Regional Differences in Attitudes that May Affect Health Behavior and Willingness to Participate in Research among Black Seventh-day Adventists

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Objective: To identify the attitudes and perceptions of Black Seventh-day Adventists regarding health research and the healthcare system in two regions of the United States.

Design: Church members were selected from those who participated in the Adventist Health Study-2 (AHS-2) and those who chose not to participate. Participants were selected from two regions of the United States.

Setting: Participants were interviewed in their churches, in their homes, and in the research study office at Loma Linda University. Interviews were done in the Western and Southern regions of the United States.

Participants: 384 Black Seventh-day Adventists, aged >30 years.

Main Outcome Measures: Responses to the structured interviews from those in the Western region were compared to those in the Southern region.

Results: Those in the Southern region included more elderly subjects; they were more likely to own their home despite earning less; and were more likely to be married. Compared to the Western region participants, we found Southern participants to have greater participation in church activities, greater mistrust of the healthcare system and particular concerns about racial inequalities in care. In contrast, they also reported more positive experiences with their personal healthcare provider than Western participants. Southerners felt that they had greater control over their own health, perhaps in part due to a greater identification with the health teachings of the Adventist church.

Conclusions: A number of clear differences were found between Black Adventist subjects living in either the Western or Southern regions of the United States. These factors should be considered carefully when planning the promotion for a research study. (*Ethn Dis*. 2009; 439–446)

Key Words: African Americans, Trust, Quality of Health care, Research Subjects, Self-disclosure, Refusal to Participate

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Introduction

Health disparities in American society are a growing concern.[1] African Americans (Blacks) and other minorities suffer disproportionately from disease and its social burden,[1] and the federal government, its various health agencies, and the research community are giving increased attention to this problem. In 1993, the federal government mandated the inclusion of women, minorities, and children into health research funded by its agencies, or justification for non-inclusion.[1,2] This has influenced researchers to actively recruit minorities into their research projects; we provide new information that can contribute to that goal.

Despite this mandate, Blacks are still underrepresented in health research.[1,3–8] Some factors that facilitate Black participation in research include their involvement with community-based organizations and churches, which are very influential within this population.[1,9] Nevertheless, researchers mostly draw attention to barriers that hinder participation in health research, including: skepticism, fear, and mistrust of academic medicine; lack of awareness and understanding of the nature of medical research; different beliefs about disease causation and the efficacy of traditional medicine; Black Americans being underserved by the medical community, among others.[1,3–9]

The low participation rates of Blacks in health research can have potential consequences for the treatment of disease and the just funding of biomedical research.[1,3,4] As health research plays a significant role in the development of safe and effective treatments, it will potentially reduce the social burden of disease.[1,3,4]

Researchers have noted important differences in attitudes toward health research within racial groups, underscoring that racial and ethnic groups are not monolithic.[10–15] Contextualizing the experience of minority populations is essential and may account for these intra-group differences. Knowledge of regional attitudinal differences regarding the healthcare system and health research among Blacks can help researchers design their recruitment efforts with greater success, as the best plans may differ in different parts of the United States.

This paper focuses on Black Seventh-day Adventists (SDA) in an effort to highlight the importance of examining differences within a group in terms of their attitudes toward health care and health oriented research. Better understanding will help health researchers communicate more effectively with these communities and respond to their concerns.

Blacks within this religious tradition are especially suited to help us understand differential rates of participation in health research for at least two reasons. First, the SDA church has a clearly defined health teaching tradition and cultural norms that recommend health-promoting dietary and other practices. At least partial adherence to these is common.[16] Second, Black Seventh-day Adventists are relatively uniform in religious practice and commitments, and thus may be considered as a sub-culture within the Black community and also within the Advent-

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ist community. For Black Adventists, health and well-being, and health promotion are important aspects of their faith tradition and group identity.

Despite this, most Black Adventists are well integrated into their communities, particularly in their work lives. Adventists' attitudes, opinions and behaviors, which are mediated by region-specific social forces, should be similar to those also seen among their non-Adventist Black neighbors. Because of this, most of the results reported here may have broad application beyond the Adventist community.

