



The Use of Sociocultural Constructs in Cancer Screening Research Among African Americans

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Background: Studies are increasingly examining the role of sociocultural values, beliefs, and attitudes in cancer prevention. However, these studies vary widely in how sociocultural constructs are defined and measured, how they are conceived as affecting cancer beliefs, behaviors, and screening, and how they are applied in interventions.

Methods: To characterize the current state of this research literature, we conducted a critical review of studies published between 1990 and 2006 to describe the current use of sociocultural constructs in cancer screening research among African Americans. We included quantitative and qualitative studies with cancer as a primary focus that included African American participants, assessed screening behaviors, reported race-specific analyses, and considered one or more sociocultural factors. Studies were evaluated for type of cancer and screening analyzed, study population, methodology, sociocultural constructs considered, definitions of constructs, provision of psychometric data for measures, and journal characteristics.

Results: Of 94 studies identified for review, 35 met the inclusion criteria and were evaluated. Most focused on breast cancer screening, and thus African American women. Sociocultural constructs were seldom clearly defined, and the sources and psychometric properties of sociocultural measures were rarely reported.

Conclusions: A multidisciplinary approach to developing a common language and a standardized set of measures for sociocultural constructs will advance research in this area. Specific recommendations are made for future research.

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Introduction

Despite the progress made in reducing the burden of cancer in the United States, disparities persist in how cancer affects different racial and ethnic groups.^{1,3} The burden of cancer is especially high among African Americans. With few exceptions, incidence and mortality rates are higher and 5-year survival rates are lower among African Americans when compared with whites for the leading causes of cancer death.¹ These differences remain after controlling for age and stage at diagnosis,¹ suggesting that other factors play a role in the higher cancer burden among African Americans.

Studies have found that socioeconomic status, insurance coverage, and/or access to care cannot fully explain the excess mortality and reduced survival among African Americans compared with whites.³⁻⁷ Studies by Cooper and Koroukian⁸ and Lannin et al^{5,9} suggest

that sociocultural beliefs and attitudes are linked to cancer stage at diagnosis. In a mediational framework linking sociocultural variables to cancer outcomes, Meyerowitz et al¹⁰ suggest that the sociocultural constructs of importance in health and cancer disparities are those that affect beliefs, attitudes, and behaviors related to prevention and screenings, provider/patient relationships and interactions, and adherence to medical treatment regimens. Understanding the relationship of sociocultural constructs to cancer-related screening is critical to the development of relevant and effective prevention and control interventions.

Sociocultural Constructs and Health

The growing diversity of the US population requires individuals and organizations concerned with the public's health, safety, and welfare to examine the impact of sociocultural constructs on health and well-being.^{11,12} Betancourt and Lopez¹³ suggest that a sociocultural perspective allows us to examine how membership in a specific group influences any aspect of life. Understanding different cultures and determining how features of each might influence health-related outcomes are important steps toward eliminating health disparities. The 2006 Institute of Medicine (IOM) report, *Genes, Behavior, and the Social Environment: Moving Beyond the Nature/Nurture Debate*,¹⁴ explores the impact of the sociocultural environment on health outcomes and provides strong recommendations that research in these areas must be advanced. According to the report, further investigation on cultural constructs and on behavior and other social variables in the context of culture is needed to understand why some groups choose to adopt or not adopt recommended health behaviors. This includes cancer screening as well as other cancer control behaviors.

A sociocultural perspective considers both social and cultural constructs and the interrelationships between them. Culture is defined as the "shared beliefs, values, traditions, and behavior patterns of a particular group."¹⁵ Although culture refers to shared meanings given to events, situations, and structures within a population,¹⁶ cultural variables used in health research have typically been measured at an individual level via self-report, with the aggregate of these reports assumed to reflect cultural attitudes, beliefs, and understandings.^{13,16,17} Thus, in the context of existing literature, we discuss culture as the individual expression and representation of cultural constructs. These may include familial relationships, rules for emotional expression, communication and affective styles, collectivism, individualism¹⁸ spirituality and religiosity,¹⁹ myths, time orientation,²⁰ ethnic identity,²¹ level of acculturation,²² resilience, medical mistrust,²³ and "John Henryism" (ie, a coping behavior used by African Americans to deal with psychosocial and environmental stressors).²⁴

The study of social constructs may include economic and social resources and access to, attitudes toward, and interaction with major social institutions, including political, financial, health, and welfare. Like cultural factors, social factors such as socioeconomic status and insurance coverage can affect population health status and often vary systematically by population subgroups. In this paper, the term *sociocultural* encompasses both categories of constructs without an assumption that the two terms are equivalent.

