

TRUST IN DOCTORS: IS THERE A BLACK-WHITE DIFFERENCE?

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ABSTRACT

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Previous research has not been consistent in providing evidence on whether there is a significant difference between African Americans and white Americans in trust in doctors. This study uses data from the 2002 General Social Survey and ordinary least squares regression to reexamine this issue. It was expected that blacks are less likely to trust their doctors than whites either before or after controlling for other predictors of trust. The results of the study support this hypothesis and confirm previous reports that blacks are less likely to trust their doctors than whites. The implications of the findings are discussed.

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CHAPTER I: INTRODUCTION

RESEARCH PROBLEM

Trust in physicians is very important in health care. Trust in physicians has been found to be associated with a range of positive outcomes including continuity of care, willingness to seek care (Trachtenberg, Dugan, and Hall 2005), improved health status (Thom et al. 1999), and greater satisfaction with care (Safran et al. 1998; Thom et al. 1999; Thom et al. 2002). This trust may be particularly important to black Americans because of historical reasons and cultural factors (Gamble 1997; Kennedy, Mathis, and Woods 2007). Previous research has not been consistent in providing evidence on whether there is a significant difference between African Americans and white Americans in trust. Quite a few studies have reported that blacks are less trusting of their doctors (Ahern and Hendryx 2003; Berrios-Rivera et al. 2006; Boulware et al. 2003; Corbie-Smith, Thomas, and St. George 2002; Do et al. 2010; Doescher et al. 2000; Halbert et al. 2006; Hunt, Gaba, and Lavizzo-Mourey 2005; LaVeist, Nickerson, and Bowie 2000; Musa et al. 2009; Schnittker 2004) and the health care system as a whole (Boulware et al. 2003; Lillie-Blanton et al. 2000). Research has also shown that blacks have less positive perceptions of their relationship with their doctors (Doescher et al. 2000) and report lower trust in their physician regardless of factors such as health plan type (Hunt et al. 2005) or characteristics of doctor-patient communication

(Berrios-Rivera et al. 2006). However, a number of studies have found no significant difference between blacks and whites in trust in their doctors (Benjamins 2006; Bonds et al. 2004; Fiscella et al. 2004; Hall et al. 2002a; Hall et al. 2002b; Kao et al. 1998; Pescosolido, Tuch, and Martin 2001; Taira et al. 2001; Thom et al. 2002). The differences in the findings can be attributed to variations in the conceptualization of trust and measurements used to analyze differences in trust. There is a need to ascertain if there is indeed a black-white differential in trust in doctors using the most comprehensive and representative data and the most rigorous methods.

The purpose of the current research is to analyze whether there is a black-white difference in trust in doctors using the most comprehensive data available from the General Social Survey. Trust can be defined as the “expectation that institutions and professionals will act in one’s interests” (Mechanic 1998). In healthcare settings, trust includes both trust in doctors and trust in the healthcare system (Hall et al. 2002a). More commonly, trust in doctors refers to interpersonal trust in the doctor-patient relationship. Within the dimension of interpersonal trust, there are both direct trust and indirect trust. Direct trust is the patient’s expectation of the doctor’s interaction with the patient (e.g., “I trust my doctor’s judgments about my medical care.”), and indirect trust pertains to the patients’ trusting expectation in the behaviors of their doctors (e.g. “I trust my doctor to refer to a specialist when needed.”) (Stepanikova et al. 2006). While direct trust is an immediate expectation, indirect trust is an expectation of how the physician may behave in a possible future situation. Both direct and indirect trusts are specific, and relate to the patient’s trust in his or her own doctor. This stands in contrast to general trust, which

relies on measures of trust in the profession of medicine and physicians, not the interpersonal characteristics of the doctor-patient relationship (e.g., “Doctors always act in the best interests of patients”) (Hall 2002b; Pescosolido et al. 2001). Because of the available data, this study will focus on interpersonal trust in doctors using specific measures of trust that directly measure respondents’ trust in their own doctor.

SIGNIFICANCE OF THE STUDY

This study expands upon previous research by examining black-white differences in trust by including models that analyze social factors and their possible influence on trust. It helps to settle the debate on whether there is a difference in trust between blacks and whites and to assist in development of a more comprehensive model to predict black-white difference in trust in doctors. The current study emphasizes sociodemographic characteristics of respondents and trust in doctors and uses a global measure of trust that may provide stronger evidence of a black-white difference in trust in doctors.

The practical use of the study is that establishing whether there is a black-white difference in trust and its possible mechanisms may lead to improvements in healthcare for black Americans. The association of trust with positive outcomes is well-documented, and therefore an important aspect of the doctor-patient relationship. If there is a difference between blacks and whites, it is important for healthcare professionals and systems to use this information to improve trust and healthcare.

CHAPTER II:

LITERATURE REVIEW AND HYPOTHESES

Results of prior research on whether there is a black-white difference in trust in doctors have been mixed. Several studies have found that there is no statistically significant difference between whites and blacks or nonwhites (Benjamins 2006; Bonds et al. 2004; Hall et al. 2002a; Hall et al. 2002b; Pescosolido et al. 2001; Savage 2011; Taira et al. 2001; Thom et al. 2002). Blacks may not differ from whites in trust of their own doctor because trust is the result of personal experience with doctors and healthcare (Hall et al. 2001). It may also be because trust is not an attribute of being black but rather community level factors, or a perception of racism (Adegbembo, Tomar, and Logan 2006).