Black Adventists, largely because of the church's health emphasis, often become involved in community activities such as disease prevention and health awareness campaigns. However, it is unclear whether Black Adventists hold disparate attitudes about research on account of social characteristics such as age, sex, education, income, ethnicity and especially geographic location. Research has shown that among the general population, those in the South are distinctive in a number of ways from the rest of the nation, especially from those in the North.[15,17] For these reasons, understanding the attitudes of a Black community unusually motivated toward health care and perhaps health research may provide additional insights to guide researchers toward more effective communication and collaboration with the wider Black population. This study focuses on regional differences in attitudes toward participation in health research, and experiences with the healthcare system among Black Adventists. If such differences exist, they must be taken into account in future interactions with these communities.

METHODS

Study Design

Approximately half of the study participants were drawn from enrollees in a large ongoing nationwide study cohort, the Adventist Health Study -2 (AHS-2), and the other half were drawn from those who declined to participate. Participants were aged ≥30 years and were randomly selected from church directories using the AHS-2 roster to distinguish between participants and non-participants. Participants were divided into four groups: Group A, AHS-2 participants who lived in the South (n=100); Group B, AHS-2 participants who lived in California (n=100); Group C, non-participants who lived in the South (n=89); and Group D, non-participants who lived in California (n=95).

A trained interviewer conducted a structured interview that lasted between 40 and 60 minutes. The interview consisted of 120 questions capturing demographic information and exploring several topics such as health attitudes, experiences with health care and health research.

The final structured interview protocol resulted from several steps. First, we reviewed the relevant literature about Black attitudes to health research and health care. Common themes in the literature were identified and a set of questions was developed for use with focus group participants. Second, a researcher, trained in focus group methodology, conducted five focus groups, three in southern California and two in Alabama. The focus groups were tape-recorded in addition to the researcher's handwritten notes. The focus groups' notes were then analyzed for consistent themes and issues. Third, the themes that emerged as a result of the focus groups were compared with those documented in the literature. Fourth, we identified established scales, such as Multigroup Ethnic Identity Measure,[18] Racism Index,[19] and Medical Mistrust Index,[19] that were in keeping with the focus groups notes, literature review, and aims of the research. On topics for which validated items were not readily available, we constructed questions based on their face validity.

The questionnaire was then assembled in draft form and evaluated for clarity and reading ease. Factor analysis was conducted after 30 questionnaires were completed. These interviews provided information that guided the selection of the items for the final interview. Additionally, data from the first 30 interviews about clarity of the questions were used to modify problematic items in the instrument. IRB approval was obtained from Loma Linda University.

The recruitment process took six steps. First we selected churches to represent differences in socioeconomic status within the population. Second, we solicited pastoral support. Third, local church directories were compared with AHS-2 enrollment rosters to identify potential participants. Fourth, subjects were randomly called inviting their participation. Fifth, an appointment with a researcher was set up for those willing to participate. In the South, nearly 90% of persons who were contacted and invited to participate set appointments to do so compared to a 75% response from those in the Western region. Most interviews were conducted in the participant's church or the study office. Sixth, after the study was explained, informed consent was obtained and participants were interviewed.

Statistics

Data collected were coded and entered into an electronic file for

statistical analysis. Descriptive statistics were produced. Variables were screened in univariate analysis for differences between attitudes in the South and the West using chi-squared contingency tables. Variables with significant results in the chi-squared analyses were entered one at a time, as the independent variable, to multivariate logistic regressions where the dependent variable was Log odds of living in the West, always adjusting for differences in age, sex, and participation in AHS-2. SAS software (SAS®, Cary, North Carolina) was used for all analyses. Where necessary, categories for agree and strongly agree or disagree and strongly disagree were collapsed to provide adequate numbers in each category.

In order to provide multivariate results where percentages added to 100 across categories in the South and the West respectively, mean covariate values (age, sex, attitude to AHS-2) were first calculated for each stratum of the exposure of interest (eg, length of church membership). These values and the logistic model coefficients were used to predict the probability of living in the South for each category of the exposure of interest. This was multiplied by the number of subjects (across both regions) in that category to provide a predicted number of subjects in the South and West in each category. These numbers were converted to percentages of all subjects predicted to be in the South or the West as required.

