do you have health insurance?" *yes/no/prefer not to say*; "Do you have [Medicaid] or Medicare?" *Medicaid/Medicare/neither*; "What type of insurance do you have?" *Health Maintenance Organizations [HMOs]/Preferred Provider Organizations [PPOs]/don't know/prefer not to answer/other*).

### 2.3.2. Postconsultation questionnaire

Patients reported their satisfaction with the hospital, the doctors they had seen at the hospital, and nurses they had

seen at the hospital (“How do you feel about this hospital/the doctors/the nurses you’ve seen at this hospital?”; 1 = very negative, 10 = very positive). These questions focused on the patient’s care in the hospital setting because the general surgery clinic was situated in a hospital (the Riverside County Regional Medical Center); it was not an independent entity. The item measuring satisfaction with the hospital mirrors a similar item on the Hospital Consumer Assessment of Healthcare Providers and Systems [39]. Patients also reported their overall satisfaction with the consultation (“How satisfied are you with your visit today overall?”; 1 = completely dissatisfied, 10 = completely satisfied) and with the specific doctor(s) they saw that day (“How much do you like the doctor(s) you saw today?”; 1 = strongly dislike, 10 = like very much). A 5-item composite was created to capture patients’ overall satisfaction with their care (Cronbach  $\alpha = 0.77$ ).

**2.4. Data analysis plan**

The lead author and senior author conducted all analyses for the present study, and the analyses were selected to be appropriate to the nature of the variables (i.e., continuous or categorical) and the nature of each hypothesis. When a hypothesis concerned a relationship between satisfaction and a continuous variable (i.e., education), we conducted bivariate correlations. When a hypothesis directly compared two groups in terms of satisfaction (i.e., Hispanic versus non-Hispanic), we used independent samples t-tests. Finally, when a hypothesis compared more than two groups with each other (i.e., insurance status), we used one-way analysis of variance tests.

**3. Results**

The final sample consisted of 380 patients. Although some patients were not scheduled for surgery after the consultation, 79% of our sample indicated after the consultation that they believed they would be scheduled for surgery.

**3.1. Relationships between patient demographics and satisfaction**

**3.1.1. Ethnicity**

As hypothesized, Hispanic patients reported greater satisfaction ( $M = 9.02$ , standard deviation [SD] = 1.4) compared with non-Hispanic patients ( $M = 8.70$ ,  $SD = 1.4$ ),  $t(337) = 2.07$ ,  $P = 0.04$ ,  $r_{es} = 0.11$ . To further explore this relationship, we examined the relationship between English fluency and satisfaction to determine if language issues are a likely cause of the disparity in satisfaction between Hispanic and non-Hispanic patients. English fluency and satisfaction were negatively correlated,  $r(338) = -0.11$ ,  $P = 0.05$ , suggesting that fluency may partly explain the relationship between ethnicity and satisfaction.

**3.1.2. Education**

As hypothesized, patients’ educational attainment was negatively correlated with satisfaction,  $r(339) = -0.13$ ,  $P = 0.02$ .

**3.1.3. Insurance status**

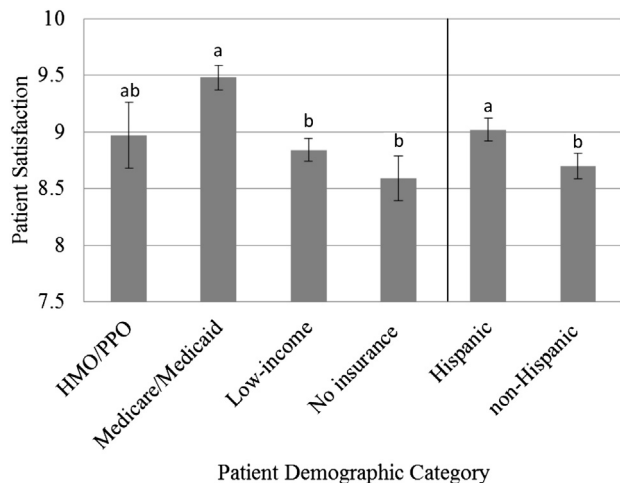
We first examined the relationship between insurance status and satisfaction by conducting a one-way analysis of variance test. We compared four primary types of insurance: no insurance ( $n = 52$ ), HMO/PPO ( $n = 17$ ), Medicaid or Medicare ( $n = 47$ ), and local low-income insurance programs that target medically indigent patients who do not qualify for Medicaid or Medicare ( $n = 204$ ). We omitted patients who were unsure about their insurance status or did not specify their insurance status from these analyses only ( $n = 80$ ). Although it may be important to consider patients’ lack of knowledge about their insurance status or their failure to report their insurance type, it was impossible to determine the source of these omissions, and thus, including them in the analyses would simply add error to the estimations.

