

AFRICAN-AMERICAN PREFERENCE FOR SAME-RACE HEALTHCARE PROVIDERS: THE ROLE OF HEALTHCARE DISCRIMINATION

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Objective: To determine the extent to which African Americans prefer same-race clinicians and the extent to which: 1) knowledge of historical mistreatment; 2) perceptions of current racial inequities in medical treatment; and 3) personal experiences of discrimination are associated with preference for same-race healthcare providers among African Americans.

Design: Statistical analysis of a nationally representative telephone survey designed by the Henry J. Kaiser Family Foundation and conducted by Princeton Survey Research Associates (PSRA). Bivariate significance is determined by using chi-square tests of association. Multinomial logistic regression models adjust for age, gender, income, education, and self-reported health status.

Results: Approximately one in five African Americans states a preference for a same-race healthcare provider. Neither knowledge of historical mistreatment nor perceptions of current racial inequities in medical treatment are related to preferred race of healthcare providers. In contrast, personal experiences of discrimination in health care are associated with a preference for same-race healthcare providers.

Conclusions: The results suggest that while knowledge of unfair treatment historically and perceptions of current racial inequity do not affect preferences, personal experiences of unfair treatment may have a significant effect on African-American patients' preferences regarding health care. Findings suggest that rather than focusing on how historical mistreatment and current inequities in medical treatment affect individual patients, research should focus on individual experiences. (*Ethn Dis.* 2005;15:740-747)

Key Words: African Americans, Discrimination, Professional Patient Relations

INTRODUCTION

While only 4% of physicians are Black, ≈20% of African Americans report having a same-race physician,¹ which makes African-American patients much more likely than other-race patients to receive health care from African-American physicians.²⁻⁴ Researchers have assumed that patient preferences influence the race of patients' healthcare providers, but the nature of preferences and what factors inform them have not been clarified.⁵ Explicating this relationship can provide insight into the sometimes problematic relationship between healthcare workers and African-American patients and improve efforts to ensure that appropriate health care is provided to African Americans. This paper examines preferred healthcare provider race among African-American adults and assesses the extent to which perceptions of racial discrimination are associated with these preferences.

BACKGROUND

Research on how patients choose physicians suggests that patients usually do not undertake a systematic review of physicians.^{6,7} Nonetheless, interpersonal expectations or belief systems appear to influence preferences for healthcare provider characteristics. Research in this area generally examines women's preference for female clinicians and finds,

This paper examines preferred healthcare provider race among African-American adults and assesses the extent to which perceptions of racial discrimination are associated with these preferences.

for example, that women tend to prefer a female gynecologist because of factors like religious beliefs and interpersonal comfort.^{8,9}

Healthcare provider race has not been adequately explored as a social factor influencing patients' choice of provider. Extant research is based on local samples or asks about factors that influenced selection of one's regular physician.^{2,10} The limitation of the latter approach is that if preference for a Black physician exceeds the supply, some respondents are not able to express their preference. Research is needed that overcomes these limitations in the assessment of preferred provider race.

The poor relationship historically between the African-American community and the medical and public health communities may lead to a preference among African Americans for same-race healthcare providers. For example, when medicine sought professional status in the United States, African Americans' unjust legal and social standing, along with White physicians' prejudice, led to medical experimentation and abuse.¹¹ The oft-cited Tuskegee Syphilis Study, which occurred in the middle of the 20th century, is one incident in a long history of mistreatment.¹² Some authors

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have reported that mistrust of medical and public health workers among African Americans is one consequence of this history.⁵ However, while researchers and practitioners have speculated that this history affects African Americans' preference for the race of their healthcare providers, no empiric research has assessed this relationship.

While medical and public health practices have changed in the past several decades, inequities in medical care persist. African Americans are less likely than Whites to receive appropriate medical care, from basic treatment to high technology services, for a number of health problems.¹³ For example, studies of the racial disparity in treatment of heart disease and stroke generally report that Whites are more likely to undergo invasive medical procedures.¹⁴⁻¹⁷ While researchers have persuasively documented this gap, little is known about its effect on the thinking of African-American patients. LaVeist and colleagues¹⁸ have shown that perceptions of unequal treatment in health care are related to lower patient satisfaction, which suggests that racial disparities in care influence African-Americans' attitudes toward care.