Table 1. Demographics of study participants

Variable names	Categories	Percentage
Age (Years)	30–35	11.2
	36–40	10.4
	41–45	12.5
	46–50	11.5
	51–55	11.7
	56–60	14.6
	61–65	5.7
	66+	22.4
Household income	<$10,000	5.6
	$10,000–$20,000	12.8
	$20,001–$40,000	18.5
	$40,001–$60,000	19.8
	$60,001–$80,000	17.1
	$80,001–$100,000	12.8
	$100,000–$200,000	11.2
	>$200,000	2.1
Education	Less than high school	3.7
	High school	11.5
	Trade school	4.7
	Some college	18.2
	Associate	12.5
	Bachelors	23.4
	Masters	19.3
	Doctoral	6.8
Sex	Male	40.1
	Female	59.9
Ethnicity	Black/African American	76.0
	West Indian	15.4
	African	3.1
	Other/Mixed ancestry	5.5
Region	West (California)	50.8
	South (Huntsville, AL / Atlanta, GA)	49.2
AHS-2 participation	Participant	54.7
	Refuse to participate	25.3
	Never asked to participate/Don't recall	20.1

RESULTS

Table 1 presents demographic data describing all study participants, including age, household income, education, sex, marital status, ethnicity, region of residence, and participation in AHS-2. Table 2 presents demographic data by region with *P* values that test univariate null hypotheses of no regional difference. Table 3 presents multivariate-adjusted regional differences in selected attitudinal variables, those with at least borderline significant *P* values. The results suggest important regional differences in attitudes, medical mistrust, religious commitment and leadership roles, perceptions of health care, and access to and utilization of the health care system.

Demographics of study participants (Table 1)

Participants were generally well-educated. More than 80% received some formal education beyond high school. We found relatively uniform representation across age groups, although seniors tended to participate more often as did females. Most participants reported middle class household incomes, with 25% reporting annual household income >$80,000.

Difference in demographics by region (Table 2)

California participants were slightly younger, had higher incomes, were more likely to never have married and were more ethnically diverse. There were 59 non-African American (AA) Blacks in the West and only 37 in the South. Female participation was greater in the South.

Regional differences in selected sociological variables (Table 3)

Southern participants were more likely to be long-term church members, hold leadership positions, attended reli-

Table 2. Differences in demographic variables by region*

Variable names	Categories	West (%)	South (%)
Age (*P* value=.0006)	30–35	16.4	5.8
	36–40	13.9	6.9
	41–45	10.8	14.3
	46–50	12.3	10.6
	51–55	9.2	14.3
	56–60	16.4	12.7
	61–65	4.1	7.4
	66+	16.9	28.0
Housing (*P*<.0001)	Own	59.1	83.1
	Rent a house	15.5	6.4
	Rent an appt	18.7	9.0
	Live w/family	6.7	1.6
Household income	<$20,000	11.2	25.8
(*P*<.0001)	$20,001–$60,000	33.5	43.0
	$60,001–$100,000	33.5	26.3
	>$100,001	21.8	4.8
Gender (*P*=.0245)	Male	45.6	34.4
	Female	54.4	65.6
Ethnicity (*P*=.0338)	American Black	70.8	81.5
	West Indian	17.4	13.2
	African	5.1	1.1
	Other	6.7	4.2
Education (*P*=.1457)	High school or less	13.9	16.4
	Some college or trade school	19.5	26.5
	At least a college degree	66.7	57.0
Marital status (*P*=.0009)	Never married	22.1	7.9
	Married	59.5	61.9
	Separated	3.1	3.7
	Divorced	10.3	19.1
	Widowed	5.1	7.4

* *P* values test null hypotheses of no regional difference.

gious services more often, and reported that religious beliefs were important in their day-to-day life. They reported more positive personal experiences with healthcare providers, yet had more mistrust of the healthcare system. California participants were more confident of the inherent equity of the healthcare system, somewhat less likely to link individual behaviors to health status, and more commonly expressed the view that good health is outside their control.

Of the validated scales we used, only medical mistrust was significantly associated with region.

Inserting a term for AA/non-AA in the logistic models showed that the regional difference in the proportion of non-AA Black subjects was statistically significant. However, in no case did this addition change the coefficient for the factor of interest by more than 10%. Thus, in the interests of keeping the analytic models simple the AA/non-AA was not included in the results described in Table 3.

