

Psychosocial Determinants of Communication Satisfaction in Racially Concordant and Discordant Patient–Physician Interactions

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Abstract

Introduction: Although both socioeconomic and race-related factors both influence the quality of medical encounters, it is not known how these effects differ between racially concordant and discordant medical visits. The current study investigated psychosocial determinants of physician visit satisfaction of Black adults based on a racial concordance of the medical encounter. **Materials and Methods:** Data came from the Detroit Area Study, a community survey of adults in Michigan, United States. The current analysis included 336 Black individuals who had visited a White ($n = 191$) or a Black ($n = 145$) physician in the last year. The outcome was satisfaction with the quality of communication with the doctor. Demographics (age and gender), socioeconomic status (education and income), psychosocial factors (control beliefs and social support), race-related factors (having a close White friend, negative attitudes about Blacks, discrimination), and health status (chronic disease count, self-rated health, and distress) of the patient as well as race of the doctor were measured. We used multi-group structural equation modeling for data analysis, where the two groups were racially concordant (those who met a Black physician) and racially discordant (those who met a White physician) visits. **Results:** Satisfaction with physician visit was lower in racially discordant than racially concordant encounters. In racially concordant visits, high education was associated with higher satisfaction; however, racial discrimination was associated with lower satisfaction. In racially discordant visits (i.e., with a White doctor), having a White friend as well as high sense of control were associated with higher satisfaction, while negative attitudes about Blacks was associated with a lower level of satisfaction. **Conclusions:** Racially concordant and discordant visits have different satisfaction levels. Racially concordant and discordant visits also have different predictors of communication satisfaction among Black patients. Socioeconomic status as well as racial attitudes and experiences impact the quality of communication of the Black patients with their doctors; however, these effects depend on the race of the doctor.

Keywords: Discrimination, Health-care disparities, Medical encounters, Patient-physician communication, Racial attitudes, Socioeconomic status

Introduction

As suggested by the Institute of Medicine, unequal treatment by the health-care system is one of the major causes of racial health gap in the United States.^[1] Such unequal treatment exists in almost all specialties and can be observed for a wide range of health conditions and settings. For example, Blacks are less likely than Whites to be referred for diagnostic tests,^[2,3] and when diagnosed, are less

likely to receive immediate treatment.^[4,5] Some of this unequal treatment is due to poor quality of communication between Black patients and non-Black physicians.^[6-8]

The differential treatment may be in part due to the fact that most Black patients are seen by physicians who are not members of the same racial group.^[9] Racially concordant and discordant medical interactions are qualitatively

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different.^[9-14] Compared to racially concordant visits, racially discordant medical interactions tend to be shorter in length,^[10] less patient-centered,^[11] less positive,^[12] and involve fewer attempts at relationship building.^[13] The White physicians have a tendency to spend less time for the following activities with Black than White patients having an informal conversation, planning treatment with the patient, providing health education, and answering to the patients' questions.^[14] For instance, White doctors are less likely to discuss the possible side effects of medications with Black than White patients.^[15] White physicians also use more words in the conversations with White than with Black patients.^[16] Black patients with cancer are less likely than their White counterparts to receive important health communication messages in oncology settings.^[17,18] Black patients have a lower tendency to get engaged in discussion and ask questions from their doctors, when their doctor is not Black.^[17,18] Thus, a wide range of personal and interpersonal factors reduce likelihood of information exchange in racially discordant medical interactions.^[6,7]

One determinant of the quality of medical encounters is patients' socioeconomic status (SES). Black individuals have lower SES than Whites,^[19] as race and SES closely overlap in the U.S.^[20] Education and income, two main SES indicators, influence the content and dynamics of the physician-patient communication.^[21-23] The patients with low SES are at double jeopardy: First due to their tendency for passive communicative style, and second because their desire and need for information are systematically underestimated by their physicians.^[24] The race-related attitudes and experiences are another major determinant of minority patients' communication quality. While physicians' explicit and implicit racism affect communication aspects,^[6,25] patients' characteristics such as racial attitudes and racial identity, and discrimination also have a potential role.^[7,26,27] One examples from patients' race-related characteristics are discriminatory experiences in life, which predicts less positive and satisfactory conversation with doctors.^[6,28,29]

To better understand psychosocial determinants of communication satisfaction among Black adults, this study had two aims: First; to compare racially concordant and discordant visits for communication satisfaction, and second; to investigate SES- and race-related determinants of satisfaction with communication with the physician between racially

concordant and discordant visits. Although there is a literature on higher patients' satisfaction in racially concordant visits,^[30,31] less is known about Black adults' experience changes as a function of physician's race. It is yet unknown, particularly outside the clinical settings, how racially concordant and discordant visits differ in the effects of SES- (education and income) and race-related factors on communication satisfaction. Most of the previous literature is conducted in clinical settings and is often limited to a particular specialty.