Satisfaction varied based on insurance type,  $F(3, 289) = 3.61$ ,  $P = 0.01$ ,  $\eta_p^2 = 0.04$ . Patients with Medicaid/Medicare were most satisfied ( $M = 9.48$ ,  $SD = 1.1$ ), but contrary to our hypothesis, patients with no insurance (rather than HMO/PPO insurance) were least satisfied ( $M = 8.59$ ,  $SD = 1.4$ ). Post-hoc contrast tests revealed that the Medicaid/Medicare group was significantly more satisfied than the local low-income insurance group ( $M = 8.84$ ,  $SD = 1.4$ ),  $F(1, 289) = 7.62$ ,  $P = 0.006$ ,  $r_{es} = 0.30$ , and the no insurance group,  $F(1, 289) = 10.06$ ,  $P = 0.002$ ,  $r_{es} = 0.37$ . Patients with Medicaid/Medicare were no more satisfied than the small group of patients with HMO/PPO insurance ( $M = 8.97$ ,  $SD = 1.1$ ),  $F(1, 289) = 1.48$ ,  $P = 0.22$ ,  $r_{es} = 0.14$ . When including patients who were unsure about their insurance status in additional analyses, the only notable finding was that these patients ( $M = 8.79$ ,  $SD = 1.57$ ) were less satisfied than Medicare/Medicaid patients ( $P < 0.005$ ). See Table 1 for patient characteristics, and see Figure 1 for a display of satisfaction ratings by patient demographic variables.

**Table 1 – Patient sample characteristics.**

Demographic variable	(n = 380)
Female, %	51
Mean age	44.7
Education (%)	—
Did not complete high school	31
Completed high school only	53
Completed college	16
Health insurance (%)	—
HMO/PPO	5
Medical or Medicare	14
Local low-income program	63
No coverage	18
Employed (%)	31
English fluency, M (SD)	7.8/10 (3.7)
Health literacy, M (SD)	7.1/10 (3.4)
Ethnicity: Hispanic (%)	55
Race (%)	—
White/Caucasian	85
Black/African-American	9
Asian	2
American Indian/Alaska Native	1
Native Hawaiian/Pacific Islander	<1
Other	2

SD = standard deviation.



**Fig. 1 – Summary of patient satisfaction by demographic variables. Standard errors are represented in the figure by the error bars attached to each column. Within demographic variable (insurance or ethnicity), bars with different letters indicate differences significant at  $P < 0.05$ .**

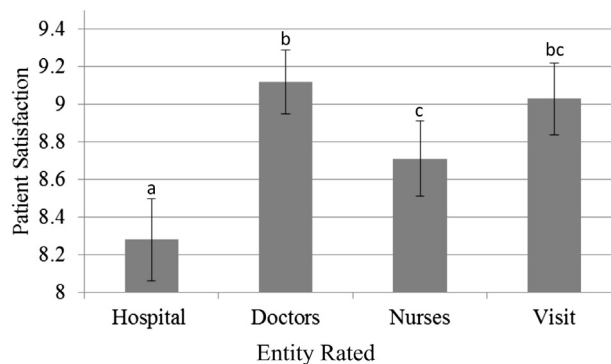
### 3.2. Differences in satisfaction ratings by the entity being rated