This study found that Black Seventh-day Adventists hold similar concerns about health research and health care as their non-Adventist counterparts

DISCUSSION

In a broad sense, this study found that Black Seventh-day Adventists hold similar concerns about health research and health care as their non-Adventist counterparts. However, we demonstrated interesting geographical differences among participants in four domains; religiosity, locus of control, racial inequality and distrust of the health care system. The geographical differences may result from differences in educational attainment, experiences with racism, and other contextual considerations. We believe that recognizing such differences can help researchers plan more effectively to recruit Black subjects when the population is geographically dispersed.

Religiosity

The regional differences in religiosity were superficially surprising as Seventh-day Adventists have relatively consistent, somewhat formalized, religious practices and leadership structures that we did not expect to depend greatly on location. The heightened importance of religion, increased religious involvement, and the assumption of leadership roles of SDAs living in the South may be explained by the context.

The Southern sample was taken from the "Bible Belt" where religion, it has been argued, plays a more central role in the lives of Black Americans. This along with the structural characteristics of Black Adventist churches may help to explain what appears to be a more active and committed laity. Southern Adventist churches often experience a more diffused pastoral leadership as pastors serve two or more churches. This encourages, indeed requires, a motivated laity to fill the vacuum. In this region, the denominational leadership often stresses the need for an active and engaged laity and provides local support in the form of training. Churches in the West, by contrast, are larger on average and often have multiple pastors, thus allowing a less active laity.

Other factors may also account for this geographic diversity in religious participation.[20–21] For example, the

Table 3. A multivariate analysis of regional differences in selected sociological variables and attitudes*

Variable names	Categories	West (%)	South (%)
Length of membership ($P<.0001$)	Up to five years	7.3	1.1
	Six to ten	10.1	4.8
	Eleven to twenty	17.9	6.9
	Twenty and longer	64.8	87.2
Leadership position ($P< .0001$)	Yes	46.0	74.0
	No	54.0	26.0
Usually attend religious services ($P=.0016$)	More than once a week	34.5	46.6
	Once a week	49.0	48.0
	2–3 times a month	11.3	3.7
	Once a month or fewer	5.2	1.6
Importance of religious belief in day-to-day life ($P=.0004$)	Scale 3–7	18.0	5.8
	Scale8–9	22.7	20.5
	Scale 10	59.3	73.7
Physical examination ($P=.023$)	<1 year	60.0	67.8
	1–2 years	20.3	15.3
	2–5 years	7.7	8.4
	5+ years or never	12.0	8.4
Rate quality of health care ($P=.0004$)	Excellent	25.9	40.9
	Good	44.6	47.3
	Fair	26.4	9.7
	Poor	3.1	2.1
Experience w/health care ($P=.0003$)	Negative	24.0	9.0
	Positive	76.0	91.0
Skeptical about government sponsored research ($P=.0007$)	Yes	39.2	57.3
	No	60.8	42.7
My health is completely in God's hands ($P<.0001$)	Strongly agree & agree	89.2	61.3
	Strongly disagree & disagree	10.8	38.7
Diet and lifestyle, make little difference to my health ($P=.001$)	Strongly agree & agree	18.1	7.2
	Strongly disagree & disagree	81.9	92.8
I trust Docs w/all medical needs ($P<.0001$)	Strongly agree	8.7	2.1
	Agree	64.1	46.0
	Disagree	24.6	42.3
	Strongly disagree	2.6	9.5
Blacks receive same quality of health care as others ($P=.0002$)	Strongly agree & agree	24.5	10.1
	Disagree	60.2	63.8
	Strongly disagree	15.3	26.1
Healthcare system designed to promote the health of all patients ($P=.0007$)	Agree	61.8	43.8
	Strongly disagree & disagree	38.2	56.2
In hospitals Blacks and Whites receive same kind of care ($P=.0019$)	Strongly agree & agree	41.7	25.3
	Disagree	45.3	54.3
	Strongly disagree	13.0	20.4
Patients have sometimes been misled or deceived in hospitals ($P=.018$)	Strongly agree	10.4	19.3
	Agree	75.6	70.6
	Disagree & strongly disagree	14.0	10.1
Hospitals often want to know more than they need to know ($P=.006$)	Strongly agree & agree	44.1	58.5
	Disagree & strongly disagree	55.9	41.5
Hospitals have sometime done harmful experiments w/o patient's knowledge ($P=.087$)	Strongly Agree	12.4	17.6
	Agree	62.7	67.6
	Disagree & strongly disagree	24.9	14.8
Researchers commonly abused research participants ($P=.003$)	Strongly agree & agree	18.3	32.0
	Disagree & strongly disagree	81.7	68.0
Knowledge of Tuskegee discourages my participation ($P=.0003$)	Strongly Agree	2.1	10.1
	Agree	22.1	26.6
	Disagree	64.6	60.6
	Strongly disagree	11.3	2.7
Black are more likely to be abused by researcher than other groups ($P=.006$)	Strongly agree & agree	56.0	70.0
	Disagree & strongly disagree	44.0	30.0
Medical mistrust scale[19] ($P=.006$)	Predicted mean	2.83	2.93
	odds ratio†	–	2.25