In addition to knowledge of group-level inequities, individuals may have personal experiences of racial discrimination in medical encounters. Perceptions of personal unfair treatment have been linked to patient sociodemographic characteristics,¹⁹ and some evidence from a small sample shows that these perceptions can affect patient behavior.²⁰ In sum, both knowledge of unequal treatment of African Americans and personal experiences of discrimination may increase African-American patients' likelihood of preferring a same-race healthcare provider.

The aim of this paper is to determine the extent to which African Americans prefer same-race healthcare providers and to assess how perceptions

of racial discrimination in health care affect racial preferences. Specifically, the analysis will evaluate the extent to which: 1) knowledge of historical mistreatment; 2) perceptions of current racial inequities in medical treatment; and 3) personal experiences of discrimination predict preference for same-race healthcare providers. Understanding how perceptions of racial discrimination affect preferences can provide insight into decision making by African Americans and help guide medical outreach to African Americans, who continue to suffer poor health and reduced access to care at a higher rate than Whites.²¹

METHODS

Data

The data come from a subsample of the 1999 telephone survey, "Americans' Perceptions of Racial Disparities in Health Care." Detail on the methods can be found in Lillie-Blanton et al.²² Briefly, the survey included a nationally representative sample of 3886 adults living in households with telephones in the continental United States. A disproportionate stratified sample of random-digit telephone numbers was used to oversample African-American and Latino respondents. The analysis in this paper was limited to the non-Hispanic Black sample ($n=1,189$). Seventy-two percent of the residential numbers in the sample were contacted by an interviewer; of these, 69% answered screener questions, 93% of those screened were found eligible for the interview, and 98% of eligible respondents completed the interview. Therefore, the final response rate was 49%.²³

Measures

The dependent variable, preferred provider race, was assessed by the survey question, "If you had to choose, would you prefer to be treated by a doctor or

nurse of your own race or ethnic group, or not?"

Knowledge of historical mistreatment is indicated by knowledge of the Tuskegee Syphilis Study. In the survey, respondents were asked whether they had heard of the Tuskegee Syphilis Study. Those who responded "yes," were asked which of three options described the Tuskegee Syphilis Study: 1) a much-criticized government study of syphilis treatment involving African-American men (correct); 2) the African-American airmen who fought in World War II; or 3) a study of heart disease among African-American men. The response choice order was randomized in the administration of the survey. For the present analysis, these two variables were used to create a new variable. Report of having heard of the study and identifying the correct description of the study were labeled as "correctly identified" on the new variable. Responding that one had not heard of the study, or failing to correctly identify it, were labeled "did not know/incorrectly identified." Nearly 72% of African Americans who had heard of the study correctly identified it.

Perceptions of current inequities in the delivery of health care were assessed with two survey items. Respondents were asked, "how often do you think a person's race or ethnic background affects whether they can get routine medical care when they need it" and "specialized treatments or surgery when they need it." Response categories were very often, somewhat often, not too often, and never.

Perceptions^a of personal experiences of racial discrimination in health care

^aQualifying discrimination reports as "perceptions" may be less than ideal because it implies doubt about the veracity of respondents' reports. Nonetheless, because the data are not the result of researcher observation, respondent reports of discrimination are often referred to as "perceptions" of discrimination (eg, references 19,20,41)

were measured with two items. The first asked whether during the past few years respondents had been treated unfairly because of their racial or ethnic background. The second item asked the same about the respondents' family. Response categories were yes and no.

Several control variables were included in the multivariate models. The survey collected respondents' age in years. Based on findings from research on cohort differences in racial attitudes,²⁴ age was grouped into three categories: 18–44 years, 45–54 years, and ≥ 55 years. Education data were collected by asking respondents the highest grade or degree completed. The responses were recorded in eight categories, which were recoded into four categories: less than high school, high school diploma or equivalent, some college, and a college degree or more. The respondents' household income was assessed by a pair of questions. The first asked whether the respondents' income was more or less than \$25,000. Based on this response, respondents were asked to place their income in a more precise income category. More than 15% of the African Americans in the sample were missing data on this control variable. Based on responses to these variables, a new variable with five categories was created: $< \$20,000$, $\$20,000$ – $\$35,000$, $\$35,001$ – $\$50,000$, $> \$50,000$, and missing. Last, health status was included in the analysis with the standard self-reported health item, "In general, how would you describe your own health? Is it excellent, good, only fair or poor?" Self-reported health is a good indicator of overall health status.²⁵

Analytic Plan

Except when noted, weights were applied to the data presented here. Weights took into account region of residence, gender, age, race, and education as well as known nonresponse biases in telephone interview surveys.