Sociocultural Constructs and Cancer

Researchers have identified numerous sociocultural constructs that might influence cancer-related beliefs and behaviors. Socioeconomic factors and access to health care, as well as fatalism, spirituality/religiosity, medical mistrust, and time orientation, have perhaps been studied more than other sociocultural constructs.²⁵⁻²⁹ Spirituality has been defined as the internal manifestation of belief in a higher power and the genuine, consistent commitment to its attendant values. It contains but is not limited to religiosity (one's adherence to doctrines, beliefs, and ritual practices of religious institutions and one's level of organizational religious involvement).³⁰ Religiosity has been shown to be particularly high among older African American women.³¹⁻³⁴ While some have reported that certain religious beliefs (eg, "prayer can cure disease") are common among African Americans and are negatively associated with health-promoting behaviors,³⁵ others have found spirituality to be positively associated with health behaviors.²⁷ Collectivism is the tendency to subordinate personal goals to those of the group. In this strategy the basic unit of society is the family, community, or tribe rather than the individual.^{18,36} It is expressed in values of group survival and security, concern and responsibility for others, and respect for traditions and elders.³⁷ Studies suggest African Americans are more likely than European Americans to hold collectivist beliefs.^{38,39} Ethnic identity can be defined as the regard that one accords the cultural traditions, values, and beliefs of one's ethnic group.^{40,41} However, there are many aspects and/or dimensions of ethnic identity, including public and private regard⁴² and cultural, sociopolitical, and psychological ethnic identity.⁴³ To date, studies have not clearly linked collectivist beliefs and ethnic identity to health behaviors. Trust of the medical profession (often presented as medical mistrust) involves the belief that individuals and institutions will act appropriately and will perform competently, responsibly, and in a manner consistent with patients' interests.⁴⁴ There is considerable evidence that many African Americans believe this standard is not met regarding their care.⁴⁵ This mistrust has been linked to a variety of health-related decisions, behaviors, and interactions.⁴⁶⁻⁴⁸ Fatalism refers to the belief that events are beyond an individual's control.^{49,50} Studies suggest African Americans are more likely to hold fatalistic beliefs.^{49,51} Time ori-

entation reflects a person's tendency to think and act according to consequences that are primarily immediate (ie, present) or more distal (ie, future).⁵² By life circumstance and necessity, people in poverty tend to be present-oriented rather than future-oriented.²⁰ Adjusting for age, education, and poverty status, one study has shown hypertensive African Americans were more present-oriented than their white counterparts on measures of treatment experience.⁵³

An increasing amount of literature focusing on sociocultural constructs and their relationship to cancer attitudes, behaviors, and screening has become available in the last 15 years. Numerous researchers in different disciplines and with different cancer-related interests have incorporated the study of sociocultural constructs into their work. While the 2006 Institute of Medicine report¹⁴ indicates that we have reached a critical mass of research in this area, it also suggests that it is time to assess what has been done, evaluate what gaps remain, and begin to develop a roadmap of where to go from here. As a first step in that direction, we review the extant literature to describe how sociocultural constructs are currently used in cancer prevention and control research among African Americans. We examine the types of studies conducted, the research methods used, the sociocultural constructs that were addressed, and the adequacy of measurement of these constructs. By studying one ethnic group in detail, we hope to develop a better understanding of the relationship between sociocultural constructs and cancer-related attitudes and behaviors in that group so that future research can compare how specific, important constructs may be similar or different between groups. Because culturally relevant interventions hold promise to improve the health of African Americans and eliminate disparities in cancer outcomes,⁵⁴ recommendations for future research are provided to further our understanding and use of sociocultural constructs in interventions.