NO BLACK-WHITE DIFFERENCE

Two studies conducted by Hall and his colleagues displayed no difference between blacks and whites in trust. In the first, data was from a random national sample and used factor loading to examine reliable measures of general trust in doctors (Hall et al. 2002a). In the second study, a nationally representative sample and a regional sample were used to evaluate correlations between survey items and the types and dimensions of trust. These studies were limited in that they did not include potentially relevant social factors, and were designed with development of trust measurements in mind, rather than

analysis of difference or who trusts and who does not. There was also no difference between blacks and whites in a study by Taira et al. (2001); this study used a regional sample and a multidimensional trust scale that was part of a larger study on patient evaluations of care. Pescosolido et al. (2001) examined longitudinal data from the 1976 National Survey of Access to Care and the 1998 General Social Survey using regression modeling. While this is one of the few studies to look at change over a significant amount of time, it was limited to general trust in doctors. Thom et al. (2002) used a regional sample and employed multiple regression to analyze trust in doctors; however, this study was restricted to whites and nonwhites. Fiscella et al. (2004) monitored patients visits with their primary care physicians and found that blacks were just as trusting as whites, but that this may be explained by blacks using certain physician resulting in higher trust. Bonds et al. (2004) found no difference in trust between blacks and whites but the data was local and limited to physicians in training.

Adegbenbo et al. (2006) initially found difference in a community sample, but the difference was attributable to perceived racism. Benjamins (2006) used the 1998 General Social Survey and regression analysis to examine differences in trust by religious variables. The dependent scale variable for trust in this study, however, is a 7-item scale that includes different dimensions and may not have produced accurate results of more direct, personal trust. Savage (2011) uses the 2002 GSS and structural equation modeling to show the relationship between trust and patient participation in their healthcare. The measurement of trust in this study was a shorter scale that only measures interpersonal trust.

The studies that have found no difference have relied on global measures of trust that include both direct and indirect measures of trust which may result in different findings (Stepanikova et al. 2006). Another weakness is that the original Trust in Physicians Scale developed by Anderson and Dedrick (1990) and similar scales (Hall 2002a; Kao et al. 1998; Safran et al. 1998) contain broad conceptualizations of trust and try to capture several dimensions of trust, rather than specific trust in a patients' doctor. Other limitations specific to racial groups include combination of all racial groups besides whites within a single category (nonwhite) (Kao et al. 1998; Thom 1999); samples that are either regional or local and not nationally representative (Adegbenbo et al. 2006, Bonds et al. 2004; Taira et al 2001; Thom et al. 1999; Thom et al. 2002); and limitations in the number of relevant predictors included in analysis (Benjamins 2006; Savage 2002). Studies that have featured nationally representative samples and found no difference have not been designed to study black-white difference and instead have looked at certain characteristics of respondents such as religious practices (Benjamins 2006) or willingness to be a participant in their own healthcare (Savage 2011). The former, however, lacked several potentially key aspects of the physician-patient relationship such as whether the respondent had insurance or a regular physician while the latter only contained five respondent characteristics (age, education, income, race, and occupational prestige).

BLACK-WHITE DIFFERENCE

The argument that there is a black-white difference stems from historical factors and a history of institutional discrimination against blacks by the medical community

(Gamble 1997; Kennedy, Mathis, and Woods 2007). Gamble (1997) writes that historically, blacks have been the subject of experimentation with no benefits and often poor health returns. Gamble also cites fears of genocide in the African American community and that events such as the Tuskegee Syphilis Experiment added to this fear. Kennedy, Mathis, and Woods (2007) suggest that these historical factors have a direct impact on the patient-provider relationship, and that these factors are potentially damaging to trust in doctors and the medical profession.

A social capital examination of trust in providers suggested that blacks are less trusting than whites, and that social factors were important in predicting trust (Ahern and Hendryx 2003). This study used data from several sources, including the nationally representative Community Tracking Survey (CTS), and linear regression analysis. It was limited, however, because of its reliance on a scale measuring several dimensions of trust. Also, the focus of the study was on community size and community level variables related such as the availability and penetration of health care organizations; because of this, the independent variables are more focused at the community level and not individual differences in interpersonal trust. Similarly, Schnittker (2004) used nationally representative data from the 1996-1997 CTS and placed trust in doctors within a social distance framework and found that blacks were less likely to trust their doctors than whites and those that were more similar to the education and income levels of doctors were more likely to trust. The method of analysis in this study was also linear regression. Schnittker differs from the previous study in that his focus was on individuals and he included variables that measured respondents' evaluations of their physician.

Hunt et al. (2005) concluded that there may be a black-white difference regardless of the type of healthcare plan the individual has after analyzing data from 1998-1999 CTS and multivariate analyses. This study was similar to the previous ones, but was different in that it examined how health plan type may affect trust. Halbert et al. (2006) used the Kaiser Family Foundation Survey of Race, Ethnicity, and Medical Care and logistic regression to conclude that blacks were less likely to trust healthcare than whites. They analyzed sociodemographics, prior healthcare experiences, and structural characteristics of care. The dependent variable for trust in Halbert et al.'s study, however, was a single dichotomous measure of trust.

More specific examples also provide data and support for a black-white difference. LaVeist et al. (2000) found that black cardiac patients were less likely to trust doctors than whites using the medical mistrust index and data from a regional sample. This study varied somewhat from the others in that the authors used a different set of measures to reach their conclusions; rather than analyzing trust, they examined mistrust, which may result in a different outcome. In a study of patients with rheumatoid arthritis, Berrios-Rivera et al. (2006) demonstrated that African American race was the strongest predictor of variation in trust using characteristics of the doctor's communication style and analysis of variance. However, this study was limited because of the use of a small, local sample, and the specificity of the illness that the authors examined. Another study of prostate cancer patients revealed that black patients who had delayed seeking care had lower trust than whites, and that blacks had greater variability in trust than whites, although this varied across different groupings of individuals (Do et al. 2010). This study

was also limited to the specific nature of the illness shared by the sample, and a limited number of characteristics beyond basic sociodemographic characteristics (in this case, income and education). Black women were also less trusting than whites of their regular doctor and cancer team in a sample of women with breast cancer (Kaiser et al. 2011). This study, however, was limited to both a specific health issue and a specific sex. Black Americans are also less likely to participate in medical research due to a lack of trust (Corbie-Smith et al. 2002; Shavers, Lynch, and Burmeister 2002); and are less likely to donate organs due to the perception they may not receive necessary medical care (Minniefield, Yang, and Muti 2001). While these are peripheral issues of trust in one's own doctor, they do suggest that blacks are less trusting of the medical profession and possible behaviors of physicians.