The demographic weighting parameters were developed from an analysis of the March 1998 Current Population Survey. The weights were derived by using an iterative technique that simultaneously balances the distributions of all weighting parameters.²³ In addition, all of the parameter estimates presented in this paper were estimated by using the statistical package, Stata version 7.0.²⁶ Stata can adjust standard errors to reflect complex (rather than simple random) survey designs. In this analysis, the five strata used in the sample selection are accounted for in the calculation of the standard errors. Weights were applied to the models by using Stata's "svy" commands.

Significance values for bivariate associations were determined by using chi-square tests of association. Multivariate analyses use multinomial logistic regression models, which simultaneously estimate binary comparisons among the categories of the dependent variable. The explanatory variables were added in conceptually meaningful blocks to a baseline model that included only the control variables. As will be seen, many of the explanatory variables do not achieve significance. Entering the variables in conceptual blocks allows one to easily observe the effect of each conceptual block. In analysis not presented, all variables were included in a single model and produced similar results. The relative risk ratios comparing those who prefer a same-race healthcare provider and those who have no preference, and those who prefer a different-race healthcare provider and those who have no preference are presented. Significance values were determined with a Wald test for the coefficients or block of coefficients. Significance values are not calculated for a single comparison on the dependent variable (eg, between prefer same race and no preference only), but for the complete multinomial model and all possible comparisons

on the dependent variable. Further, significance values are based on the block of variables entered simultaneously.

RESULTS

Table 1 presents the distribution of the variables for African Americans. Approximately 20% of African Americans stated a preference for a same-race provider, while two thirds responded that they had no preference. Forty-two percent of African Americans correctly identified the Tuskegee Syphilis Study. More than 60% of African Americans feel that race affects routine and specialized medical treatment either very often or somewhat often. Finally, reports of unfair treatment of family members are slightly more common than reports of personal unfair treatment (18.6% vs 14%). The distribution of the latter four variables was presented previously by Lillie-Blanton et al²² in their analysis of these data. Table 1 also presents the distribution of the control variables.

Table 2 presents the distribution of preferred healthcare provider race by the explanatory and control variables. The association between correctly identifying the Tuskegee Syphilis Study and preferred healthcare provider race is not statistically significant ($P > .05$). Similarly, the perceived difficulties of obtaining routine and specialty medical treatment are not significantly associated with preferred healthcare provider race ($P > .05$). In contrast to these results, personal and familial experiences of discrimination in health care are significantly associated with preference for same-race healthcare providers. African Americans who report racial unfair treatment in health care of themselves or a family member are more likely to prefer a same-race healthcare provider (36.6% vs 18.1%, $P < .01$, and 35.3% vs 17.5%, $P < .01$, respectively).

Table 1. Distribution of variables

	Weighted %	Unweighted N
<u>Dependent variable</u>		
Preferred provider race		
Own race	20.7	255
Other	12.6	157
No preference	66.7	768
<u>Explanatory variables</u>		
<i>Knowledge of Past Unfair Treatment</i>		
<i>Knowledge of Tuskegee Syphilis Study</i>		
Correctly identified	42.1	573
Did not know / Incorrectly identified	57.9	616
<i>Knowledge of Current Health Care Inequalities</i>		
<i>Race affects receipt of routine care</i>		
Very often	24.4	316
Somewhat often	37.3	434
Not too often	28.9	315
Never	7.4	88
<i>Race affects receipt of specialized treatment</i>		
Very often	26.7	337
Somewhat often	37.5	414
Not too often	26.3	287
Never	9.6	112
<i>Experiences of Personal Unfair Treatment</i>		
<i>Respondent treated unfairly due to race</i>		
Yes	14.0	167
No	86.0	1009
<i>Family member treated unfairly due to race</i>		
Yes	18.6	241
No	81.4	901
<u>Control variables</u>		
<i>Gender</i>		
Male	44.6	489
Female	55.4	700
<i>Age</i>		
18–44	59.5	734
45–54	15.7	196
55 or older	24.8	237
<i>Education</i>		
Less than high school	21.6	176
High school	40.0	443
Some college	24.2	330
College or more	14.2	234
<i>Income</i>		
Under \$20,000	30.4	342
\$20,000–\$35,000	24.1	285
\$35,000–\$50,000	16.5	200
Over \$50,000	12.6	181
Missing	16.4	181
<i>Self-rated health</i>		
Excellent	25.3	315
Good	47.7	567
Fair	20.4	249
Poor	6.7	52

Note: Except race/ethnicity variable, table includes only non-Hispanic Black respondents.

