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The Effect of Values Affirmation on Race-Discordant Patient-Provider Communication

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Background: Communication between African American patients and white health care providers has been shown to be of poorer quality when compared with race-concordant patient-provider communication. Fear on the part of patients that providers stereotype them negatively might be one cause of this poorer communication. This stereotype threat may be lessened by a values-affirmation intervention.

Methods: In a blinded experiment, we randomized 99 African American patients with hypertension to perform a values-affirmation exercise or a control exercise before a visit with their primary care provider. We compared patient-provider communication for the 2 groups using audio recordings of the visit analyzed with the Roter Interaction Analysis System. We also evaluated visit satisfaction, trust, stress, and mood after the visit by means of a questionnaire.

Results: Patients in the intervention group requested and provided more information about their medical condition (mean [SE] number of utterances, 66.3 [6.8] in the values-affirmation group vs 48.1 [5.9] in the control group [$P=.03$]). Patient-provider communication in the intervention group was characterized as being more interested, friendly, responsive, interactive, and respectful ($P=.02$) and less depressed and distressed ($P=.03$). Patient questionnaires did not detect differences in visit satisfaction, trust, stress, or mood. Mean visit duration did not differ significantly between the groups (19.2 minutes in the control group vs 20.5 minutes in the intervention group [$P=.29$]).

Conclusions: A values-affirmation exercise improves aspects of patient-provider communication in race-discordant primary care visits. The clinical impact of the intervention must be defined before widespread implementation can be recommended.

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QUALITY OF COMMUNICATION between patients and physicians has been shown to affect processes and outcomes of care for chronic disease.[1] Findings that communication between African American patients and white physicians is of lower quality[2-7] might therefore help explain the persistence of race-based health care disparities.

One potential cause of impaired communication in race-discordant patient-provider visits is termed *stereotype threat*,[8,9] which occurs when members of certain groups fear being judged negatively according to stereotypes. The associated stress worsens performance—exactly the outcome feared—regardless of the level of actual bias on the part of the evaluator. In the context of a medical visit, an African American patient might approach an ambulatory care visit concerned that he or she may be treated according to a stereotype. The stress created by this concern might manifest itself as an appearance of being cold, inattentive, or disrespectful, which in turn might affect provider response adversely.

See also
Invited Commentary

Stereotype threat can be ameliorated by values-affirmation exercises,[10] in which subjects think about values important to them and complete a short writing exercise. In a school setting, values affirmation reduced the racial gap in academic achievement by approximately half.[11,12] We hypothesized that a similar values-affirmation exercise would have a posi-

tive effect on the interaction between African American patients and white providers analogous to the way it did for student and teacher and might therefore offer a way to improve communication in race-discordant primary care visits.

METHODS

INTERVENTION

We performed a randomized, blinded, controlled study. Patients and providers were unaware of its purpose, and the individual administering the intervention and surveys was not aware of patients' condition assignments.

The intervention exercise was administered through written instructions that first asked patients to reflect on a list of personal values or self-defining skills and to circle 2 to 3 items most important to them or that characterize them best. The list consisted of a sense of humor, religious values, relationships with friends or family, music, politics, membership in a community or social group, living in the moment, independence, creativity, artistic ability, and athletic ability. It excluded values or skills related to the health domain because affirmations in the same domain as the threat can make the threatening domain more salient than it otherwise would be.[13] Next, patients were asked to think about times when the values chosen were important and to write a few sentences describing why they were important. Patients were instructed to focus on thoughts and feelings and not to worry about spelling or grammar. They were informed that their physicians would not see the responses. Finally, the task was reinforced by asking patients to indicate their level of agreement with the following 4 statements concerning their selected values using a 5-point Likert scale (strongly agree, agree, neutral, disagree, or strongly disagree): (1) "These values have influenced my life," (2) "In general, I try to live up to these values," (3) "These values are an important part of who I am," and (4) "I care about these values."