In comparison to the literature suggesting there is no black-white difference, studies that have found difference have done so using one or two direct statements (e.g. "I trust my doctors to my medical needs above all other considerations when treating my medical problems") or smaller scales (4-5 items) that measure narrower dimensions of trust. Several of these studies do this using nationally representative samples as well (Ahern and Hendryx 2003; Boulware et al. 2003; Doescher et al. 2000; Hunt et al. 2005; Schnittker 2004). These efforts suggest that the measurement decisions affect the end result. Global scales that attempt to capture too many dimensions and aspects of trust may be less effective than shorter, narrower scales.

The research on black-white difference in trust in doctors is not conclusive. Depending on the setting and measurements, black-white difference may or may not be

significant. Fewer studies have sought to examine social characteristics and how they may influence black-white trust thoroughly, despite the evidence that social factors are important in predicting trust. Those that have found no difference have used larger scales that cover several dimensions and types of trust, or more general measures of trust in physicians. Those that have examined societal factors have found a difference, often in large sample sizes. Several of these studies, however, are limited in that they use the same measures for the dependent trust variable, as well as similar measures of the independent variables. Restricting to precise scale measures of trust may therefore produce more accurate and consistent results.

Research on trust in doctors is also largely atheoretical. Traditional theoretical perspectives have been employed rarely in the literature with the exception of a study using game theory in a United Kingdom setting (Tarrant et al. 2010). There has also been some application of general sociological and psychological trust literature in the development of trust measures (Hall et al. 2002b), but these perspectives have not been used in general trust literature on black-white difference.

Other minorities may display differing trust relationships with their doctors than whites. Hispanics have been shown to have less trust in their doctors (Stepanikova et al. 2006); however, other health factors, such as access to care have been more pressing issues for this group (Gresenz, Rogowski, and Escarce 2009). Asian Americans may also be less trusting, but this group is also underresearched (Taira et al. 2001). This study emphasizes black-white difference as this has been the primary concern for researchers in the area of trust in doctors.

HYPOTHESES

The primary hypothesis of this study is that blacks tend to report a lower level of trust in their doctor than whites, holding other factors constant. Cultural mistrust in healthcare and healthcare professionals may result in blacks being less trusting of their doctors than whites because historical factors such as the Tuskegee Syphilis Study and a history of exploitation by the medical community may not be easily forgotten (Gamble 1997; Kennedy, Mathis, and Woods 2007). This hypothesis is also partly based on the previous findings that blacks have less trust in doctors than whites (Ahern and Hendryx 2003; Berrios-Rivera et al. 2006; Boulware et al. 2003; Hunt et al. 2005; Schnittker 2004) and have less favorable perceptions of their relationships with their doctors than whites (Doescher et al. 2000); that blacks are less likely to trust the healthcare system (Boulware et al. 2003); and that they are less likely to trust medical professionals in research settings (Corbie-Smith et al. 2002; Shavers et al. 2002).

Several hypotheses for interactions between sociodemographic variables and race are also tested. These are based on previous findings that age (Musa et al. 2009; Thom et al. 1999; Wiltshire, Person, and Allison 2011), gender, and education (Wiltshire, Person, and Allison 2011) may affect trust levels differently for blacks and for whites. It is expected that black-white difference in trust will vary between men and women; namely, black males will trust their doctors less than black women. Older blacks may be less trusting of doctors than younger blacks but older whites may be more trusting than younger whites. It is also expected that education and race will interact to affect trust;

specifically, education may have a greater positive effect on the trust level of blacks than on that of whites

CHAPTER III: DATA AND METHODS

DATASET AND SAMPLE

The dataset for this study is the 2002 General Social Survey. The 2002 GSS is a nationally representative survey of adult men and women in the United States. While other GSSs include measurements of trust in doctors, the 2002 GSS includes a larger set of predictors relevant to trust that allow for a more rigorous test of black-white difference. The sample is restricted to only black and white respondents because of the focus of this study and because of the very small number of respondents in the other race category. The sample is also restricted to the respondents who have a regular provider for medical care because the questions related to trust in doctors may not have been applicable to those who do not have a regular doctor. After the restriction, the sample size is 944 respondents who answered relevant questions on trust in doctors and questions relevant to the study. The data is weighted so that only one member from each household is selected.

DEPENDENT VARIABLE

The dependent variable is the respondent's trust in their doctor. For the dependent variable, a scale was created using the variables DOC16a ("I trust my doctor's judgments about my medical care."), DOC18a ("I trust my doctor to put my medical needs above all other considerations when treating my medical problems."), DOC19a

(“My doctor is a real expert in taking care of medical problems like mine.”), and DOC20a (“I trust my doctor to tell me if a mistake was made about my treatment.”) as indicators of trust in doctors. Respondents were asked to rate their response to each statement on a five point Likert scale with the following response categories: “strongly agree,” “agree,” “neither agree nor disagree,” “disagree,” and “strongly disagree.” Each indicator was reverse recoded using a new scale of 0-4 (0=strongly disagree, ..., 4=strongly agree) so that a higher score reflects stronger agreement with each statement. The scores of the four indicators of trust were then summed. A higher score on the scale indicates greater trust in doctors. The resulting scale represents a global measure of trust that reflects both direct (Indicators 1, 2, and 3,) and indirect trust (Indicator 4) in doctors and contains previously validated measures (Anderson and Dedrick 1990; Savage 2011; Stepanikova et al. 2006). It has an acceptable Cronbach’s alpha level of .81. This improves on previous scales because it is narrow and focuses only on specific trust in one’s doctor.

INDEPENDENT AND CONTROL VARIABLES

The independent variable for the study is race. Black or white race is measured as a dummy variable where 1=black and 0=white.