Methods

Databases

The studies included in this review were compiled from a search of computerized databases conducted from May to June 2006. Databases searched included Ovid Healthstar (1990–2006), PsycINFO (1990–2006), MEDLINE (1990–2006), Sociofile (1990–2006), and Social Sciences Citation Index (1990–2006). The search years were selected to capture findings that could be considered relevant to current cancer screening activities. Key words were used to search titles, abstracts, and subject headings in all databases. In an initial search, key words included sociocultural constructs, cultural constructs, social constructs, cancer, breast, colorectal, prostate, and neoplasms. An expanded set of keywords was developed based on a summary of the Summit Meeting on Breast Cancer in African American Women (2000) and previous work conducted at the

Health Communication Research Laboratory at Saint Louis University.²⁶⁻²⁹ Search terms included ethnic identity, racial identity, fatalism, collectivism, communalism, spirituality, religiosity, John Henryism, mistrust, acculturation/assimilation, time orientation, and socioeconomic factors such as employment status, income, education, occupation, individual and/or family wealth, insurance coverage, and access to medical care.

Exclusion/Inclusion Criteria

To be included, each study identified had to meet the following five criteria: (1) be a quantitative or qualitative research study, (2) identify cancer as the primary focus, research question, and/or hypothesis of the study, (3) assess cancer screening behaviors but could also include other cancer prevention activities (eg, diet, exercise/physical activity, or health communication), (4) include African Americans and provide African American group-specific analyses (though African American did not have to be the only group studied), and (5) consider one or more sociocultural factors. The reference lists of these articles were reviewed in order to identify other studies that met the inclusion criteria. Review articles, meta-analyses, dissertation abstracts, and articles in languages other than English were excluded from this review.

Method for Evaluating Included Studies

Included studies were evaluated for (1) journal characteristics, including journal and year of publication, journal impact factor (based on the 2005 Science and Social Science editions of the *Journal Citation Reports (JCR)*)⁵⁵ and journal target audience [inferred from journal title and/or focus], (2) cancer focus — if the study had a primary focus on a single or multiple types of cancer and which cancer(s), (3) type(s) of cancer prevention activity, behavior, or knowledge/attitudes/beliefs studied, (4) study population(s) included, (5) analytic method(s) used (quantitative or qualitative), (6) sociocultural construct(s) studied, (7) whether definitions of the sociocultural constructs were provided and, if so, what they were, and (8) whether psychometric data were provided for sociocultural measures.

Results

We initially identified 94 studies for review. Of these, 51 were excluded because they were reviews of previous research, did not include any empirical data, considered a sociocultural construct in the absence of a cancer screening focus, or considered cancer screening but did not include sociocultural constructs. Eight additional studies were excluded because they did not provide group-specific analysis for African Americans. A total of 35 studies met the inclusion criteria and were further evaluated in this review. Table 1^{26,29,49,51,56-75} and Table 2⁷⁶⁻⁸⁶ provide a summary of each study for quantitative and qualitative studies, respectively.

Journal Characteristics

Of the 35 studies included in the review, 6 (17%) were published in journals targeted to African American health professionals (*Journal of the National Medical Association* and *The Association of Black Nursing Faculty*). Three studies each appeared in the *Journal of Psychosocial Oncology* and in women's health journals (9% each). Using the 2005 *JCR* to identify the impact factor (IF) for each journal, we found that of the 35 studies included in the review, 23 different journals were represented. Five of these journals (11 studies or 31% of studies included in the review) had an unknown impact factor (ie, not listed in the 2005 *JCR Science* or *Social Science* editions), 8 journals (13 studies or 37%) had an impact factor of less than 1.0, and the remaining 10 journals (11 studies or 31%) had an impact factor of

greater than 1.0. The earliest study included in this review was published in 1993 and the most recent in 2005. Of the 35 studies in the review, 15 (43%) were published between 1993 and 1999, while the remaining 20 (57%) were published from 2000 through 2005.

Cancer Focus

Most studies focused on a single cancer (n = 29, or 83% of studies), primarily breast (n = 16 or 46% of studies) or colorectal (n = 7 or 20% of studies). Five studies (14%) focused on multiple sites including breast, colorectal, cervical, and prostate cancers.

Study Populations and Methodologies

Both qualitative (n = 11) and quantitative (n = 24) studies were found.