Overall, demographic and health variables have disparate relationships with preferred race of healthcare provider. Education and self-reported health status are not significantly related to preferred provider race. Gender is marginally significant, with African-American men being more likely than African-American women to prefer a same-race healthcare provider ($P=.09$). Income also has a marginally significant relationship to the dependent variable; those with the highest incomes are most likely to state a preference for a same-race healthcare provider ($P=.05$). Age is significantly associated with preference ($P<.01$). African Americans older than 55 are the least likely to state a preference for a same-race healthcare provider; the middle age group (45–54 years of age) is most likely to state a preference for same-race healthcare providers.

The multivariate analyses replicate nearly all of the bivariate findings. Neither knowledge of the Tuskegee Syphilis Study nor perceptions that the provision of health care is inequal are significantly related to preferred healthcare provider race for African Americans (see Table 3, models 1 and 2). In contrast, familial and personal experiences of unfair treatment in health care are significant predictors of preferred healthcare provider race ($P<.05$). Adjusting for the other variables in the model, African Americans who report having been treated unfairly because of race in the medical setting are 1.9 times more likely to prefer a same-race healthcare provider versus stating no preference and 1.84 times more likely to prefer a same-race healthcare provider versus a different-race healthcare provider (see Table 3). Similarly, report of family experiences of unfair racial treatment in health care significantly increases the probability of preferring a Black healthcare provider over having no preference (relative risk ratio=1.59, $P<.05$). The findings

PREFERENCE FOR SAME-RACE PROVIDERS - Malat and van Ryn

Table 2. Preferred race of healthcare provider by explanatory and control variables

	Same race	Different race	No preference
Explanatory variables			
<i>Knowledge of Past Unfair Treatment</i>			
Knowledge of Tuskegee Syphilis Study			
Correctly identified	23.6	13.3	63.2
Did not know / Incorrectly identified	18.7	12.1	69.3
<i>Knowledge of Current Health Care Inequalities</i>			
Race affects receipt of routine care			
Very often	25.8	12.4	61.8
Somewhat often	19.9	14.7	65.5
Not too often	20.8	11.0	68.1
Never	11.1	10.8	78.1
Race affects receipt of specialized treatment			
Very often	20.5	10.7	68.8
Somewhat often	23.6	12.1	64.3
Not too often	21.4	13.9	64.7
Never	12.6	10.9	76.5
<i>Personal Experiences of Unfair Treatment</i>			
Respondent treated unfairly due to race*			
Yes	36.6	13.8	49.6
No	18.1	12.5	69.4
Family member treated unfairly due to race*			
Yes	35.3	11.3	53.5
No	17.5	13.0	69.6
Control variables			
Gender			
Male	24.3	10.2	65.6
Female	17.9	14.5	67.6
Age†			
18–44	22.2	11.7	66.1
45–54	31.0	15.4	53.6
55 or older	9.7	13.3	77.1
Education			
Less than high school	17.3	13.1	69.7
High school	19.3	10.3	70.4
Some college	24.1	14.4	61.5
College or more	24.1	14.8	61.1
Income			
Under \$20,000	19.4	13.6	67.0
\$20,000–\$35,000	12.9	13.8	73.3
\$35,000–\$50,000	27.7	10.2	62.1
Over \$50,000	32.4	13.5	54.2
Missing	18.4	10.5	71.1
Self-rated health			
Excellent	23.3	14.7	62.1
Good	20.1	10.9	69.0
Fair	18.1	13.8	68.2
Poor	25.5	13.6	60.8

* $P < .01$ for chi-square test, † $p < .05$ for chi-square test
 Note: Includes only non-Hispanic Black respondents.

are inconsistent in that personal experience of unfair treatment increases the probability of preferring another-race doctor over no preference, while

familial experience decreases the probability.