Additional predictors that may influence an individual’s level of trust in their physician are included in the analysis as control variables. These variables include sociodemographic characteristics of the respondent such as sex, age, education, and total family income that have been used elsewhere (Schnittker 2004), as well as whether the respondent lives in an urban or rural area because community size of the respondent may

affect trust (Savage 2011). This study expands on these characteristics by including additional variables on marital status, presence of children, social class, party affiliation, type of employment, and whether the respondent considers themselves to be a Christian, which may be important to the trusting relationship (Benjamins 2006). Gender is measured as a dummy variable with male coded as 1 and female coded as 0. Age is a continuous variable measured by years. Education is also a continuous variable measured by years of schooling completed ranging from 0 to 20. Family income is a continuous variable designed to reflect respondent's family income measured by thousands of U.S. dollars. Urban or rural residence is measured as a dummy variable where urban=1 and rural=0, Married is coded as a dummy variable that reflects whether a respondent had ever been married where 1=married, divorced, separated, or widowed and 0=never married. Having children is included as a dummy variable that reflects whether a respondent had one or more children coded 1 or no children coded 0. Likewise, self-employed, Christian, or Democrat are coded as dummy variables with 1 indicating the designated category and 0 otherwise. The respondent's subjective social class is an ordinal variable with four categories (1=lower class, 2=working class, 3=middle class, or 4=upper class).

Choice of physician (Kao et al. 1998; Thom et al. 1999) and the length of the doctor-patient relationship (Kao et al. 1998) are relevant to trust. Because of these considerations and in an effort to more accurately test black-white difference in trust in doctors, variables addressing features of the doctor-patient relationship are also included. These variables include whether the respondents chose their own doctor, whether they

have health insurance including Medicare/Medicaid, and whether their insurance plan places limits on care. The patient-provider variables are measured using dummy indicators where 1 indicates the designated category and 0 otherwise.

METHODS OF DATA ANALYSIS

Descriptive statistics including the means and standard deviations of the variables used in the analysis are calculated to assess the characteristics of the sample. Bivariate correlations are used to test for multicollinearity between the variables and to show the relationship between each variable and trust in doctors. Ordinary least squares (OLS) regression is used to examine the relationship between the independent and dependent variable. This method is employed because the dependent variable is an interval/ratio measurement. Four OLS regression models are tested. Model 1 includes the race dummy variable as the only predictor of the dependent scale variable for trust. Model 2 expands the number of predictors to include the additional sociodemographic characteristics to Model 1. Model 3 adds the measures specific to the patient-physician relationship to Model 2. Model 4 adds interaction terms to Model 3 to determine whether there are effects of interactions between being black and the various social factors such as age, education, and sex.

LIMITATIONS

This study has several limitations related to the dataset. As a secondary data source, GSS 2002 does not allow the researcher to include certain variables that may potentially influence trust in doctors. For instance, variables for general health of the respondents and trust in people in general may be associated with trust in doctors (Benjamins 2006),

but are not available and are therefore not included in the analysis. Black-white difference may also be influenced by the perception of racism (Adegbenbo et al., 2006; LaVeist et al. 2000), but there is no measurement of such perception in GSS 2002. It does not examine racial concordance in the doctor-patient relationship, which may affect trust (Halbert et al. 2006; LaVeist and Carroll 2002; Saha et al. 1999), although this important consideration may be partially reflected by the significance of the ability to choose doctors. Since the respondents of the GSS are representative of the general population, there may be differences between their reports of trust and the reports of people in the population who have certain medical conditions or illness (Hall et al. 2002b). Since this study has a cross-sectional design, it cannot test change in difference between blacks and whites in trust over time. Finally, only measures of interpersonal trust were included in the analysis. Trust in healthcare as a system or as an institution is not examined although there may be differences in this form of trust (Boulware et al. 2005).

CHAPTER IV:

RESULTS

DESCRIPTIVE ANALYSIS

The means and standard deviations for the variables used are presented in Table 1. The mean for the first trust indicator (“I trust my doctors’ judgments about my care”) was highest (Mean = 3.32), followed by the second indicator (“I trust my doctor to put my medical needs above all other considerations;” Mean=3.27) and the third indicator (“My doctor is a real expert at taking care of problems like mine;” Mean=3.14). The fourth indicator (“I trust my doctor to tell me if a mistake was made about my treatment”) had the lowest mean score (Mean=2.90). The trust in doctors scale had a mean score of 12.63.

Blacks made up 14 percent of the sample. Males were around 40 percent of the sample. The respondents had a mean age around 47 years old, 13 years of education, and an income of around 56,000 dollars. Eighteen percent of the respondents in the sample lived in an urban area. Eighty-one percent had been married. Seventy-seven percent had children. Eleven percent were self-employed. Christians were 85 percent of the sample. Democrats were 42 percent of the sample. The mean score for subjective class identification was 2.51, which is closest to middle class. For the patient-provider variables, 76 percent indicated they had enough physicians to choose from. The majority responded that they had been with their physician or clinic for greater than one year (88

percent) and had insurance including Medicare or Medicaid (92 percent). Forty-five percent indicated that their insurance placed limits on their care.

CORRELATIONAL ANALYSIS

Table 2 shows the results of the bivariate correlations. The black dummy variable shows a negative relationship with trust in doctors ($r=-.012, p\leq.005$). Other predictors also show varying relationships with trust in doctors. Age and choice of doctor have significant positive associations with trust. Christians are significantly more likely to trust their doctors than non-Christians. Education and having insurance that places limits on care are negatively correlated with trust. Other factors that were statistically significant included respondents that live in urban areas and Democrats who display less trust in doctors than their respective counterparts. Sex, family income, having ever been married, having children, being self-employed, social class, having a health plan, and having been with a doctor for greater than one year were not significantly associated with trust. The bivariate correlations also show there were no issues of multicollinearity between the variables.