Table 1. — Quantitative Studies of the Relationship Between Sociocultural Variables and Cancer Prevention Behaviors

Author(s)	Location (Date of Study)	Study Population	Design	Activity	Cancer	Sample Size
Bowen et al ⁵⁶	Mailed survey, recruited through churches and African American newspapers	African American women, 18–74 yrs, no history of breast or ovarian cancer	Cross-sectional survey	Screening, risk perception	Breast	129
Conrad et al ⁵⁷	Alabama	Men and women, varied ethnicity	Cross-sectional survey	Screening	Breast	600 (68% female)
Edwards et al ⁵⁸	Military setting in the urban northeast United States	African American men, ≥ 40 yrs	Survey	Screening	Prostate	147
Erwin et al ⁵⁹	Mississippi River Delta region of Arkansas (1993–1994)	African American women	Intervention research	Screening	Breast	216 intervention 217 control
Fearing et al ⁶⁰	Midwest, African American community	African American men, > 45 yrs	Cross-sectional survey	Screening	Prostate	59
Green and Kelly ⁶¹		African Americans, ≥ 50 yrs, English-speaking	Cross-sectional survey	Screening	Colorectal	100
Harris et al ⁶²	1992 National Health Interview Survey	Women > 30 yrs (40 for mammography)	Population-based sample survey	Screening	Breast	4,589
Hiatt et al ⁶³	California (1993–1994)	African American, Chinese, Latina, and Vietnamese women; 18–74 yrs	Telephone survey; household interview for Vietnamese participants	Screening	Breast, cervical	4,228
Holt et al ²⁶	Public health centers, St. Louis, Missouri	African American women, 18–65 yrs, able to read at 5th-grade level	Cross-sectional survey	Screening	Breast	1,227
Kinney et al ⁶⁴	Cancer Centers, North Carolina (1997)	European and African American adults with invasive colorectal cancer	Structured telephone interview	Genetic screening	Colorectal	98 (19% African American and 81% European American)
Lipkus et al ⁶⁵	North Carolina Community health centers	African and European Americans, ≥ 50 yrs	Randomized community intervention trial	Screening	Colorectal	342 African American, 90 European American)
Lukwago et al ²⁹	10 public health clinics; St. Louis, Missouri	African American women, 18–65 yrs	Cross-sectional survey	Screening	Breast	435 women ≥ 40 yrs

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Quantitative Studies

Of the 24 quantitative studies, 20 (83%) involved surveys: 16 (67%) of these surveys were cross-sectional, 2 were population-based surveys, 1 used a random stratified sample, and 1 was combined with a cohort design (Table 1). One study involved structured interviews, and there were 3 randomized control trials. Study samples for 11 of the 24 (46%) were exclusively African American, 7 (29%) compared African Americans to whites, and 6 (25%) involved comparisons of multiple racial/ethnic groups. The average number of African Americans included in a study, across 20 studies, was 288.8. Five studies that focused on prostate cancer were exclusively male, and African American males were included in 6 additional studies. Two studies provided only limited demographic data about the participants;

in particular, they did not provide information about the gender and age distributions of participants.^{64,65} The studies were completed primarily in southern (50%), and midwestern (20.8%) locations. Of the 24 quantitative studies reviewed, 14 (58%) focused on breast cancer and 7 (29%) on colorectal cancers. Five of the quantitative studies (21%) focused exclusively on prostate cancer, with 1 additional study that included prostate among several cancer sites examined.

Qualitative Studies

Of the 11 qualitative studies, 8 used focus group methodology, 1 used individual interviews, and 2 used narrative and content analysis methods (Table 2). Participants were exclusively African Americans in all but 1 of the 11 qualitative studies. The mean sample size for the focus

Table 1. — Quantitative Studies of the Relationship Between Sociocultural Variables and Cancer Prevention Behaviors (continued)