Patients in the control arm of the study completed a similar exercise except that they were asked to circle the 2 or 3 values that were least important to them, to describe when these values might have been important to someone else, and to describe why the values might be important to someone else. The final reinforcement task asked patients to indicate their level of agreement using the same 5-point scale with slightly altered statements to reflect that the values belonged to someone else. Patients completed the exercise within the hour before a regularly scheduled clinic appointment. The study was approved by our institution's review board.

PARTICIPANTS

We recruited patients from a single outpatient clinic in an integrated safety-net health care system. Included patients had an outpatient visit in the past year with a primary or secondary diagnosis of hypertension (indicated by a code from the *International Classification of Diseases, Ninth Revision*) that was confirmed by medical record review, were at least 21 years of age, were able to speak and write English, and were self-described as African American. We excluded patients with pregnancy-related hypertension or hypertension due to dialysis-dependent end-stage renal disease. Patients seeking hypertension care were contacted the day before their scheduled visit. If they expressed interest in the study, they were asked to arrive early to review the consent. Those who consented were given a sealed, consecutively numbered envelope with a randomly ordered control or intervention exercise. The patients included in this report are part of a larger ongoing study of the effect of values affirmation on medication therapy adherence. We collected audio recordings on the first 99 patients randomized in the parent study, with this sample size determined by resource constraints.

All participating patients and providers provided written informed consent. All physicians, excluding house officers, providing primary care to eligible patients at the clinic were eligible.

MEASURES

Patient-Provider Communication

Audio recordings of the visits were scored with the Roter Interaction Analysis System (RIAS) by trained coders at RIASWorks (http://www.riasworks.com) blinded to assignment. This system codes each utterance (defined as the smallest analyzable speech segment) by the patient or the physician into 1 of 40 categories. In addition to coding each utterance, RIAS provides a number of global ratings of the emotional tone of each person's speech (eg, interest/attentiveness and depression/sadness). The system has been used successfully in a wide variety of settings (a bibliography of RIAS studies is available at http://www.riasworks.com/resources_a.html), including a study of the relationship between patient race and the quality of patient-physician communication.[7] Twelve audio recordings were coded separately by 2 trained coders; the average correlation between the 2 observers was 0.98.

Visit Satisfaction

We measured visit satisfaction with patients and providers. With patients, we used Barr's modification[14] of the Medical Outcomes Study Visit Satisfaction Questionnaire,[15] which is sensitive to differences in patient satisfaction by race. We asked providers to respond to a single question, "How satisfied were you with the quality of today's visit with this patient?" using a visual analog scale. Patients completed the scale before leaving the clinic, and providers' responses were collected the same day as the visit.

Trust

Patients completed the Trust in Primary Care Provider Scale of Hall et al[16] before leaving the clinic. This 10-item scale contains positive and negative statements scored on a 5-point Likert scale. This scale has good internal consistency (Cronbach $\alpha = 0.93$) and reasonable test-retest reliability (Cronbach $\alpha = 0.75$). No information is available on specific performance of the scale in minority or low socioeconomic populations; we are unaware of trust scales validated in such groups.

Mood

Mood was assessed after administration of the control and experimental tasks but before the visit, using the Positive and Negative Affect Schedule.[17] This scale has good internal consistency (Cronbach $\alpha = 0.89$ for the positive and Cronbach $\alpha = 0.89$ for the negative affect scales) and has been demonstrated to perform consistently across socioeconomic groups.[18]

Stress

We also considered the possibility that the values-affirmation task had a negative effect on patients and asked them 3 ques-

Table 1. Demographic Characteristics[a]

Characteristic	Study Group: Values-Affirmation Intervention (n = 55)	Study Group: Control (n = 44)	*P* Value
Age, mean (SE), y	53.6 (9.1)	57.3 (10.5)	.06
Female gender, No. (%)	38 (69)	29 (66)	.74
Education level, No. (%) of participants			
Less than high school degree	19 (35)	11 (25)	.34
High school degree	23 (42)	17 (39)	
Greater than high school degree	13 (24)	16 (36)	