REGRESSION ANALYSIS

Table 3 shows the results of the linear regression models. Model 1 reflects the association between being black and trust in doctors without any additional predictors. Model 1 has an F value of 4.651 and is statistically significant at the .05 level. Blacks were less likely to trust their doctors than whites by six tenths of a point on the trust scale in Model 1 ($p\leq.05$). This supports the hypothesis that blacks are less likely to trust their

Table 1. Means and Standard Deviations (S.D.) of Variables Used in the Analysis, U.S. Black and White Adults with Regular Doctor

Variable	Mean	S.D.
<i>Dependent Variables</i>		
Doctor's judgment trusted (5-point scale)	3.32	.824
Doctor puts medical needs above all other considerations (5-point scale)	3.27	.916
Doctor a real expert at taking care of problem (5-point scale)	3.14	.922
Doctor would tell me if a mistake was made (5-point)	2.90	1.231
Trust in Doctors Scale (16-point scale)	12.63	3.130
<i>Independent Variable</i>		
Race		
White	.86	.343
Black	.14	.343
<i>Sociodemographic Control Variables</i>		
Male	.39	.488
Age	46.92	16.788
Years of education	13.43	2.790
Family income (In \$1,000s)	56.02	44.640
Urban residence	.18	.386
Married	.81	.391
Has children	.77	.420
Self-employed	.11	.315
Christian	.85	.359
Democrat	.42	.493
Class	2.51	.672
<i>Patient-Provider Variables</i>		
Chose physician	.76	.425
Been with physician more than 1 year	.88	.324
Has insurance	.92	.265
Insurance plan places limits on care	.45	.498

Table 2. Bivariate Correlations of Variables Used in the Analysis

	Trust in Doctors	Black	Male	Age	Education	Family Income	Urban	Married	Children
Trust in Doctors	1.00								
Black	-.066*	1.00							
Male	.014	-.058	1.00						
Age	.120***	-.038	.006	1.00					
Education	-.075*	-.086**	.008	-.138***	1.00				
Family income	-.033	-.171***	.040	-.036	.352***	1.00			
Urban	-.081**	.246***	-.038	.022	-.001	-.103**	1.00		
Married	.033	-.053	-.058	.403***	-.048	.144***	-.080**	1.00	
Children	.024	.111***	-.069*	.316***	-.148***	.056	-.033	.555***	1.00
Self-employed	-.052	-.044	.023	.085**	-.003	.130***	-.013	.103***	.024
Christian	.104**	.075*	-.082**	.168***	-.099***	-.013	-.063*	.218***	.267***
Democrat	-.024**	.226***	-.070*	.001	.014	-.039	.125***	-.041	.005
Class	-.035	-.151***	.022	.063*	.345***	.432***	.015	.028	-.054
Health plan	.013	-.006	-.001	.125***	.128***	.137***	-.063*	.047	-.007
Regular doctor	.059	.000	.042	.093**	-.016	.092**	-.040	.045	.045
Chose doctor	.163***	.009	-.091**	.173***	.028	.071*	-.060	.040	.025
Insurance limits	-.176***	-.055	.055	-.162***	.100***	.114***	-.023	-.013	-.090**

Table 2 continued

	Self-Employed	Christian	Democrat	Class	Have Health Plan	Regular Doctor	Chose Doctor	Insurance Limits
Trust in Doctors								
Black								
Male								
Age								
Education								
Family Income								
Urban								
Married								
Children								
Self-Employed	1.00							
Christian	.017	1.00						
Democrat	-.041	-.062*	1.00					
Class	.125***	-.061*	-.086**	1.00				
Health Plan	-.054	.015	.004	.143***	1.00			
Regular Doctor	.043	.055	.017	.009	-.008	1.00		
Chose Doctor	-.072*	.093**	-.014	.096**	.517***	.111***	1.00	
Insurance Limits	-.010	-.059	-.031	.029	.259***	-.019	-.072*	1.00

Table 3. Unstandardized Regression Estimates Predicting Respondent's Trust in Doctors, U.S. Black and White Adults, 2002 (standard error in parentheses)

Predictor	Model 1	Model 2	Model 3	Model 4
Constant	12.716*** (.103)	12.220*** (.694)	12.459*** (.752)	12.486*** (.775)
Black	-.601* (.279)	-.518 (.319)	-.619* (.312)	.241 (1.924)
Male		.142 (.202)	.281 (.198)	.288 (.212)
Age		.025*** (.007)	.016** (.007)	.021** (.007)
Years of education		-.051 (.040)	-.040 (.039)	-.054 (.041)
Family income (in \$1000s)		-.001 (.003)	.000 (.003)	.000 (.003)
Urban residence		-.479* (.264)	.406 (.258)	-.359 (.258)
Married		-.114 (.319)	.057 (.312)	.104 (.315)
Has children		-.256 (.295)	-.342 (.288)	-.435 (.291)
Self-employed		-.880** (.316)	-.752* (.311)	-.723** (.311)
Christian		.807** (.287)	.673* (.281)	.647* (.281)

Democrat		-.133 (.206)	-.145 (.201)	-.140 (.202)
Class		-.043 (.169)	-.080 (.165)	-.092 (.166)
Has insurance			-.718 (.452)	-.724 (.452)
With physician over 1 year			.276 (.292)	.294 (.293)
Chose doctor			1.219*** (.268)	1.214*** (.268)
Limits of insurance			-.892*** (.209)	-.919*** (.210)
Black x Age				-.042* (.020)
Black x Male				-.123 (.617)
Black x Years of education				.080 (.116)
R ²	.004	.047	.099	.105
F	4.651*	3.806***	6.352***	5.692***
N	1070	944	944	944

Source: General Social Survey 2002

* p ≤ .05

** p ≤ .01

*** p ≤ .001

doctors than whites. This model, however, explains less than 1 percent of variance in the dependent variable-trust in doctors.