We also examined the hypothesis that patients might be differentially satisfied with the hospital where they receive their care, the caregivers at the hospital, and their visit at the clinic [3–5]. Much like people tend to be dissatisfied with Congress but happy with their Congressperson [40], we tentatively hypothesized that patients would be more satisfied with their caregivers than with the hospital itself. To examine within-patient differences between satisfaction ratings, we used paired *t*-tests. These analyses revealed that as predicted, patients were less satisfied with the hospital ( $M = 8.28$ ,  $SD = 2.3$ ) than with any other entity (doctors,  $M = 9.12$ ,  $SD = 1.6$ ; nurses,  $M = 8.71$ ,  $SD = 2.15$ ; visit,  $M = 9.03$ ,  $SD = 1.9$ ), all  $t_s > 3.20$ ,  $p_s < 0.002$ ,  $r_{es} > 0.35$ . Regarding comparisons between care providers, patients reported greater satisfaction with their doctors than their nurses,  $t(345) = 3.56$ ,  $P = 0.0004$ ,  $r_{es} = 0.38$ . See Figure 2 for display of satisfaction ratings by entity being rated.

## 4. Discussion

Our study examined patient characteristics that predict patient satisfaction with their preoperative surgical care. We focused on patients who are vulnerable to receiving poor care [20,21]. Patient's ethnicity (and English fluency), educational attainment, and insurance status predicted patient satisfaction. Moreover, patients were differentially satisfied with the hospital, their care providers, and their preoperative visit.

As hypothesized, Hispanic patients were more satisfied with their preoperative experience than non-Hispanic patients. Similarly, the less proficient patients were with English, the more satisfied they tended to be with their care. We collected our data at a county hospital that has a host of tools



**Fig. 2 – Summary of patient satisfaction by entity being rated. Standard errors are represented in the figure by the error bars attached to each column. Bars with different letters indicate differences significant at  $P < 0.05$ .**

and services available to aid patients who are not fluent in English. In addition to a largely bilingual staff, the hospital uses an interpretation system that is easily accessible to all non-English speakers, although it was seldom used by patients in our study because of the availability of physicians and other staff who were fluent in Spanish. Moreover, because of the high volume of Hispanic patients and the diversity of the patient population at the hospital overall, the staff has extensive experience working with this vulnerable population. For example, 21% of interactions examined in our study were conducted partly or fully in Spanish with Spanish speaking care providers. Thus, one interpretation of our findings is that this hospital's focus on caring for Hispanic and non-English speakers appears to be paying off in terms of patient satisfaction and perhaps can serve as a model for other hospitals and medical centers that serve similar patient populations.

Alternatively, perhaps these vulnerable patients simply have lower expectations for their care based on previous experiences with poor care [10,41–43]. Patients who expect to have difficulty communicating with their physician or who expect to be treated poorly based on their ethnicity may be pleasantly surprised to find that their care is, if not excellent, at least considerably better than expected. To be clear, we did not assess expectations for care before the visit, so we can only speculate based on previous research that variability in expectations could account for our findings. Further research can delve into the process behind this disparity in satisfaction in the context of surgical care.

Consistent with previous research in primary care, patients' educational attainment also predicted patient satisfaction with preoperative care [24,25]. This finding may also reflect the entwined relationship between patient satisfaction and patient expectations [41–43]. That is, more educated patients likely have higher expectations for their care providers and institutions because they have more experience with high quality health interactions, which may lead them to be disappointed about the care they receive [44–46].

Patients' insurance status represents another complex factor in the relationship between demographics and satisfaction. In our study, patients with insurance, and particularly

with full coverage insurance (Medicare, Medicaid, or HMO/PPO) were considerably more satisfied than patients with no insurance. This pattern is consistent with findings in primary care settings [30] but inconsistent with our hypothesis that people with “good” insurance would be least satisfied with their care (consistent with the pattern for ethnicity and education). Although further research is needed to replicate and extend these findings in the context of surgical care, we suspect that the variability in our findings reflects a subtle distinction between quality and access to care. In the case of ethnicity and education, patients likely had equal access to surgical care but may have experienced their care differently. That is, people who typically face poor care (Hispanic patients, patients who are relatively uneducated [19,20]) may have received care that exceeded their low expectations. On the other hand, patients with no form of insurance were likely more concerned about their lack of access to (or payment for) much needed surgery and follow-up care and thus were not as responsive to how the surgeon or nurses treated them during the visit. In short, our findings suggest that the relationship between patients’ vulnerability and their satisfaction depends on whether the nature of their vulnerability interferes with their access to care.