* All analyses adjusted for age, sex, AHS-2 participation category (Age=51–65 years; Sex is 50% male; 50% AHS-2 responders).
† Odds of being in the South per one unit higher on the medical mistrust scale, analyzed in this way due to the continuous scale of this variable.

semi-involuntary thesis is the view that church attendance in the South is based more on communal and institutional pressure than on intrinsic religiosity and personal choice. Because of racism, Southern Black churches traditionally captured the loyalty of most Black citizens and provided a context for group identity, leadership opportunities, and social status.[21–22] Whereas in the North and in urban centers, traditional Black churches are completely voluntary institutions competing with alternative religions and secular organizations.[23–24] These last characteristics may apply to churches in the West as well.

Skepticism and suspicion of the health care system

In keeping with the literature on Blacks and their attitudes toward research, Southerners expressed greater skepticism and suspicion concerning equality within the healthcare system. Our data suggest that this is set within the broader context of medical mistrust in the South. Unexpectedly, the Southern participants reported more positive experiences with their personal healthcare providers and ranked their health care as good or excellent. Superficially, this emerges as a contradiction. Clearly their skepticism and suspicions of inequity are not the result of personal experiences with health care, as one might think – but rather general perceptions of structural inequalities.[25–31]

Historically the South experienced the worst effects of structural and interpersonal racism. Our participants knew this history. Undoubtedly certain racial sensitivities remain, perhaps accounting for the fact that only 10% of our Southern participants responded that Blacks received the same quality of health care as Whites (compared to 24% of the Western participants). Freedman, as well as others, argue that racial discrimination and segregation may affect Blacks' attitudes and willingness to participate in health research.[25–31] This may particularly influence Southern Black Adventists' attitudes about health care and health research.

Western participants, though not naïve about racism, were more trusting and less skeptical concerning equity within health care. The confidence they hold is not the result of overwhelming positive experiences with providers, but less inherent skepticism about structural racism. When explaining their negative personal experiences with health care, comments tended to focus on the limitations of the managed care system of which they were often a part.

Differences in locus of control for health and wellbeing

Finally, Southern participants perceived greater control of their own health. They tend to focus on health teachings of the church, which posit that adherence to the teachings is protective from disease and promote well-being. This may explain why Southern Adventists emphasize lifestyle as a means of controlling their health.

In the South, the church plays a more central role in the lives of adherents, which allows Black Adventists there to more effectively internalize the health teachings of the church. For instance, in the South, the church's health teaching receives greater emphasis. It seems probable that Southern members have a greater confidence in the teaching that personal effort results in better health outcomes. These findings are consistent with those summarized by Yancey et al[1] and the findings of Sengupta et al[9] revealing the positive contributions that the church can play in health promotion and recruiting Black Americans into research studies.

In the West, participants tended to hold the view that certain aspects of their health and well-being are beyond their control. They are somewhat better educated and may believe that risks of diseases are, in part, a matter of genetic heritage and random chance. There also appears to be less emphasis placed by pastors on the traditional health teachings of the church in the West.

Strengths and weaknesses

A major strength of our study is its focus on Black Adventists, a church with doctrines that emphasize a unique diet and stress the importance of healthy living as a part of religious commitment. As such, Black Adventists on average are deeply concerned about health issues and probably have greater understanding of the importance of practicing health-promoting behaviors. Another strength of the study is the structured interview format, which provides participants the opportunity to freely respond to the questions and to offer additional insights if they wish.