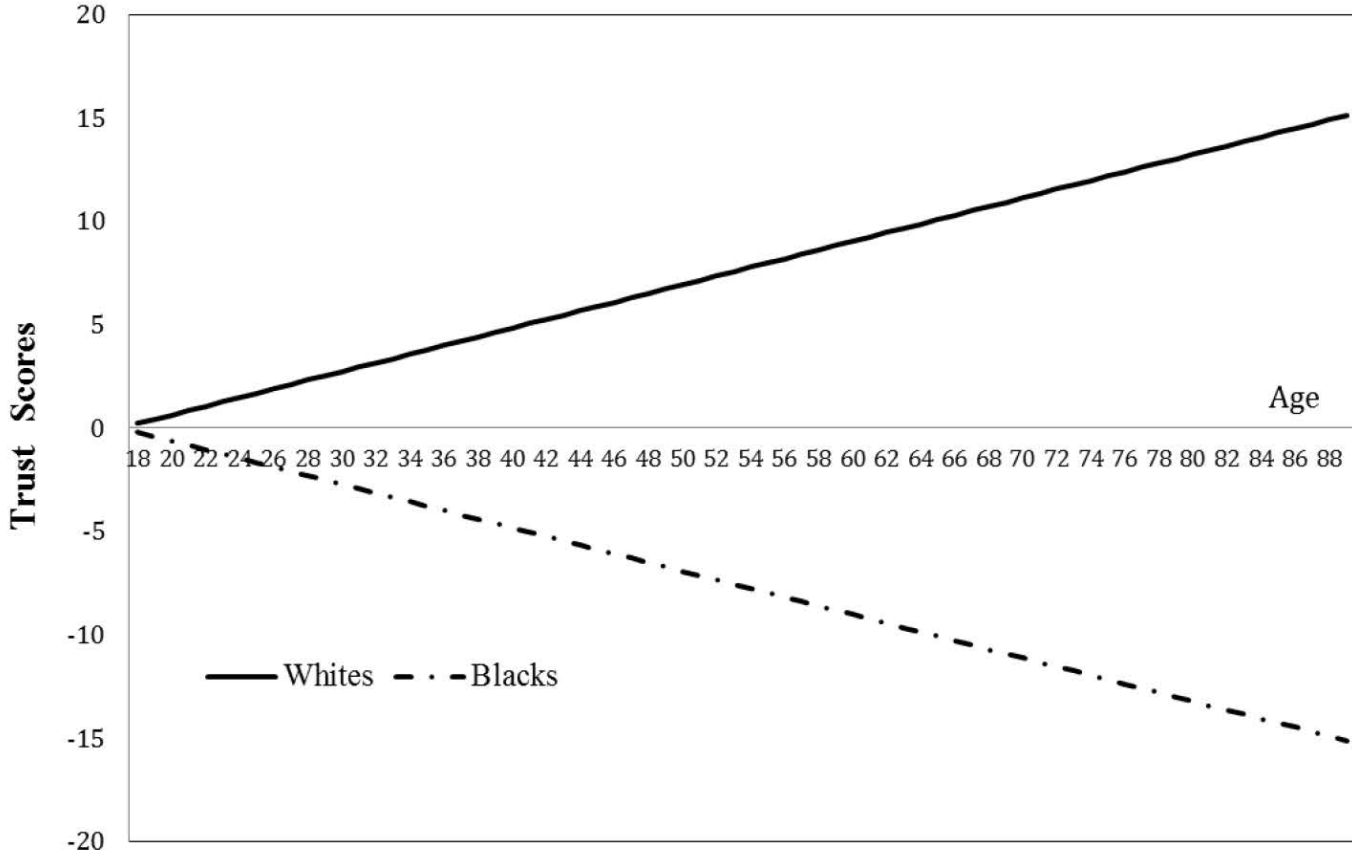
Model 2 includes the black dummy variable and an expanded list of sociodemographic control variables. In comparison to Model 1, Model 2 explains closer to 5 percent of the variance in trust scores ($R^2=.047$) and has an F value of 3.806 ($p\leq.001$). After including the additional control variables, the black dummy variable continues to show a negative relationship with trust ($B=-.510$), but is no longer a significant predictor of trust ($p>.05$). Age ($B=.025$, $p\leq.1001$) displays a significant positive relationship with trust. Christians were more likely to trust their doctors ($B=.807$, $p\leq.01$) than non-Christians. Respondents living in urban areas ($B=-.479$, $p\leq.05$) were less likely to trust their doctors than those living in rural area. Respondents who were self-employed were also less likely to trust doctors ($B=-.880$, $p\leq.01$) than employees.

Model 3 retains the black dummy variable and sociodemographic variables and adds variables related to the respondent's healthcare. It explains approximately 10 percent of the variance in trust scores ($R^2=.099$) and has an F value of 6.352 ($p\leq.001$). The black dummy variable regains statistical significance at the .05 level in this model and has a B value close to that of Model 1 ($B=-.619$, $p\leq.05$), indicating that blacks are less likely to trust their doctors than whites. The increased R^2 value in this model suggests that the health care variables are more important predictors of trust than the sociodemographic variables in predicting trust, and their inclusion does mediate black-white difference in trust. Being able to choose one's physicians shows a significant

positive correlation with trust ($B=1.219$, $p\leq.001$), while limits imposed by insurance on care is negatively associated ($B=-.892$, $p\leq.001$). Having insurance and having a regular doctor for more than a year are not significant predictors of trust. Age continues to be a significant positive predictor of trust in Model 3 ($B=.016$, $p\leq.01$). Similar to Model 2, Christians are still more likely to trust than non-Christians ($B=.673$, $p\leq.05$); and self-employed respondents are less likely to trust their doctors ($B=-.752$, $p\leq.05$) than those who were not self-employed. Urban residence is no longer a significant predictor of trust in Model 3.

Model 4 adds interaction terms to Model 3. Model 4 accounts for 10.5 percent of the variance in trust and has a significant F value of 5.692 ($p\leq.001$). Model 4 indicates that the interaction term between age and the black dummy variable is significant at the .05 level, suggesting that the effect of age on trust in doctors varies between blacks and whites. Graph 1, which is based on the calculation of the main effect term for age and the interaction term between age and the black dummy variable, vividly illustrates how age affects trust in doctors differently between blacks and whites. For whites, the effect of age on trust is positive; trust increases .021 units for each additional year in age. In contrast, for blacks the effect of age on trust is negative; trust decreases .021 units for each additional year in age. However, adding the interaction between being black and being male does not change the R^2 value for Model 4. The black x male interaction term is insignificant at the .05 level, indicating that the black-white difference in trust does not vary between men and women. Similarly, the interaction term between education and the

Graph 1. The Effects of Age on Trust in Doctors for Blacks and Whites



black dummy variable only slightly increases the R^2 value from .104 to .105. Education does not have a varying effect on trust between blacks and whites as the interaction term between the black dummy variable and years of education is not significant. Because of the relevance of these variables to the literature, they are left in Table 3. In Model 4, Christians continue to display greater trust in doctors than non-Christians ($B=.647$, $p \leq .05$), as do respondents who indicated they chose their doctor ($B=1.214$, $p \leq .001$). Self-employed respondents ($B=-.723$, $p \leq .01$) and respondents who had limits imposed by their insurance on care ($B=-.919$, $p \leq .001$) are less likely to trust their doctors than their respective counterparts.