In our study, patients were more satisfied with their care providers and the consultation itself than they were with the hospital. These findings may reflect patients’ general reluctance to provide potentially damaging reviews of care providers compared with a nonanimate entity (i.e., the hospital). Patients may truly feel satisfied with their care providers or they may resist giving care providers, who hold higher power status, negative reviews because they fear potential repercussions or retaliation [47,48]. Consistent with the power status explanation, we found that patients reported more satisfaction with their surgeons, who hold higher status and power, than with their nurses, who tend to be lower in power status in that context [49,50].

Because of the entwined nature between patient satisfaction and patient expectations [51], a full understanding of patient satisfaction requires baseline measures of patients’ expectations for the hospital, their care providers, and the consultation. We suggest that future research examine demographic predictors of patient satisfaction in surgical contexts, controlling for patient expectations. Similarly, a measure of objective quality of care would aid in identifying whether patients are actually receiving different levels of care, or if expectations and perceptions are more important. Future research should attempt to parse out the objective quality of care from patients’ subjective interpretation of the care received. This type of assessment can be achieved through analysis of audio or video recordings of patient-provider interactions [52].

Our study did not control for patients’ previous encounters with different health-care settings or this particular clinic. Patients’ experience with surgical settings generally, and this clinic specifically may affect their expectations for the services provided and ultimately their satisfaction rating. Additionally, our study addressed satisfaction specifically with presurgical consultations, which provides only limited insight into the full process of surgical care (e.g., diagnosis, surgery, and postsurgical care). We suggest that future research

attempt to parse out the relationship between patients’ expectations and objective experience, particularly focusing on patients’ experience with the entire process of surgical care.

Although our study focused on vulnerable patients and their satisfaction, we did not assess how vulnerable patients would use patient satisfaction information to make decisions about where to receive their care [53]. Other research has found that patients may be unaware of the quality ratings of the broader health-care system (e.g., the hospital or medical center); they may focus more on the quality of their individual care. In light of those conclusions, our findings suggest that patients’ relatively low satisfaction with the hospital may be less critical in determining where patients wish to receive their care than the relatively high satisfaction with care providers. Thus, hospitals may want to focus on improving patient interactions with proximal entities associated with patient care. Future research should seek to further clarify the relationship between patients’ individual satisfaction ratings, patients’ knowledge about satisfaction data at the macro (e.g., hospital) level, and patients’ decision making about where to receive care.

Data collection at this busy surgical clinic site was challenging at times, particularly in the beginning of the project. Unexpected practical issues arose intermittently during the study (e.g., where research assistants were allowed to wait for patients, timing patient interviews to fit in with surgeon consultations). Before embarking on similar projects, researchers should ensure that there is clear communication between the researchers, program director, office staff, surgeons, and nursing staff, and the line of communication continue to stay open for the duration of the study.

Our findings extend research in primary care contexts to surgical care and have specific implications for clinic-based care, particularly with vulnerable patient populations. Such patients were generally more satisfied with the hospital, their visit, and care providers compared with less vulnerable patients in our study, although our findings also point to subtle but important differences between vulnerability to poor care and vulnerability to lack of access to care. Our findings may indicate that patients who are typically vulnerable to poor care are receiving particularly excellent care in such clinics, but it is equally (and perhaps more) likely that our findings recommend caution when interpreting satisfaction outcomes from diverse patient populations given the possibility that high satisfaction reflects low expectations rather than high quality care. Surgeons can use our findings as a starting point from, which to guide their treatment of vulnerable patients who may enter a consultation with low expectations for quality of care. We also found that all patient satisfaction is not created equal: Patients were more satisfied with their caregivers than they were with the broader context of their care. The mechanisms underlying these relationships are likely complex and may reflect not only patient expectations but also the objective quality of care received.