[a] Percentages have been rounded and might not total 100.

tions (ie, "I thought the task was threatening," "I thought the task was difficult," and "I thought the task was stressful"), each scored on a 7-point Likert scale. This set of questions has been used in experimental studies of the effect of values affirmation.[19]

STATISTICAL ANALYSIS

We characterized the patient sample using descriptive statistics (means, standard errors, and proportions), unpaired *t* tests, and χ^2 tests to compare the intervention and control groups. Because the RIAS produces a large amount of data, we specified 3 domains for analysis a priori.

First, based on the hypothesis that inhibition of patient participation is one of the key effects of stereotype threat, we compared the intervention and control groups with regard to the frequency of patient questions and information provision in 4 categories. These 4 categories included medical condition, therapeutic regimen, lifestyle, and requests for services.

Second, we compared the global ratings of emotional tone characterizing the encounter between the intervention and control groups. As suggested by Cooper et al,[6] we grouped the 11 patient global affect ratings using principal factor analysis and then compared these factors.

Third, we compared the intervention and control groups for a set of derived measures shown to characterize race-discordant primary care visits.[7] These derived measures are visit duration, speech speed (for patient and physician), physician verbal dominance (the number of physician statements divided by the number of patient statements), and an index of patient centeredness (ratio of the number of social/emotional codes to the number of codes advancing a purely medical agenda).

We compared these measures and the responses to the visit satisfaction, trust, mood, and stress questionnaires using general linear mixed models with treatment group (intervention vs control) as the primary independent variable to account for clustering of patients within physicians. Physician was included as a random intercept. All analyses were completed using commercially available software (SAS, version 9.3; SAS Institute Inc).

RESULTS

PARTICIPANTS

Demographic characteristics of the 99 patients in the intervention and control groups are compared in **Table 1**; age, gender, and achieved level of education were similar across the groups. The achieved level of education reflects a population of lower socioeconomic position; by way of comparison, 55.9% of the US population older than 25 years reported some education beyond high school in 2010. The gender distribution was mostly female, consistent with the gender distribution of the clinic's adult patient population with hypertension. Seven general internal medicine primary care providers participated in the study. None of the providers were African American; more detailed demographic information is not provided to protect their identities.

Table 2. Comparison of RIAS Scores

	Study Group, Mean (SE) Score[a]: Values-Affirmation Intervention (n = 55)	Study Group, Mean (SE) Score[a]: Control (n = 44)	*P* Value
Questions and information patients were provided			
Medical condition	66.3 (6.8)	48.1 (5.9)	.03
Therapeutic regimen	39.0 (3.9)	42.0 (3.5)	.56
Lifestyle	5.7 (1.4)	7.3 (1.3)	.42
Requests for services	0.8 (0.2)	0.7 (0.2)	.70
Emotional tone of patients			
Interested, friendly, responsive, interactive, respectful	5.1 (0.1)	4.8 (0.1)	.02
Depressed and distressed	1.1 (0.2)	1.5 (0.1)	.03

Abbreviation: RIAS, Roter Interaction Analysis System.
[a] Each score is the mean number of utterances coded in that category. Negative tone is not reported for providers because it was largely absent in the intervention and control groups.

PATIENT-PROVIDER COMMUNICATION

A mean of 550 total utterances was counted per encounter, with a mean of 544 in the control group and 555 in the intervention group ($P = 62$).

With regard to information exchange during the encounters, patients in the intervention group gave and asked for significantly more information about their medical condition (66.3 vs 48.1 utterances [$P = .03$]), but no difference was found in the exchange of information about therapy. No difference was found in the amount of discussion about lifestyle issues or in the services requested, but attention to these issues was uncommon in both groups (**Table 2**).