Materials and Methods

Design and setting

Data came from the Detroit Area Study (DAS),^[32] a survey that explored social influences including stress and racism on the health of individuals.

Ethics

All participants signed written informed consent. The DAS study protocol was approved by the University of Wisconsin-Madison Institutional Review Board.

Participants and sampling

Participants of DAS were American adults (age 18 and older) residing in households in the following counties in Michigan: Oakland, Macomb, and Wayne. The DAS enrolled a multi-stage area probability sample ($n = 1139$), with an oversampling of Black people.

Study sub-sample

The present study was on a subset of individuals who participated in the DAS. The eligibility criteria for the current analysis were self-identified Black, having a routine place for medical care, and visiting a White or Black doctor in the past year. From the total sample of 1139 DAS participants, 336 self-identified Black respondents entered this analysis. To select the sub-sample, a number of items were used, which are shown in Appendix 1.

Measures

Demographic factors

The following demographic information characteristics were included in this analysis: Age



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(range from 18 to 70 years) and gender (men 0, women 1).

Socioeconomic characteristics

The study also measured educational attainment and income (annual income). Education attainment was (1) high school graduate or less, (2) some college, and (3) college degree or beyond.

Negative attitudes about Blacks

Our participants' negative attitudes about Blacks were measured using the following items: (1) "Discrimination against Blacks is no longer a problem in the United States," (2) "Blacks have a tendency to blame Whites too much for problems that are of their own doing," and (3) "Over the past few years Blacks have gotten more than they deserve." A total score was calculated, with a higher score indicating more negative attitudes about Blacks.

Having a White friend

Having a close White friend was measured using the following single item measure. "Do you know any White person who you think of as a good friend-that is, someone to whom you can say what you really think?" Answers were yes or no.

Perceived discrimination

Everyday Discrimination ($\alpha = 0.70$) was measured using a 9-item measure. The measure assesses everyday occurrences of negative treatment by other individuals.^[33,34] Some of the sample items were (a) "you are called names or insulted," (b) "you are treated with less courtesy than other people," and (c) "people act as if they are afraid of you." All items were rated on a Likert scale that ranged from 1 (never) to 5 (always). After reverse coding all the items, we calculated a sum score. A higher score reflected more everyday discrimination.^[33,34]

Self-reported health (SRH)

The study measured SRH using the following single item measure: "Would you say your health is excellent, very good, good, fair, or poor?" Possible responses values ranged from 1 (excellent) to 5 (poor), with a higher score indicating worse health. Single-item SRH has good external validity^[35] as a predictor of mortality.^[36]

Psychological distress

The study measured psychological distress using the Kessler Six (K6) psychological distress scale. K6 is the shorter version of the K-10 (i.e., 10-item Kessler Psychological Distress Scale). All the participants were asked to report their frequency of six negative emotions (sadness, nervousness, restlessness or fidgety, hopelessness, everything an effort, and worthlessness) that they had experienced in the past 30 days.^[37] Response to these items was reverse coded. We calculated a sum score with a potential score which ranged between 0 and 24, with a higher score indicating more psychological distress experienced by the patient.^[38]

Social support

Two items were used to measure emotional, social support from family and friends. The items included (1) "How much do your family members make you feel loved and cared for? Would you say a great deal, quite a bit, some, a little, or not at all?" and (2) "What about your friends? (Would you say a great deal, quite a bit, some, a little or not at all?" Item responses included (1) great deal, (2) quite a bit, (3) some, (4) a little, and (5) not at all. With a potential range from 2 to 10, a high score was indicative of high availability of emotional, social support.^[39]

Control beliefs (John Henryism)