Yet the focus on Adventists may also be viewed as a relative weakness limiting the degree to which the findings can be generalized to others. We, however, argue that these participants will approximately represent many other moderately well educated church-going non-Adventist Blacks in these regions and that the health emphasis in Adventism may provide particular clarity of responses.

Another limitation of the study is that the group was chosen from only two regions in the United States, the South and the West. The regional differences that the study uncovered prompts other interesting questions regarding attitudes in relation to health, large organizations, and religion among Blacks, also the possibility of contrasts with other unstudied regions of the country.

CONCLUSIONS

This study documents that health attitudes, experiences with health care, and attitudes about health research among Black Adventists are broadly similar to those reported by others. However, we also found regional differences concerning experiences with health care, attitudes and perceptions of structural inequalities within the healthcare system, religious involvement, and the locus of control over health. Among our participants, South-

ern Black Adventists tended to be more active in their churches and expressed greater mistrust and skepticism about the equity of our healthcare system, but were more inclined to take personal responsibility for their health. Our finding of greater religious involvement of Southern Black Adventists is consistent with other scholarly sociological opinion that religion in the South is a more prominent part of Black culture than in non-Southern contexts.

Our study suggests that different approaches may be optimal when recruiting Blacks into research studies depending on the region of the country, although these may be differences in degree rather than kind.

When communicating with Blacks in the South, it is important that researchers effectively address the historic concerns of structural racism that are held by many. For instance, Southern Blacks may acknowledge the tragic abuse of the Tuskegee Syphilis Study but then researchers must persuasively communicate the system of checks and balances that are now part of the research enterprise. It may also prove beneficial to educate potential participants about the structure of research, for instance the goals and activities of relevant funding agencies and academic institutions, particularly as these relate to minority health. In the South, linking the research to church activities, and as appropriate, even doctrines, may especially pay dividends, as religion is more central to lives there. No doubt all these approaches will be helpful when recruiting Western Blacks also, but should especially be emphasized in the South.

This study suggests that the social setting and broader social forces shape the attitudes of Black Adventist church members and this is no doubt true of their non-Adventist counterparts in the Black community. Although the religious beliefs of a group matter, the geographic and sociologic contexts are also important determinants of attitudes and perceptions about health care, racial discrimination, religious involvement, and willingness to participate in health research.