CHAPTER V: CONCLUSION

FINDINGS AND DISCUSSION

This study examines black-white difference in trust in doctors using sociodemographic and healthcare characteristics. The results support the hypothesis that blacks are less likely to trust their doctors than whites, thus confirming previous findings of black-white difference. The association was not significant when only sociodemographic variables were considered, but is significant once patient-provider variables are taken into account. The overall difference is not large and is less than a full point on the scale. This may still be important, however, as others report that small differences in trust may translate into larger differences in health outcomes (Adegbenbo et al. 2006; Doescher et al. 2000). Importantly, the findings of this study point to conclusions different from those of Savage (2011). This study uses the same dataset and similar measures for trust with the exception of one predictor: “I doubt my doctor really cares about me as a person;” however, the goals of analysis and dependent variable are different from the current study.¹ This speaks to the conclusions drawn by Stepanikova and colleagues’ (2006) work on race/ethnicity/language and direct/indirect types of trust. Black-white difference, and trust in general, may be dependent on the measures used to

¹ This variable is excluded because including it dropped the scale’s alpha level to .36 which is too low. Predictors that measure patient participation in care were also not included and may have affected the end results.

assess it. Despite this difference, these findings do lend to a growing body of literature that a black-white difference exists and should be considered in healthcare settings.

Age appears as a statistically significant predictor of trust, which is also consistent with previous research (Thom et al. 1999). A positive correlation may be the result of older patients having greater interaction with doctors, and thus, greater likelihood that they will have a chance to build trust (Musa et al. 2009). The correlation with trust is positive before inclusion of interaction terms; however, the interaction of race and age reveals a differing relationship for blacks and whites. The effect of age on trust is positive for whites and negative for blacks, though the effect is very small in either case. While the above explanations may still account for the positive association with trust for whites, older blacks may be less trusting of their doctors than younger blacks due to greater awareness of the historical factors that may negatively impact trust (Wiltshire, Person, and Allison 2011).

Two of the patient-provider variables are statistically significant. Respondents that report having a choice of doctors display a higher trust score than those that do not. Of the variables included in the analysis, having enough choices between doctors was the strongest predictor of trust. This is consistent with the literature that choice of physician is a strong predictor of trust (Balkrishnan et al. 2003; Hall et al. 2002a; Kao et al. 1998; Savage 2006; Thom et al. 1999). This relationship may have more than one explanation. For one, low trust is associated with switching physicians (Fiscella et al. 2004; Safran et al. 2000) and having enough choice makes it possible for patients to choose doctors that

they agree with in treatment and the diagnostic practice of the physician. Although not tested here, it is also possible that respondents can choose racially concordant doctors that may affect their overall trust levels, with those who have racially concordant doctors displaying more trust (Halbert et al. 2006; LaVeist and Carroll 2002; Saha et al. 1999). Having insurance that placed limits on care is statistically significant and displays a negative relationship with trust. This may be an issue of whether the person sees the doctor as being able to do all that is necessary for care. Constraints on care or the belief that the doctor is not able to utilize the resources needed to act on the patient's behalf may damage trust (Mechanic 1998).

That Christians are more likely to trust their doctors than non-Christians, and that self-employed respondents are less likely to trust than employees are also notable findings of this study. These variables remain statistically significant when other factors are considered. More work is still needed to identify the possible relationships between religiosity and/or religious orientation and trust (Benjamins 2006). Similarly, the effect of type of employment on trust is not well documented although employment status has been considered (Boulware et al 2004). The self-employed may trust less for reasons related to either their healthcare or insurance situations or for reasons that are not immediately apparent.

Other factors that have been statistically significant and correlated with trust (either positive or negative) in other studies were not here. These include education (Wiltshire, Person, and Allison 2011), income, having health insurance (Schnittker 2004),

and having the same doctor or clinic for a greater period of time (Kao et al. 1998; Thom et al. 1999). This may be due to differing operationalization of these variables. Having health insurance is measured in this study as a dichotomous variable that indicates a respondent has health insurance including Medicare or Medicaid; therefore, it does not capture the difference between the type of insurance plan the respondent has and is potentially relevant to trust (Schnittker 2004). Likewise, length of relationship is measured as a variable that indicates a respondent has been with the same provider for greater than one year. The specific amount of time that a respondent has stayed with the same physician is not measured. Further, the sample was restricted to those who had already indicated they had a regular doctor or clinic; it may be that the temporal difference is less important than the indication that the respondent has a regular source of care. Respondents that live in urban areas initially seem to be less likely to trust, but this relationship is no longer significant when aspects of the patient's healthcare situation are taken into account. Finally, while having insurance that placed limits on care is a relevant predictor; having insurance itself is not significantly correlated with trust in this study.

IMPLICATIONS

The findings of this study are of importance to health care providers. Since blacks are less trusting of doctors than whites, this poses challenges for doctors and the medical community to find ways of gaining the trust of African Americans. Given the legacy of medical discrimination in the United States, improving trust and understanding the mechanisms by which trust is generated and maintained may be a method through which

health disparities can be reduced. Trust is usually considered the result of long term interactions and that are the result of repeated relationship building (Corbie-Smith et al. 2002; Mechanic 1998; Musa et al. 2009). Therefore, improvements to doctor-patient communication may be helpful in improving trust relationships between doctors and patients. Results from previous studies indicate that there may be a possibility that trust may be increased through specific interventions that target trust promoting behavior for patients and physicians (Fiscella et al. 2004), but the authors also mention that previous efforts have been ineffective in doing so (Thom, Bloch, and Segal 1999).