We measured control beliefs using the following four items: (1) "I like doing things that other people thought could not be done," (2) "When things don't go the way I want them to, that just makes me work even harder," (3) "Sometimes I feel that if anything is to be done right, I have to do it myself," and (4) "In the past, even when things got really tough, I never lost sight of my goals". Item responses included (1) very true, (2) somewhat true, (3) a little true, and (4) not true at all. First, we reverse coded all the items. Then, we calculated a sum score, where a high score indicated high control beliefs.^[40]

Satisfaction with visit

The current study measured visit satisfaction using the following four items: (1) Doctor spent enough time, (2) the respondent was treated with respect, (3) doctor helped the respondent to understand problems, and (4) doctor listened to respondent's concerns. Item responses included (1) poor,



(2) fair, (3) good, and (4) excellent. Total score was a sum score, with a higher score indicating more satisfaction^[41] [Appendix 1].

Data analysis

Univariate and bivariate analysis in this study were conducted in SPSS 21.0 (IBM Corporation, Armonk, NY, USA). To compare satisfaction with the visit, we used independent samples *t*-test. For bivariate associations, we used the Pearson correlation test. We used AMOS 21.0 (IBM Corporation, Armonk, NY, USA) for multivariable analysis.^[42,43]

We used multi-group structural equation modeling as our multivariable modeling,^[44,45] where the group was defined based on a concordance of the race of the patient and physician. In the first step, we fitted models without covariates, correlated error, or constraint to test fit of our latent factor that measures satisfaction with visits. In the next step, tested models where all covariates in the model. We compared the fit of models with and without

constraints. As the fit did not change, we reported the model without any constraints.

Conventional fit statistics such as Chi-square, comparative fit index (CFI), the root mean squared error of approximation (<0.06), and Chi-square to degrees of freedom ratio were used. We regarded a CFI of more than 0.95, an root mean square error of approximation (RMSEA) of <0.06, and an Chi-square to degrees of freedom ratio of <2.0 as indicators of a good fit.^[46-48] RMSEA, CFI, and Tucker-lewis index (TLI) were not interpreted about the specific relationship of variables within a model. For each path, we reported regression coefficients (b), standard errors, and *P* values. AMOS implements full information maximum likelihood (FIML) to handle the missing data. *P* < 0.05 was considered as significant.

Results

Table 1 shows descriptive statistics in the pooled sample and also separately for those with racially discordant and concordant encounters.

Table 1: Descriptive statistics (n=336)

	All	Black Dr.	White Dr.
	n (%)	n (%)	n (%)
Race of doctor			
White	191 (56.8)	-	191 (100.0)
Black	145 (43.2)	145 (43.2)	-
Gender			
Male	87 (25.9)	27 (18.6)	60 (31.4)
Female	249 (74.1)	118 (81.4)	131 (68.6)
White close friend			
No	123 (36.7)	50 (34.7)	73 (38.2)
Yes	212 (63.3)	94 (65.3)	118 (61.8)
	Mean±SD	Mean±SD	Mean±SD
Age	45.62±17.58	46.03±16.77	45.30±18.21
Education	12.77±2.61	12.85±2.74	12.71±2.52
Income	32737.37±27526.79	30901.49±21679.73	34005.44±30974.88
Negative attitudes about Blacks	2.28±1.60	2.09±1.57	2.43±1.62
Discrimination	9.52±7.06	9.41±6.80	9.61±7.26
Control determination	9.33±2.38	9.36±2.40	9.31±2.36
Social support*	6.15±1.65	6.36±1.62	5.99±1.67
Chronic disease count	4.94±1.97	4.92±2.00	4.95±1.95
SRH (poor)	2.85±1.13	2.73±1.06	2.95±1.17
Satisfaction with Doctor’s visit*	6.61±2.50	6.06±2.28	7.03±2.58

**P*<0.05 (independent samples *t* test). SD: Standard deviation



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Satisfaction with doctor visit was lower in racially discordant than concordant encounters. Racially discordant than concordant encounters were also different in social support. Age, education, income, control beliefs, race-related factors, and health status were not different between racially discordant than concordant encounters [Table 1].

Bivariate analysis

In the pooled sample, satisfaction with doctor visit was positively correlated with female gender, high education, income, having White friend, control beliefs, and social support. The satisfaction with doctor visit was negatively correlated with SRH (poor health), negative attitude about Blacks, and discrimination. Satisfaction with doctor visit was not correlated with age or chronic disease count [Table 2].