Author(s)	Location (Date of Study)	Study Population	Design	Activity	Cancer	Sample Size
Mayo et al ⁵¹	Senior centers, rural churches, 6 counties, South Carolina	Women, ≥ 50 yrs	Cross-sectional survey	Screening	Breast	220
Myers et al ⁶⁶	Chicago, Illinois (1995)	African American men, 40–70 yrs, University Health Service patients	Cross-sectional telephone survey	Screening	Prostate	413
O'Malley et al ⁶⁷	North Carolina (1993–1994)	Rural African American and white women, ≥ 52 yrs	Cross-sectional survey	Screening	Breast	1,933 (approximately 628 African Americans)
Paskett et al ⁶⁸	Forsyth and Guilford counties, North Carolina (1995)	Women ≥ 40 yrs residing in subsidized housing	Mixed cross-sectional and cohort design	Screening	Breast, cervical, colorectal	320 women (234 African American women)
Pearlman et al ⁶⁹	National Health Interview Survey (1990)	Women 40–75 yrs	Population-based sample survey	Screening	Breast	9,219
Powe ⁴⁹	Southern state	Individuals ≥ 50 yrs	Cross-sectional survey	Screening	Colorectal	192 (61% African American, 78% female, mean age 76 yrs)
Powe and Weinrich ⁷⁰	Senior citizens in a rural Southern state	Women ≥ 52 yrs	Group randomized intervention trial	Screening	Colorectal	70 (42 study group, 28 control group)
Price et al ⁷¹	Seven largest cities in Ohio	African American men > 18 yrs	Cross-sectional survey	Screening	Prostate	290
Scroggins and Bartley ⁷²	New Orleans, Louisiana (1995)	Disadvantaged African Americans and members of the Ochsner Health Plan	Cross-sectional survey	Screening	Breast, cervical, colorectal, prostate	402 African American community members, 290 Ochsner Health Plan members (white, high socioeconomic status)
Thomas and Fick ⁷³	New Orleans, Louisiana	Women 40–65 yrs, income ≤ \$40,000, no history of cancer	Survey, stratified random sample	Screening	Breast	184 women (61% African American, 30% white, 9% other)
Thompson et al ⁷⁴	East Harlem, New York	African American and Latina women, no previous history of breast cancer	Survey	Screening	Breast	168 (79 African Americans, 89 Latinas)
Weinrich et al ⁷⁵	South Carolina	African American men > 18 yrs	Cross-sectional survey	Genetic susceptibility testing	Prostate	320

group studies was 38.7 participants. Only 4 studies included men, and only 3 reported the number of male participants (N = 26, 8, and 24). Five studies were completed in urban midwestern locations, 4 in the northeast, and 1 in the south. Six (55%) of the qualitative studies focused on breast cancer; 2 studies each focused on colorectal, cervical, and inherited or general cancers. One study also focused on prostate cancer.

Sociocultural Constructs

The sociocultural constructs identified include socioeconomic status, ethnic identity (specifically, racial pride), medical mistrust, religiosity (referred to in some studies as “spirituality”), familialism (including social support and family ties and sometimes referred to as “collectivism” or “communalism”), time orientation, fatalism, and racial discrimination. In addition, there was some limited discussion of folk medicine, food traditions, and the stigma of cancer, although these topics were not the focus of any study. Few studies provided definitions of the cultural constructs included in the study. The major exceptions to this included work on fatalism by Mayo et al⁵¹ and Powe.^{87,88} However, item content and the interpretation and discussion of findings suggest the general definitions in use.

Among the studies included in this review, socioeconomic status, as indicated by age, education, income, employment, insurance, and having a usual source of care have been positively associated with mammography, Pap, prostate-specific antigen (PSA), or fecal occult blood tests.^{58,61-65,67-69,71,73,75} Marital status (being married) has been associated with recent Pap testing and colorectal cancer screening.^{64,65} In addition, at least 1 study has found an association between interest in genetic testing and younger age, being married, and perceived experiences of discrimination.⁷⁵

This review indicates that fatalism was measured specifically as it relates to cancer and not more globally.^{50,77-79,82} In cancer research, cancer fatalism⁸⁷ is defined as the belief that death is inevitable when cancer is present. Cancer fatalism was associated with decreased utilization of cancer screening,⁷² including mammography^{51,62,73} and colorectal cancer screening,^{49,87} and fatalism about prostate cancer was negatively associated with willingness to consider genetic testing.⁶⁶

Spirituality/religiosity definitions and research themes were most often related to thoughts or beliefs that associate God, prayer, and faith as strategies that permit an individual to cope with cancer. Spirituality/

Table 2. — Qualitative Studies of the Relationship Between Sociocultural Variables and Cancer Prevention Behaviors