Two factors concerning the emotional tone of the encounters were extracted from the 11 patient global affect ratings by principle component analysis; no other factors emerged. We refer to the first factor as "positive tone," which consisted of ratings of interest/attentiveness, friendliness/warmth, responsiveness, respectfulness, and interactivity. We refer to the second factor as "negative tone," which consisted of ratings of depression/sadness and distress/upset. Ratings of the positive factor were significantly higher (5.1 vs 4.8 [$P = .02$]) and ratings of the negative factor were significantly lower (1.1 vs 1.5 [$P = .03$]) in the intervention group than the control group (Table 2).

Table 3. Comparison of Additional Measures

Measure	Study Group, Mean (SE) Score: Values-Affirmation Intervention (n = 55)	Control (n = 44)	*P* Value
Visit satisfaction			
Patient[a]	4.5 (0.1)	4.4 (0.1)	.32
Provider[b]	77.6 (3.9)	79.9 (4.1)	.43
Trust[c]	4.5 (0.1)	4.6 (0.1)	.55
Stress	2.1 (0.2)	1.8 (0.2)	.18
Mood			
Positive	3.3 (0.1)	3.3 (0.1)	.85
Negative	1.3 (0.1)	1.2 (0.1)	.05

[a] Measured using Barr's modification[14] of the Medical Outcomes Study Visit Satisfaction Questionnaire.[15]
[b] Measured using a visual analog scale.
[c] Measured using the Trust in Primary Care Provider Scale of Hall et al.[16]

We did not find evidence that encounters in the intervention group conformed more closely to the characteristics of race-concordant visits reported by Cooper et al.[6] Visit duration (control group, 19.2 minutes; intervention group, 20.5 minutes [*P* = .29]), speech speed for physicians (control group, 16.9 utterances/min; intervention group, 16.3 utterances/min [*P* = .15]), physician verbal dominance (control group, 1.34; intervention group, 1.24 [*P* = .17]), and patient centeredness (control group, 1.86; intervention group, 1.76 [*P* = .50]) did not differ significantly between the groups.

OTHER MEASURES

Values affirmation did not result in measurable improvement in trust or in visit satisfaction (**Table 3**), and the task did not increase subject stress. Because some researchers might believe that the values-affirmation exercise acted via mood elevation rather than blunting stereotype threat, we administered the Positive and Negative Affect Schedule. The effect of affirmation on patients' interactivity could not be attributed to change in mood alone; Positive and Negative Affect Schedule scores for positive mood were no different between groups, and the comparison for negative mood was of borderline significance (*P* = .053).

COMMENT

Performing a values-affirmation task before a scheduled ambulatory care visit resulted in some improvements in communication between African American patients and their providers. Patients who performed the task asked more questions and provided more information about underlying medical conditions and expressed greater positive (interested, friendly, responsive, interactive, and respectful) and less negative (depressed and distressed) emotional tone. Because visits with greater information exchange about patients' underlying medical conditions may result in better adherence to indicated care,[20] values affirmation holds promise as a means of improving outcomes of care for chronic ambulatory conditions in minority patients. In addition, the intervention produced some improvement in communication without adding extra time to the visit. That improved communication need not add a time burden for practitioners has been emphasized in the literature on increasing empathy in medical encounters.[21,22]

BACKGROUND IN SOCIAL PSYCHOLOGY THEORY

The following 2 concepts from social psychology underlie our study: stereotype threat and values affirmation.