Multivariable analysis

Fit of the final multi-group model where groups were defined based on racial concordance was very good ($P = 0.002$, $DF = 76$, $CFI = 0.962$, $CMIN/DF = 1.529$, $RMSEA = 0.040$, $90\% CI = 0.024-0.054$) [Table 3].

Racially concordant visits

For Black patients visiting a Black doctor, high education ($B = 0.26$, $P = 0.028$) was associated with a higher satisfaction; however, racial discrimination ($B = -0.18$, $P = 0.08$) was associated with lower satisfaction. Demographic (age and gender) and health (SRH, chronic disease, and psychological distress) did not correlate with satisfaction with the doctor. Items used to measure visit satisfaction showed very good loadings on the latent factor conceptualized as communication quality (ranging from 0.83 to 0.79 for racially concordant visits [Table 3]. Figure 1 shows that for Black patients visiting a Black doctor, education, and racial discrimination were associated with lower satisfaction.

Racially discordant visits

For Black patients visiting a White doctor, having a White friend ($B = 0.16$, $P = 0.034$) as well as high control beliefs ($B = 0.20$, $P = 0.006$) was associated with a higher satisfaction; however, negative attitudes about Blacks ($B = -0.15$, $P = 0.043$) were associated with lower satisfaction. Demographic

Table 2: Correlation matrix (pooled sample)

	1	2	3	4	5	6	7	8	9	10	11	12
1. Age	1	-0.01	-0.23**	0.02	-0.03	-0.02	-0.32**	-0.06	0.10	-0.06	0.32**	0.10
2. Female		1	0.07	-0.16*	0.03	0.01	-0.08	0.03	0.05	-0.07	0.05	0.12*
3. Education			1	0.40**	0.12*	-0.12*	0.08	0.12*	0.15**	-0.03	-0.25**	0.21**
4. Income				1	0.01	-0.03	-0.13	0.10	0.14	0.02	-0.16*	0.16*
5. White friend					1	0.11*	-0.03	0.18**	0.13*	0.06	-0.08	0.13*
6. Negative attitudes about Blacks						1	-0.08	0.01	-0.07	-0.05	0.00	-0.12*
7. Discrimination							1	0.02	-0.24**	0.12*	0.06	-0.17**
8. Control determination								1	0.10	0.04	-0.10	0.21**
9. Social support									1	-0.22**	-0.15**	0.20**
10. Chronic disease count										1	0.15**	-0.09
11. Self-rated health (SRH, Poor)											1	-0.15**
12. Satisfaction with the Doctor's visit												1

** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed)



Table 3: Psychosocial factors associated with satisfaction with the communication with doctor in a community sample of Black adults

			Physician's race					
			White			Black		
			B	SE	P	B	SE	P
Demographic factors								
Age	◇	Communication satisfaction	0.13	0.00	0.130	0.15	0.00	0.121
Female	◇	Communication satisfaction	0.11	0.10	0.128	0.04	0.14	0.700
SES								
Education	◇	Communication satisfaction	0.13	0.02	0.166	0.26	0.03	0.028
Income	◇	Communication satisfaction	0.15	0.00	0.178	-0.21	0.00	0.157
Psychosocial resources								
Social support	◇	Communication satisfaction	-0.02	0.03	0.832	0.13	0.03	0.170
Control beliefs	◇	Communication satisfaction	0.20	0.02	0.006	0.13	0.02	0.141
Race-related factors								
Negative attitudes about Blacks	◇	Communication satisfaction	-0.15	0.03	0.043	-0.07	0.03	0.435
Has a White friend	◇	Communication satisfaction	0.16	0.10	0.034	-0.01	0.11	0.930
Discrimination	◇	Communication satisfaction	-0.11	0.01	0.202	-0.18	0.01	0.082
Health								
Chronic disease (count)	◇	Communication satisfaction	0.00	0.02	0.997	-0.09	0.03	0.351
Psychological distress	◇	Communication satisfaction	-0.06	0.01	0.466	0.15	0.01	0.110
SRH (poor)	◇	Communication satisfaction	-0.12	0.05	0.160	-0.14	0.05	0.156
Loading of the latent factor								
Communication satisfaction	◇	Item 1	0.77			0.77		
Communication satisfaction	◇	Item 2	0.81	0.08	<0.001	0.79	0.08	<0.001
Communication satisfaction	◇	Item 3	0.84	0.08	<0.001	0.84	0.08	<0.001
Communication satisfaction	◇	Item 4	0.85	0.08	<0.001	0.83	0.10	<0.001