Author(s)	Location (Date of Study)	Study Population	Method	Activity	Cancer	Sample Size
Busch ⁷⁶	Chicago, Illinois	African American women, 45–69 yrs	Focus groups	Screening	Colorectal	15
Frisby ⁷⁷	Northeastern metropolitan area	African American women, 20–77 yrs	Interviews	Screening	Breast	92
Greiner et al ⁷⁸	Urban midwestern city	Self-identified African Americans, > 40 yrs	Focus groups	Screening	Colorectal	55
Hoffman-Goetz ⁷⁹	United States (1987–1995)	African American women	Content analysis of cancer stories in <i>Jet</i> , <i>Ebony</i> , and <i>Essence</i>	Screening intent	Breast	11 stories
Jennings ⁸⁰	Metropolitan area, mid-Atlantic state	African American and Latina women	Focus groups, nominated sample	Screening	Cervical	52 (32 African Americans, 20 Latinas)
Jernigan et al ⁸¹	Pittsburgh, Pennsylvania (March–May, 1998)	African Americans, ≥ 50 yrs	Focus groups	Screening	Cancer	45 African Americans (26 men, 19 women)
Matthews et al ⁸²	Urban midwestern	African Americans, 15–57 yrs,	Focus groups	Genetic testing	Inherited cancer	21
Marks et al ⁸³	Cleveland, Ohio metropolitan area	Public housing residents, ≥ 40 yrs	Focus groups	Diet, screening	Breast, prostate, cervix	49
Phillips et al ⁸⁴	Community-based center and teacher’s union, urban Maryland	African American women, 40–65 yrs	Focus groups	Screening	Breast	26
Tessaro et al ⁸⁵	Natural settings, North Carolina (1990)	African American women, 50–74 yrs	Focus groups	Screening	Breast	132
Thomas ⁸⁶	Urban midwestern city	African American women, 40–64 yrs, no cancer diagnosis	Narrative analysis	Screening	Breast	12

religiosity was positively associated with cancer screening in African American women²⁶ and decision-making about health in African American men.⁶⁰ Intervention studies using a faith-based approach were found to increase cancer screening and prevention behaviors.^{59,89} Mistrust of the medical system was associated with negative attitudes about cancer screening⁷² and decreased use of mammography.⁷⁴

Racial pride, the only dimension of ethnic identity found in this review, was positively associated with the use of mammography.⁵⁶ Present-time orientation was negatively associated with use of mammography.²⁹ Lower-income black women were found to be more future- than present-oriented, but higher present orientation scores were negatively associated with the use of mammography, even after adjusting for education and income.²⁹

Other variables were identified in qualitative studies but not explored empirically. These included norms around privacy and silence, as well as more traditional measures of collectivism. Qualitative studies have suggested particular concern for the role of family history in cancer susceptibility.⁷⁷ Open discussion of cancer has been identified as a practice that violates African Ameri-

can privacy/silence norms. Thomas⁸⁶ and Phillips et al⁸⁴ noted that cancer was identified as a topic that was not discussed; while this behavior might serve a self-protective function, it resulted in the perpetuation of inaccurate cancer information among family members.

Psychometric Data on Measures

Only 38% of the studies reviewed provided psychometric data on measures of sociocultural constructs. In many studies where psychometric data were provided, they applied only to some of the scales used. The best examples of clearly reported measurement were found in studies reported by Holt et al,²⁶ Lukwago et al,²⁹ Powe,^{49,87,90} Thompson,⁷⁴ Powe and Weinrich,⁷⁰ Mayo et al,⁵¹ and Myers et al.⁶⁶ In addition, different studies used different measures to assess the same sociocultural constructs. This is the case even among some constructs for which measures with adequate psychometric properties have been published. For example, “spirituality” was examined in 6 different studies using 5 different measures. Table 3 provides a summary of the psychometric data reported in the studies reviewed.^{26,29,49,51,66,70,74,87,90}

Table 3. — Quantitative Studies Reporting Psychometrics for Social and Cultural Constructs

Author	Social/Cultural Content	Concurrent/Predictive Validity	Internal Consistency
Holt et al ²⁶	Spirituality Spiritual health locus of control	LISREL measurement model fit the data	Alpha: spirituality = 0.89
Lukwago et al ²⁹	Lower attainment of education, lower socioeconomic status, age Collectivism, spirituality, racial pride, present-time orientation, and future-time orientation		Test retest: collectivism = 0.85 Spirituality = 0.89 Racial pride = 0.52 Present-time orientation = 0.52 Future-time orientation = 0.54 Alpha: collectivism = 0.93 Spirituality = 0.88 Racial pride = 0.84 Present-time orientation = 0.73 Future-time orientation = 0.72
Mayo et al ⁵¹	Fatalism		Fatalism: alpha = 0.89
Myers et al ⁶⁶	Age, social support, trust		Confidence in University of Chicago Health Services medical staff: alpha = 0.78
Powe ⁴⁹	Fatalism		Fatalism: alpha = 0.84
Powe ⁹⁰	Fatalism, spirituality		Fatalism: alpha = 0.87 Spirituality: alpha = 0.86
Powe ⁸⁷	Age, education, fatalism		Fatalism: alpha = 0.84 to 0.89
Powe and Weinrich ⁷⁰	Fatalism		Fatalism: alpha = 0.84 to 0.89
Thompson et al ⁷⁴	Medical mistrust, acculturation	Construct validity: relationship of mistrust to acculturation, screening pros and cons Convergent validity: association between acculturation and total mistrust and suspicion score	Mistrust: Total GBMMS: alpha = 0.83 Suspicion: alpha = 0.80 Group disparity: alpha = 0.76 Lack of support from providers: alpha = 0.55 Split half reliability = 0.75 Acculturation: alpha = 0.61
LISREL = linear structural relations statistical software GBMMS = Group-Based Medical Mistrust Scale			