Tests for the significance of the control variables show that age is the

only consistently significant variable in the multivariate models. Those age ≥ 55 are less likely than their younger counterparts to state a preference for a Black healthcare provider over a different-race provider or having no preference. Gender is significant in one model ($P < .05$, model 2); men are more likely to state a preference for same-race providers.

DISCUSSION

One finding of this analysis is that approximately one in five African Americans reports a preference for a same-race healthcare provider. We are aware of no other study assessing preference for same-race providers in a national survey of African Americans. Extant local studies tend to find no or low stated preference for Black providers^{27,28}; however, this finding is not consistent.²⁹ The present study finds a preference, though limited, for same-race providers. These results may be because the proportion of African Americans preferring a same-race provider is indeed low. However, other explanations are possible as well. For example, only 4.4% of physicians and 8.8% of nurses are Black,³⁰ and some respondents may not state a preference for an unavailable provider, feeling that it is useless. Also, respondents may be reluctant to state a preference to an unknown survey interviewer. In particular, perceived race of the interviewer can affect responses to questions about racial topics.^{31,32} This dataset contains no information about the race of the

. . . one in five African Americans reports a preference for a same-race healthcare provider.

Table 3. Models predicting preferred healthcare provider race

	Model 1		Model 2		Model 3	
	Own Race Risk Ratio	Other Race Risk Ratio	Own Race Risk Ratio	Other Race Risk Ratio	Own Race Risk Ratio	Other Race Risk Ratio
<u>Explanatory variables</u>						
Personal unfair treatment					1.89*	1.84*
Family member treated unfairly					1.59*	0.88*
Race affects receipt of specialized treatment (very often excluded)						
Somewhat often			1.97	1.13		
Not too often			1.70	1.77		
Never			1.31	1.44		
Race affects receipt of routine care (very often excluded)						
Somewhat often			0.52	1.16		
Not too often			0.62	0.58		
Never			0.33	0.67		
Know of Tuskegee Syphilis Study	1.06	1.20				
<u>Control variables</u>						
Male	1.33	0.68	1.28*	0.58*	1.26	0.70
Age (under 44 excluded)						
45–54	1.59†	1.58†	1.46†	1.35†	1.66*	1.64*
55 and more	0.39†	1.01†	0.33†	0.83†	0.47*	1.08*
Income (under \$20,000 excluded)						
\$20,000–\$35,000	0.57	0.88	0.57	0.84	0.54	0.96
\$35,000–\$50,000	1.35	0.69	1.48	0.77	1.39	0.72
Over \$50,000	1.64	1.05	1.75	1.14	1.72	1.13
Missing	0.88	0.73	0.99	0.58	0.86	0.77
Education (high school excluded)						
Less than high school	1.05	1.25	1.12	1.18	1.00	1.09
Some college	1.24	1.54	1.23	1.74	1.16	1.61
College or more	1.04	1.30	1.01	1.47	0.87	1.38
Self Rated Health (excellent excluded)						
Good	0.86	0.68	0.98	0.80	0.84	0.65
Fair	0.97	0.84	1.13	1.07	0.95	0.89
Poor	1.62	0.90	1.89	1.27	1.48	0.73
(N)	(1150)		(1099)		(1099)	

* $p < .05$ for Wald test of coefficients/block of coefficients.
 † $p < .01$ for Wald test of coefficients/block of coefficients.
 Note 1: Includes only non-Hispanic black respondents.
 Note 2: 'No Preference' omitted category of dependent variable.

interviewer or the respondent's perception of the interviewer's race.

Previous researchers have speculated that knowledge of past mistreatment of African Americans might influence patients' behaviors and preferences.^{5,33} The present data do not support this notion. Knowledge of the Tuskegee Syphilis Study is not associated with preferred healthcare provider race. One possible explanation for this result is that the Tuskegee Syphilis Study is

a historical event, which can be used to understand current events, but nonetheless lies in the past. Dwelling on past unfair treatment would make navigating daily life difficult for most people. Another potential explanation for the difference between publicly expressed sentiment and the present finding is that, when communicating with public health officials, African Americans may more readily discuss historic abuses than personal experiences. Publicly describ-

ing personal experiences of unfair treatment may be difficult for a variety of reasons, such as uncertainty about the cause of the bad experience, a desire for privacy, or fear of being discounted or labeled overly sensitive. Pointing to well-documented cases of poor historic treatment may provide a way to more safely protest personal mistreatment.