P = 0.002, *DF* = 76, *CFI* = 0.962, *CMIN/DF* = 1.529, *RMSEA* = 0.040, 90% *CI* = 0.024–0.054. *SES*: Socioeconomic status, *CFI*: Comparative fit index, *RMSEA*: Root mean square error of approximation

(age and gender) and health (SRH, chronic disease, and psychological distress) did not correlate with satisfaction with the doctor. Items showed very good fit on the communication quality (ranging from 0.81 to 0.85) for racially discordant visits [Table 3]. Figure 2 shows that for Black patients visiting a White doctor, having a White friend, control beliefs, and negative attitudes about Blacks were associated with satisfaction.

were associated with communication satisfaction in racially discordant and concordant encounters. For Black patients visiting a Black doctor, high education was associated with higher satisfaction, while perceived racial discrimination was associated with lower satisfaction. For Black patients visiting a White doctor, having a White close friend as well as high control beliefs were associated with higher satisfaction, while negative attitudes about Blacks were associated with lower communication satisfaction.

Racially discordant medical encounters are found to be qualitatively different in comparison to racially concordant medical interactions.^[1] Previous research has characterized racially discordant

Discussion

Our study had two main findings. First, communication satisfaction was lower in racially discordant than concordant encounters. Second, different factors



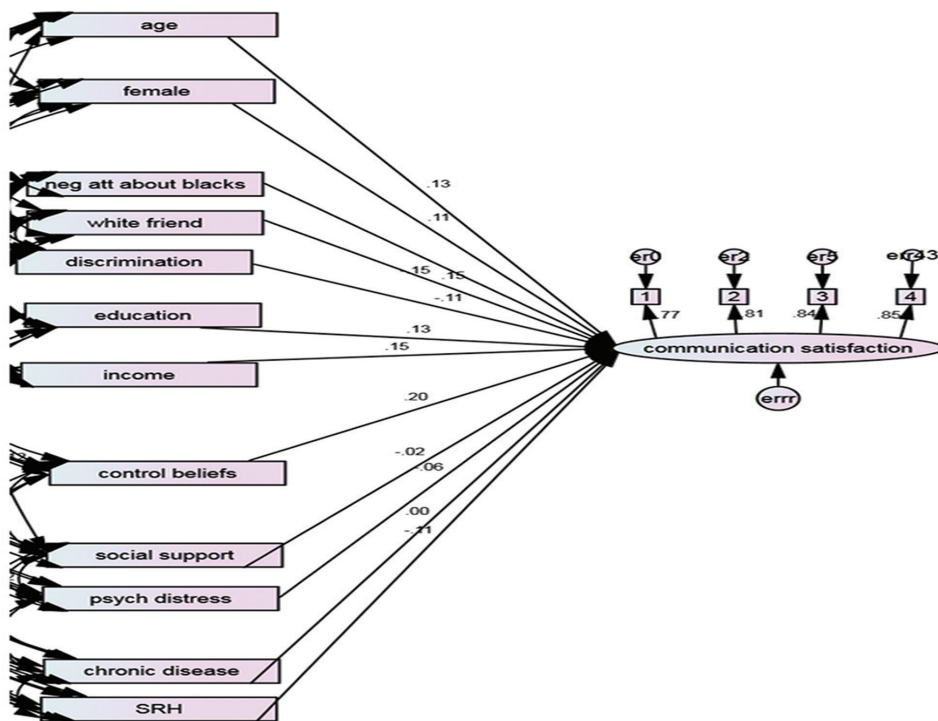


Figure 1: Psychosocial factors associated with satisfaction with a White doctor in a community sample of Black adults. $P = 0.002$, $DF = 76$, comparative fit index = 0.962, $CMIN/DF = 1.529$, root mean square error of approximation = 0.040, 90% CI = 0.024–0.054