Members of negatively stereotyped groups subject to bias are affected by biased treatment and by the anticipation of biased treatment. This phenomenon is known as stereotype threat.[7] Affected individuals fear that their behavior will confirm the negative stereotype, and this fear causes stress that affects performance in ways that appear to be consistent with the stereotype. Stereotype threat has been most widely demonstrated in regard to academic performance. In the first experimental demonstration of the phenomenon,[23] white and African American college students answered questions from a standardized graduate school entrance examination under 2 conditions. In the first, stereotype threat was created by describing the test as being diagnostic of intellectual ability, summoning the negative stereotype of African Americans as having less intellectual ability than whites. In the second, the test was described as a problem-solving task nondiagnostic of ability. White students did not perform differently under either condition. For the African American students, performance under the first condition was poorer than that of white students and under the second was no different from that of white students. Stereotype threat can be self-reinforcing when evaluation is ongoing rather than a single occurrence, as with an examination. For example, some students might believe themselves to be viewed by a teacher as unintelligent because they belong to a social group stereotyped as unintelligent, leading them not to raise their hands to answer questions in class from fear of the consequences of answering incorrectly. The teacher might interpret their silence as lack of knowledge and treat them in ways consistent with the stereotype, thus validating and raising the students' fears in a positive feedback cycle.

Values affirmation is based on the observation that individuals use several means to preserve their view of themselves as capable actors in the world.[10] They can accept and adapt to perceived failures or they can preserve a self-view without adapting by interpreting their own actions and those of others in ways that parry the threat. This latter mechanism can have adverse consequences, for example, producing rationalization for poor health behaviors or impairing social relationships. In addition, individuals can defend their sense of self-adequacy by refocusing their attention away from perceived threats and onto perceived successes in other realms. Values affirmation helps individuals shift from maladaptive defensive interpretation to the third, indirect mechanism by having them refocus on important aspects of self-identity that have nothing to do with aspects that are under threat. Examples of such alternative aspects of self-identity may include humor, religion, and music.

Stereotyping is an example of a threat to one's sense of adequacy. Accepting and adapting to a threat of this sort is clearly unacceptable, and defensive posturing can be maladaptive. Researchers thus focused on using values affirmation to shift individuals away from acceptance or a defensive interpretation. The experiments conducted by Cohen et al[11,12] constitute one successful demonstration of this postulate.

COMPARISON WITH PRIOR LITERATURE

Values affirmation in general has been investigated in health contexts as a means of mitigating the effects of health messages perceived as threatening. Beneficial effects have been shown on human immunodeficiency virus prevention,[24] alcohol consumption,[25] use of sunscreen,[26] fruit and vegetable consumption,[27] screening for type 2 diabetes risk,[28] and weight loss.[29]

Improved patient-provider communication is in itself an acknowledged goal for the health care system,[30] but providers will be curious about the effects of improved communication on downstream results. The intervention we report herein has clear potential for improving blood pressure control via improved adherence to antihypertensive medication therapy. A meta-analysis of 106 studies of correlations between physician communication and patient adherence found a 19% higher risk of nonadherence among patients whose physician displayed poorer communication skills.[1] Roter and Hall[31] evaluated this result in conjunction with the results of an earlier meta-analysis and postulated that offering more information and having more positive and less negative affect are responsible for the link between better communication and better adherence. DiMatteo et al[32] reported a robust odds ratio of 3.44 for the association between better adherence and better blood pressure control.

LIMITATIONS

The most significant limitation of our study is that patient-provider dyads were not generated at random. Because patients and providers in primary care have in some sense selected each other, dysfunctional communication may have been lessened and important effects of values affirmation may have been obscured. Testing the intervention in non–primary care settings, such as urgent care or emergency departments, where self-selection does not occur, may yield different results. The study was conducted at a single clinic with a narrow spectrum of patients and providers accustomed to working with minority patients; therefore, our results require replication before they can be considered generalizable. We acknowledge that the effects of the intervention on other ethnic/racial groups, including nonminority patients, requires further study. Finally, we did not assess the duration of action of values affirmation or the need for repeating the intervention. The literature suggests, however, that the effects of values affirmation last at least several months.[12,33]

In conclusion, this early study suggests that values affirmation can be a useful means of improving the experience of health care visits for African American patients. Given the disappointing results of cultural competency training on patient behavior and outcomes,[34] new approaches such as ours may prove useful. Although it might be reasonable to believe that improved patient-provider communication will result in improved health outcomes, further study in diverse settings should be performed before widespread dissemination is recommended.

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