We also found that perceptions of present inequities in medical care are

not related to preferred race of health-care provider. One explanation is that some African Americans may believe that a healthcare provider's race is unrelated to the likelihood of African Americans receiving fair medical treatment. Racial inequities in medical care may be attributed, for instance, to patient characteristics like insurance coverage. Or inequities may be attributed to other healthcare provider characteristics such as class status. Indeed, LaVeist and colleagues¹⁹ found that class-based interpersonal discrimination is the most frequently reported form of discrimination among African Americans. In these circumstances, racially concordant care would not ensure better treatment.

In this analysis, the only form of unfair medical treatment that affected preferences was personal experiences of discrimination. Reports of unfair treatment were associated with greater likelihood of preferring a same-race provider versus no preference. These results support other research that shows perceptions of being treated unfairly in health care can affect patients' behavior.²⁰ The present analysis reinforces existing studies by testing the effect in a population-based national sample. However, the present analysis also produces another result: personal unfair treatment is associated with greater likelihood of preferring an other-race provider over no preference. Because this relative risk ratio is only making a comparison between preference for other-race providers and no preference, it does not diminish the effect described for preference for same-race providers. Taking these effects together, experiencing unfair treatment appears to increase the likelihood of developing a preference. Together these results give insight into how African Americans choose physicians; personal experiences of unfair racial treatment in health care may be influential in decision making. That personal experiences are significant may not be a particularly remarkable finding.

Yet, that they are the only significant finding suggests that more attention should be given to individuals' experiences with discrimination along with a focus on group-level unfair treatment.

Some effects of control variables are worth considering. The oldest group was least likely to prefer a same-race healthcare provider, while the middle group was most likely. These differences may be influenced by cohort experiences in relation to the civil rights movement. Some researchers have suggested that experiences during young adulthood influence individuals' attitudes throughout life.²⁴ In this case, the oldest group came of age before the civil rights movement and may have lower expectations for same-race care or simply be less likely to state a preference to a survey interviewer. Those in the middle age group came of age during the civil rights movement and may be most assertive in their efforts to receive equal treatment. Finally, the youngest group came of age after the civil rights movement and may expect fair treatment and have experiences with integration that reduce their preference for same-race providers compared to older respondents.

The analyses in this paper produced an inconsistently significant gender effect. Results suggest that women may be less likely than men to prefer same-race healthcare providers. For women of color making choices about health care, gender may be an equal, or greater, concern when selecting a physician. Other research has shown that, particularly for reproductive health concerns, women prefer female over male physicians.^{8,9} The desire for a female physician, in combination with low expectations for finding an African-American female physician, may reduce African-American women's likelihood of stating a preference for a same-race healthcare provider.

Limitations

The response rate to the survey is less than ideal. However, research on

nonresponse suggests that low response rate may be less of a problem than researchers previously thought because nonresponse does not appear to correlate with many substantive variables.³⁴ A second limitation is that, to the extent that African Americans are reluctant to speak freely with a survey interviewer, using survey methods to ask questions about discrimination may underestimate perceptions of unfair treatment. Third, a larger sample size might have resulted in smaller standard errors, making some nonsignificant results significant.

Finally, there may be other unmeasured factors that influence preferred healthcare provider race. For example, respondents might be influenced by their relationship with their present provider. If they have a good relationship with their current provider, this provider's race may influence their response to this item. Another possible unmeasured factor is internalized racism, or belief in negative stereotypes of African Americans.³⁵ In this case the belief that Black doctors are less qualified than White doctors may influence preferred provider race, but the hypothesis has not been tested.³⁶ Assessment of the practice location of doctors may also affect preference for same-race providers. Since Black doctors may be more likely to work in facilities that have fewer resources, some people may base their preferences on the perceived quality of care available in the locations where African-American doctors are more likely to practice.

Complete understanding of how patients choose healthcare professionals requires recognition that perceptions of racial discrimination influence attitudes toward healthcare providers. The analysis presented in this paper indicates that knowledge of historical or current unfair treatment may not influence preferred healthcare provider race, but personal experiences of discrimination help form preferences. Researchers and outreach workers should be cognizant

that personal experiences of unfair treatment may have a significant effect on patients' attitudes and beliefs.

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