interactions as less patient-centered^[11] with fewer attempts at relationship building,^[15] accompanying with less joint decision-making^[19] and lower patient trust.^[10] Overall, medical interactions of Black patients with non-Black physicians are usually less productive and positive than their same-race interactions.^[10-12,25,49] As a result, Black patients have a higher preference to see Black physicians^[50] and report more satisfaction with a Black physician.^[10,51] Our first finding on lower satisfaction in racially discordant than concordant encounters extends previous research in clinical to a community setting. The differences in racial concordant and discordant visits are not limited to subjective domains. Quantitative and qualitative differences have been documented in a wide range of objective measures.^[10] These measures are systematically worse in racially discordant than concordant scenarios.^[10] Relative to racially concordant visits, racially discordant medical interactions have a shorter duration.^[10] White physicians spend less time for planning treatment with their patients, provide less health education, are less likely to

engage in informal conversation, and less likely to answer questions, when the patient is Black than when the patient is White.^[14] Most of these differences are derived from studies that have compared White and Black patients who visit a White doctor. Our study, however, compared Black patients who visited White and Black doctors. Communication across racial lines is generally less effective than within a race.^[6] One reason for this finding is that people are generally more biased at perceiving emotional cues displayed by outgroup than ingroup members.^[52,53] People are more likely to perceive outgroup faces as threatening and hostile.^[47] Compared to ingroup encounters, outgroup interactions accompany higher misinterpretation of neutral facial expressions as conveying anger.^[54] People perceive and evaluate ingroup members more positively than outgroup members, a phenomenon known as ingroup favoritism. People evaluate and perceive the members of the outgroup more negatively compared to their ingroup members, also known as outgroup derogation.^[55] As an unconscious attempt to maintain their positive



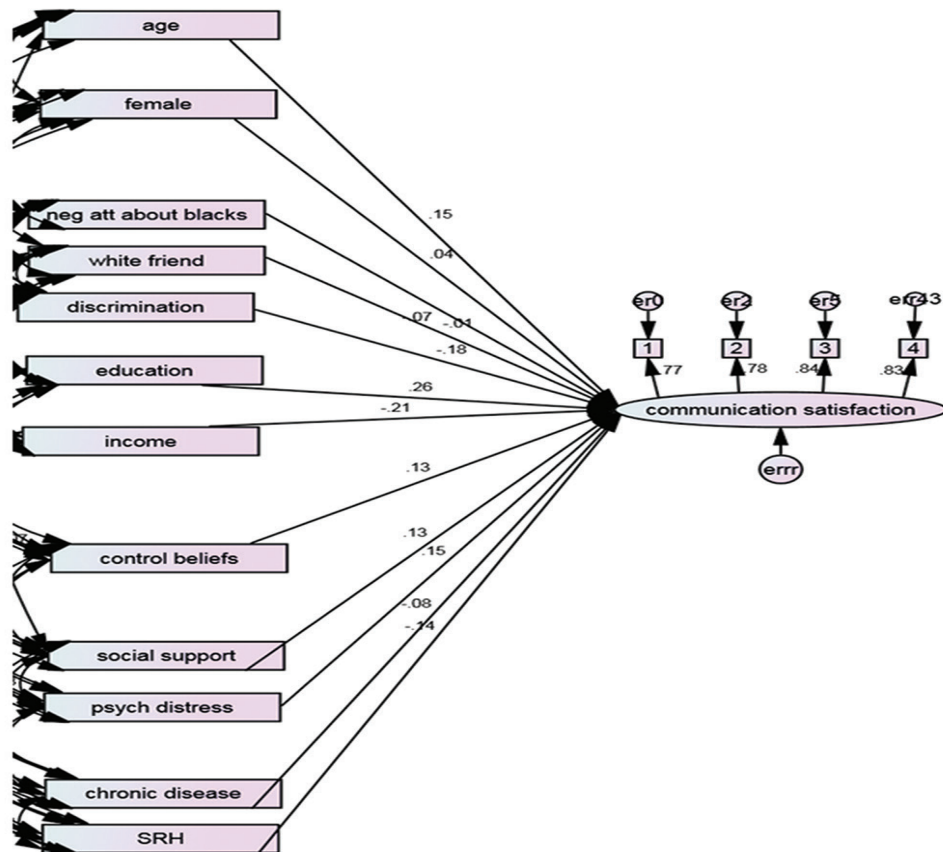


Figure 2: Psychosocial factors associated with satisfaction with communication with a Black doctor in a community sample of Black adults. $P = 0.002$, $DF = 76$, comparative fit index = 0.962, $CMIN/DF = 1.529$, root mean square error of approximation = 0.040, 90% CI = 0.024–0.054