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## Appendix: Full patient questionnaires

Preconsultation questionnaire	
Question wording	Scaling
Patient gender	Male/female
How much pain are you in right now?	1 = no pain 10 = worst pain you can imagine
How have you been feeling in the past month?	1 = very sick 10 = very healthy
How are you feeling right now compared to how you felt 1 year ago?	1 = much worse 10 = much better
Today you're here to see the doctor about a specific problem. How bad is that problem for you?	1 = very minor problem 10 = very severe problem
How much control do you want to have over the decisions that are made about your healthcare?	1 = no control 10 = complete control
How nervous are you right now?	1 = not at all nervous 10 = extremely nervous
How scared are you right now?	1 = not at all scared 10 = extremely scared
How hopeful are you right now?	1 = not at all hopeful 10 = extremely hopeful
How happy are you right now?	1 = not at all happy 10 = extremely happy
How sad are you right now?	1 = not at all sad 10 = extremely sad
How confident are you filling out medical forms by yourself?	1 = not at all 10 = completely
Age	Open-ended
*Highest grade completed	Open-ended
Are you employed?	Yes/no/prefer not to say
Current occupation	Open-ended
*Are you of Hispanic, Latino, or Spanish origin?	Yes/no
Race	Open-ended
*Do you have health insurance?	Yes/no/prefer not to say
*Do you have MediCal or MediCare?	MediCal/MediCare/neither
*Which type of insurance do you have?	HMO/PPO/don't know/other/prefer not to say
English fluency	1 = no fluency 10 = perfect fluency
Postconsultation questionnaire	
After talking to the doctor, do you expect to have surgery for the problem that brought you here today?	Yes/no/not sure
What kind of surgery do you expect to have?	Open-ended
When do you expect to have the surgery?	Open-ended
How do you expect the surgery to affect your life?	1 = make it much better 5 = make it much worse
In what specific ways do you expect the surgery to affect your life?	Open-ended
*How do you feel about this hospital, the Riverside county Regional medical center?	1 = very negative 10 = very positive
*How do you feel about the doctors you've seen at this hospital?	1 = very negative 10 = very positive
*How much do you like the doctor(s) you saw today?	1 = strongly dislike 10 = like very much
*How do you feel about the nurses you've seen at this hospital?	1 = very negative 10 = very positive
Did you see a nurse today?	Yes/no/not sure
How much do you like the nurse(s) you saw today?	1 = strongly dislike 10 = like very much
Do you feel like the doctor(s) you saw today gave you any control over how to treat your health problem?	Yes/no/not sure
How much control do you feel like you have over the decisions about your treatment?	1 = a little control 10 = total control
How likely are you to do exactly what the doctor(s) you saw today suggested?	1 = definitely not 10 = definitely will
*How satisfied are you with your visit today overall?	1 = completely dissatisfied 10 = completely satisfied
Do you feel like you understood what the doctor(s) told you today?	1 = not at all 10 = completely
How much do you think the doctor(s) you saw today respects you?	1 = no respect 10 = complete respect
Do you feel like the doctor(s) made an effort to give you information?	1 = no effort at all 10 = a lot of effort
Do you feel like the doctor(s) made an effort to convince you to follow their recommendations?	1 = no effort at all 10 = a lot of effort
Do you feel like the doctor(s) made an effort to make you satisfied with the visit?	1 = no effort at all 10 = a lot of effort
Do you feel like the doctor(s) made an effort to make you feel less worried or upset?	1 = no effort at all 10 = a lot of effort
Do you feel like the doctor(s) made an effort to encourage you to be hopeful about your situation?	1 = no effort at all 10 = a lot of effort
Do you feel like the doctor(s) made an effort to make the conversation easier for himself?	1 = no effort at all 10 = a lot of effort
How nervous do you feel right now?	1 = not at all nervous 10 = extremely nervous
How scared do you feel right now?	1 = not at all scared 10 = extremely scared
How hopeful do you feel right now?	1 = not at all hopeful 10 = extremely hopeful

(continued on next page)



**Appendix – (continued)**

## Preconsultation questionnaire

## Question wording

## Scaling

How happy do you feel right now?

1 = not at all happy 10 = extremely happy

How sad do you feel right now?

1 = not at all sad 10 = extremely sad

In the article, we discuss only items relevant to the goals of this particular study of patient satisfaction. Here, we present the full questionnaires used in the broader study. Items relevant to the present study are indicated with an \*.