Additionally, the finding that age has a positive effect trust for whites but a negative one for blacks suggests that special efforts must be made in order to gain the trust of older African Americans. This information can be of use to healthcare providers and doctors in their methods of providing care. In this case, trust promotion may need to be specifically aimed towards these populations. Research has shown that informal methods of disseminating health information and community participation may be effective in reducing health disparities and may also be particularly effective in promoting trust in doctors (Musa et al. 2009).

This study helps move closer towards settling the debate over black-white difference in trust in doctors. It does so by expanding the social factors considered in analysis and by developing a comprehensive model that includes social factors and patient-provider variables for predicting trust in doctors.

FUTURE RESEARCH

The finding that blacks are less likely to trust doctors than whites suggests a need for future research to continue to examine the reasons for trust differences. Future research should especially revolve around longitudinal designs, as there is less supporting evidence of black-white difference over time. There also continues to be difficulty in finding agreement on measures of trust that are most accurate and reliable. Future research should continue to refine the measurements of trust as a concept. For one, a consensus on what types of instrument is most effective may be an improvement in trust research. Shorter instruments may be more effective in determining trust differences (Hall 2006), and also be more reliable and accurate. Additionally, the reliability of the measurement of trust is subject to the retesting of like-instruments across studies and across time. These are areas where researchers can fill gaps in the literature.

The issues raised by black-white difference in trust may extend beyond the relationship between blacks and whites. Minorities may be less trusting of doctors and the medical profession in general (Stepanikova et al. 2006; Taira et al. 2001). Further, this may extend beyond minorities in the United States. Some research has been conducted using cross-national comparisons of trust (Mainous, III et al. 2001). There has not been much on this, however, and it may be particularly beneficial in understanding trust for minority groups.

Finally, an area of necessary expansion is toward the development and application of theory within the field. The literature is currently lacking in social theory that may help

explain minority trust with specific individuals or groups. This area may be particularly fruitful for future researchers because theoretical perspectives may help drive research questions that provide greater insight into trust differences between blacks and whites, and minorities in general.

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APPENDIX:

QUESTION SET FROM GENERAL SOCIAL SURVEY 2002

APPENDIX

QUESTION SET FROM GENERAL SOCIAL SURVEY 2002

Questions are presented as the original questions before recoding or restriction (Smith et al. 2011).

[VAR DOC16A]

I trust my doctor's judgments about my medical care.

1. Strongly Agree
2. Agree
3. No Opinion
4. Disagree
5. Strongly Disagree
6. Don't Know
7. No Answer
8. Not Applicable

[VAR DOC18A]

I trust my doctor to put my medical needs above all other considerations when treating my medical problems.

1. Strongly Agree
2. Agree
3. No Opinion
4. Disagree
5. Strongly Disagree
6. Don't Know
7. No Answer
8. Not Applicable

[VAR DOC19A]

My doctor is a real expert at taking care of problems like mine.

1. Strongly Agree
2. Agree
3. No Opinion
4. Disagree
5. Strongly Disagree

6. Don't Know
7. No Answer
8. Not Applicable

[VAR DOC20A]

I trust my doctor to tell me if a mistake was made about my treatment.

1. Strongly Agree
2. Agree
3. No Opinion
4. Disagree
5. Strongly Disagree
6. Don't Know
7. No Answer
8. Not Applicable

[VAR: RACE]

What race do you consider yourself?

1. White
2. Black
3. Other

[VAR: AGE]

Respondent's age.

[VAR: EDUC]

Respondent's education.

0. No formal schooling
1. 1st grade
2. 2nd grade
3. 3rd grade
4. 4th grade
5. 5th grade
6. 6th grade
7. 7th grade
8. 8th grade
9. 9th grade
10. 10th grade

11. 11th grade

12. 12th grade

[VAR: CONINC]

Inflation Adjusted Family Income

[VAR: MARITAL]

Are you currently—married, widowed, divorced, separated, or have you never been married?

1. Married
2. Widowed
3. Divorced
4. Separated
5. Never married
6. No answer

[VAR: CHILDS]

How many children have you ever had?

0. None
1. One
2. Two
3. Three
4. Four
5. Five
6. Six
7. Seven
8. Eight or More

[VAR: WRKSLF]

Respondent's Employment Status

1. Self-employed
2. Someone else
3. Don't know
4. No Answer
5. Not Applicable

[VAR: RELIG]

What is your religious preference? Is it Protestant, Catholic, Jewish, some other religion, or no religion?

1. Protestant

2. Catholic
3. Jewish
4. None
5. Other
6. Buddhism
7. Hinduism
8. Other Eastern
9. Moslem/Islam
10. Orthodox-Christian
11. Christian
12. Native American
13. Inter-Nondenominational
14. Don't Know
15. No Answer

[VAR: PARTYID]

Generally speaking, do you usually think of yourself as a Republican, Democrat, Independent, or what?

1. Strong Democrat
2. Not very strong Democrat
3. Independent, close to Democrat
4. Independent
5. Independent, close to Republican
6. Not very strong Republican
7. Strong Republican
8. Other party, refused to say
9. Don't know
10. No answer

[VAR: CLASS]

If you were asked to use one of four names for your social class, which would you say you belong in: the lower class, the working class, the middle class, or the upper class?

1. Lower class
2. Working class
3. Middle class
4. Upper class
5. No class
6. Don't know

7. No answer
8. No applicable

[VAR: HLTHPLAN]

Do you have any health insurance, including Medicare or Medicaid?

1. Yes
2. No
3. Don't know
4. No answer
5. Not applicable

[VAR: REGDOC]

Do you have a regular doctor or clinic?

1. Yes
2. No
3. Don't know
4. No answer
5. Not applicable

[VAR: CHOSEDOC]

Do you feel that you had enough choices among different doctors in your health insurance plan when you chose your current doctor?

1. Yes
2. No
3. Don't know
4. No answer
5. Not applicable

[VAR: INSRLMTS]

Does your health insurance plan have restrictions, for example limits on getting tests and getting care from specialists?

1. Yes
2. No
3. Don't know
4. No answer
5. Not applicable