within group image, patients and physicians may engage in ingroup favoritism as well as outgroup derogation. As a consequence, discussions are also influenced by ingroup favoritism, meaning discussions are more positive with ingroup patients/physicians, whereas outgroup derogation results in more negative affect or at least its interpretation in outgroup patient/physician visits. People tend to see outgroup members as more homogeneous than they actually are,^[56] which is the definition of stereotyping.^[56] For example, people see outgroup members as less trustworthy than ingroup members.^[57] Experiencing conflict is a natural component of cross-group interactions.^[55,58] People are aware of and expect biases from outgroup members toward themselves.^[59] These complex cognitive and emotional elements which distinct outgroup and ingroup interactions may explain higher satisfaction of Black patients in racially

concordant than racially discordant medical interactions. All these differences affect the quality of conversation and trust in medical interactions^[6,55] and explain why the U.S. health-care system needs a more diverse workforce. It is plausible that patients would feel more comfortable making a connection, engage, and share their health information and symptoms and concerns with the doctor of the same race. Not only they are more likely to speak a common language, have the same accent, and may have common cultures, expectations, preferences, beliefs, concerns, and living history.^[60] This may be particularly true for Black patients who have a high level of historical mistrust toward the health-care system, for example, race impacts patients' assessment of the health-care system.^[61-64] In most cases, minority patients are seen by physicians who are out-group members.^[9] In the



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case of Black patients in the U.S., almost 75% of all medical interactions are “racially discordant” – that is, receiving care from a non-Black physician.^[6] Thus, there is a need for training Black health-care providers, including physicians.

In this study, Black patients’ education level was found to be a predictor of higher satisfaction in racially concordant encounters. This finding is in line with the known effect of SES and social class as major determinants of the physician-patient communication quality.^[19,21-23] Patients with low SES are at double disadvantages, as patients tend to use more passive communicative styles, and as physicians more commonly underestimate their desire and need for information.^[24] In a literature review, patients with low social class received less positive socio-emotional sounds, a more directive conversation, a less participatory consultation style characterized by lower involvement of patients in the treatment decisions; and lower patient control over the content and style of the communication; less diagnostic as well as treatment information. Such differences were in part due to doctors’ and in part due to patients’ communicative style.^[24,65] Doctors behavior differ during consultations with patients from lower and middle/higher social class. Physicians tend to provide less information for patients with less education and lower income patients, at least in part because they assume low SES patients are not much interested in or are less able to learn about their health conditions.^[24,65]

In our study, having a White close friend was a predictor of higher satisfaction with communication with a White doctor. Allport’s (1954) Intergroup Contact Theory^[66] provides an explanation for our finding. Allport’s theory suggests that at least under some conditions, an increase in the interpersonal contacts may reduce prejudice and conflict between majority and minority group members.^[66-78] As suggested by this theory, having an opportunity to communicate with other people helps the individual to understand and appreciate different points of views, that may reduce prejudice.^[67] Based on Allport’s theory, frequency of interaction with other group members reduces stereotyping, prejudice, misunderstanding, and discrimination toward other groups. In addition to theory, empirical evidence derived from both field and experimental studies support this notion.^[67,68] A meta-analysis of 515 independent studies supported this theory, as several empirical studies have shown that an increase in face-to-face

contact between racially diverse groups reduce prejudice.^[69]

Another predictor of satisfaction for racially discordant visits in our study was racial attitudes. As previously mentioned, the process of social categorization, which relies on available cognitive resources, makes social, and group identity more salient, which is the basis of intergroup bias.^[70] In line with the Social Identity Theory,^[71] group membership becomes more salient in racially discordant in comparison to the racially concordant medical visits, and people will rely and emphasize on their group memberships and social categories. In other words, they maintain not very positive images of out-group members.