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REFERENCES

1. Yancey AK, Ortega AN, Kumanyika SK. Effective Recruitment and retention of minority research participants. *Annu Rev Pub Health*. 2006;27:9.1–9.
2. NIH Health Revitalization Act 1993. Available at http://www.nih.gov/grants/olaw/pl103-43.pdf. Last accessed: August 10, 2009.
3. BeLue R, Taylor-Richardson KD, Lin J, Rivera AT, Grandison D. African Americans and participation in clinical trials: Differences in beliefs and attitudes by gender. *Contemporary Clinical Trials*. 2006;27:498–505.
4. Hudson SV, Momperousse D, Leventhal H. Physician perspectives on cancer clinical trials and barriers to minority recruitment. *Cancer Control. Cancer, Culture and Literacy Supplement*. 2005;93–96.
5. Bell LS, Butler TL, Herring RP, Yancey AK, Fraser GE. Recruiting Blacks to the Adventist Health Study: Do follow-up phone calls increase response rates? *Ann Epidemiol*. 2005;15(9):667–672.
6. Calderon JL, Baker RS, Fabrega H, Conde JG, Hays RD, Fleming E, Norris K. An ethnomedical perspective on research participation: a qualitative pilot study. *MedGenMed*. 2006; 8(2):23.
7. Corbie-Smith G, Thomas SB, Williams MV, Ayers SM. Attitudes and beliefs of African Americans toward participation in medical research. *J Gen Intern Med*. 1999;14:537–546.
8. Herring P, Montgomery S, Yancey AK, Williams D, Fraser G. Understanding the challenges in recruiting Blacks to a longitudinal cohort study: The Adventist Health Study. *Ethn Dis*. 2004;14:423–430.
9. Sengupta S, Strauss RP, DeVellis R, Ware WB. Factors affecting African American participation in AIDS Research. *J Acquir Immune Defic Syndr*. 2000;24:275–284.
10. Addrely-Kelly B, Green PM. Strategies for successful conduct of research with low-income African American populations. *Nursing Outlook*. 2005;53(3):147–152.
11. Cooper CA, Knotts HG. Region, race, and support for the South Carolina Confederate flag. *Soc SciQ*. 2006;87(1):142–154.
12. Jones RE, Rainey SA. Examining Linkages Between race, environmental concern, health, and justice in a highly polluted community of color. *J Black Stud*. 2006;36:473–496.
13. Rice TW, Pepper ML. Region, migration, and attitudes in the United States. *Soc Sci Q*. 1997;78(1):83–95.
14. Taylor RJ, Chatters LM, Jackson JS. Religious participation among older Black Caribbeans in the United States. *J Gerontol: Soc Sci*. 2007;62B(4):S251–S256.
15. Wilson TC. Interregional migration and racial attitudes. *Social Forces*. 1986;65(1):177–186.
16. Montgomery S, Herring P, Yancey T, et al. Comparing self-reported disease outcomes, diet, and lifestyle in a national cohort of Black and White Seventh-day Adventists. *Preventing Chronic Disease: Public Health Research, Practice, and Policy*. 2007;4(3,A62):1–14.
17. Baer D, Grabb E, Johnson W. National character, regional cultural, and the values of Canadians and Americans. *Can Rev Sociol Anthropol*. 1993;30:13–36.
18. Phinney J. The mutigroup ethnic identity measure. *J Adoles Res*. 1992;7(2):156–176.
19. Laveist TA, Nickerson KJ, Bowie JV. Attitudes about racism, medical mistrust, and satisfaction with care among African American and White cardiac patients. *Med Care Res Rev*. 2000;57(Supp 1):146–161.
20. Chatters LM, Taylor RJ, Lincoln KD. African American religious participation: A multisample comparison. *J Scientific Study Rel*. 1999;38(1):132–145.
21. Taylor RJ, Chatters LM, Jayakody JS. Black and White differences in religious participation: a multi-sample comparison. *J Scientific Study Rel*. 1996;35(4):403–410.
22. Taylor RJ, Mattis J, Chatters LM. Subjective religiosity among African Americans: a synthesis of findings from five national samples. *J Black Psychol*. 1999;25(4):524–543.
23. Ellison CG, Sherkat DE. Identifying the semi-involuntary institution: a clarification. *Social Forces*. 1999;78(2):793–800.
24. Hunt MO, Hunt LL. Regional religions? Extending the "semi-Involuntary" thesis of African-American religious participation. *Sociolog Forum*. 2000;15(4):569–594.
25. Hunt LL, Hunt MO. Race, religion, and religious involvement: a comparative study of Whites and African Americans. *Social Forces*. 2001;80(2):605–631.
26. Armstrong K, Ravenell KL, McMurphy S, Putt M. Racial/ethnic differences in physician distrust in the United States. *Am J Pub Health*. 2007;97(7):1283–1289.
27. Boulware LE, Cooper LA, Ratner LE, LaVeist TA, Powe NR. Race and trust in the health care system. *Pub Health Rep*. 2003;118:358–365.
28. Jacobs EA, Rolle I, Ferrans CE, Whitaker E, Warnecke RB. Understanding African Americans' views of the trustworthiness of physicians. *J Gen Inter Med*. 2006;21:642–647.

29. Malat JR, Purcell D, Van Ryn M. *General Racial Attitudes and Attitudes toward Doctor Race*. Paper presented at the annual meeting of the 2005 American Sociological Association, Marriott Hotel, Loews Philadelphia Hotel, Philadelphia. Available at: http://www.allacademic.com/meta/p22666_index.html. Last accessed April 8, 2008.
30. Malat JR, van Ryn M, Purcell D. Race, socioeconomic status, and the perceived importance of positive self-presentation in health care. *Soc Sci Med*. 2005;62(10):2479–2488.
31. Freedman T. Why don't they come to Pike Street and ask us: Black American women's health concerns. *Soc Sci Med*. 1998;47(7):941–947.

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Design concept of study: Lampkin, Yancey, Fraser
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Data analysis and interpretation: Lampkin, Fraser
Manuscript draft: Lampkin, Yancey, Wilson, Fraser
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Acquisition of funding: Lampkin, Fraser
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