Higher salience of race-related attitudes in racial discordant compared to racially concordant was expected. Group membership and racial identities are salient elements in racially discordant situations, including medical interactions. In addition, patients feel more personal with their physicians in racially concordant visits than racially discordant medical encounters.^[72]

We found that high discrimination was a predictor of low satisfaction in racially concordant encounters. Past experiences of discrimination and prejudice outside the health-care context may influence how racial and ethnic minority patients (e.g., Black people) perceive their physicians and medical recommendations/prescriptions.^[6] Black patients who perceive their physicians to have racial bias are less likely to make future appointments in comparison to their counterpart patients who do not believe their physicians have a bias against them.^[28] Benkert *et al.* (2006) showed that Black individuals who perceived more discrimination had lower levels of trust in the health-care system.^[29] Assari also showed that perceived discrimination is associated with worse glycemic control of Black patients with diabetes.^[73]

Perceived discrimination outside the medical setting may influence medical interactions.^[6,74,75] In a study by Penner *et al.* among Black patients, high level of past discrimination was associated with lower satisfaction with their medical visits, and a sense of closeness with the doctor. They also observed that among Black patients, high level of discrimination was a predictor of low adherence to the doctors’ prescriptions/recommendations several weeks after the visit, followed by poorer health status later in the follow-up.^[6,74,75] In another study, the experience of discrimination was predictive of a delay in seeking



medical care and poor medical adherence, above and beyond the level of mistrust.^[76]

Limitations

The current study had several limitations. This was a secondary analysis of existing data. As the original study was not specifically designed to measure psychosocial determinants of visit quality, the study did not have a measure state of the art measures. In addition, the study is subject to recall bias, as participants retrospectively reported their satisfaction with their last doctor visits up to 1 year from the time of visit. Finally, the sample sizes of the racially concordant and racially discordant visits were not balanced. Despite these limitations, the study contributes to a growing literature on the role of racial concordance between the patient and the provider in the United States.^[77-80] We did not take hierarchical invariance testing such as configural, weak, strong and strict invariance. Still, there is a need for clinical and epidemiological studies that help us understand the different determinants of communication satisfaction in racially concordant and discordant patient-physician interactions.

Implications

These findings are important as racial minority patients' negative perceptions of physicians and the quality of their medical encounters shape their medical adherence. Black patients are more likely to make an appointment and then keep their schedule with Black doctors compared to White physicians,^[31] which is maybe due to lower quality of communications with White doctors. There is a need to understand modifiable provider- and customer-level determinants of health-care quality in racially discordant interactions. Limited knowledge exists on effective interventions that can modify some of these determinants.

The findings reported here may contribute to design, development, and implementation of practical interventions to improve quality of medical interactions, reduce bias in medical encounters.^[26,81,82] It seems that discrimination, attitude about race, and control beliefs are potential points of intervention. Multilevel interventions directed at patients as well as physicians are needed to address barrier against high-quality medical encounter for Black patients.

Conclusions

In summary, racially concordant visits are associated with higher satisfaction among Black patients, compared to racially discordant visits. In addition, racially concordant and discordant visits have differential psychosocial predictors among Black patients. Although SES- and racial-factors have implication for satisfaction with doctors' visits, these effects vary in racially concordant and discordant medical encounters.

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Appendix

Appendix 1: Items used for selection of the sample

Sample selection

Is there a particular doctor or clinic that you usually go to when you are sick or need advice about your health?

- 1. Yes
- 5. No
- 8. DK
- 9. NA

What kind of place is it – a clinic, a health center, a hospital, a doctor’s office, or some other place?

- 1. Doctor’s office (group practice, hmo, or doctor’s clinic)
- 2. Hospital emergency room
- 3. Hospital outpatient clinic
- 4. Company or industry clinic
- 5. Walk-in clinic, health center
- 7. Other (specify:)
- 8. DK
- 9. NA
- 0. Inappropriate

When was the last time you went to a doctor for a routine physical examination or general check-up?

- 1. Less than 1 year
- 2. One through 2 years
- 3. 2 through 4 years ago
- 4. 5 or more years ago

Grouping

What was the racial or ethnic background of the doctor (or other health professional) who gave you the check-up?

- 1. White
- 2. Black
- 7. Other (specify):

Outcome

At this last visit for a general check-up, how would you rate the job that your doctor and office staff did in?

Would you say they did an excellent, good, fair, or poor job on this? (Read each item.)

- 1. Excellent
- 2. Good
- 3. Fair
- 4. Poor
- 8. Not sure
- 9. NA
- 0. Inappropriate
 - 1. Spending enough time with you?
 - 2. How about treating you with dignity and respect. (Would you say he or she is doing an excellent, good, fair, or poor job?)
 - 3. Making sure you understood what you were told about your medical problems or medication.
 - 4. Listening to your health concerns and taking them seriously.