Discussion

The purpose of this review was to describe the current state of research examining sociocultural constructs and the prevention and control of cancer, specifically cancer screening behavior, among African Americans. We found 35 relevant studies published during the period 1990 to 2006. There are three main observations from this review: (1) clear definitions and proven measures of sociocultural constructs are often lacking, (2) research designs and analytic methods used to date are insufficient to fully understand the complex relationships between sociocultural constructs and health care outcomes, and (3) there are observed associations between various sociocultural constructs and cancer control behaviors (such as screening). However, few studies considered sociocultural factors together with screening and lifestyle factors such as diet, physical activity, and tobacco use. Each of these observations is discussed further, and we provide recommendations for next steps in research in this area.

Despite growing interest and research on the role of sociocultural constructs, the journals publishing articles on these constructs tend to target those exploring psychosocial and behavioral factors as well as African American medical practitioners. Expanding the reach of findings from sociocultural studies to a broader audience of medical and scientific readers should accelerate the impact of this area of research on future cancer prevention and control research, provider-patient interactions, and the development of effective intervention programs.

With regard to the research that has been published to date, clear definitions of the sociocultural constructs studied have generally been lacking. In addition, studies that involved quantitative interviews and surveys assessing sociocultural constructs often failed to discuss the source and validity of items or the reliability of items that formed scales.^{77,86,91,92} Even in studies that purport to be investigating similar constructs, different measures have been used, thus making comparisons across studies difficult. To create a common understanding of sociocultural constructs and measures, researchers need to critically evaluate the constructs that have been studied and the measures that have been used to date. Following this process, there is a need to develop consensus on the measures to be used, to standardize terminology, and to develop common assessment methods so that there is reproducibility and validity in measurement of important sociocultural constructs. Understanding the long history and development of social constructs in other disciplines may inform the development and standardization of sociocultural constructs.

Of critical importance is the need for better design of studies and a clearer description of study populations so that relationships between sociocultural constructs and cancer behaviors can be studied separately in men and women or in younger and older adults. The paucity of males in the study samples reviewed is likely due

in large part to this literature's focus on breast cancer. This highlights the need to address a range of cancers, including those that predominantly affect men. In addition, measurement strategies should include population as well as individual expression of constructs.^{13,16} Longitudinal study designs, or assessment of relevant sociocultural constructs across the life course, may elucidate relationships and critical periods during life that influence health behaviors that are important to cancer prevention and control. Finally, the use of multilevel models may be useful to understand the complex relationships between individual-level factors (such as socio-demographic or genetic factors) and context-level factors (such as environmental or medical system factors). This will enable us to identify the relative contribution of personal characteristics vs social characteristics vs environmental characteristics for different cancer-related health behaviors.

Although increasing screening can reduce cancer disparities, it is clear that changing this behavior alone will not eliminate cancer disparities.^{13,16} While beyond the scope of this review, a similar review is needed to understand the study of sociocultural constructs on cancer prevention behaviors such as diet, physical activity, and tobacco use. Given the complexity of these behaviors, such a review would be difficult to undertake since currently there is no systematic way to identify sociocultural constructs that should be studied in cancer prevention and control research or to determine which cancer-related behaviors are influenced by sociocultural constructs. It is first necessary to determine those constructs that may be related to specific cancer-related behaviors and outcomes and to establish whether different constructs influence specific behaviors/outcomes differently (eg, lifestyle behaviors vs screening). Theoretical frameworks of how and why specific sociocultural constructs are thought to influence cancer-related behaviors and outcomes are needed and should be clearly specified by researchers. For example, in the case of religiosity/spirituality, the question is not only "Does increased reliance on a higher power reduce a person's risk of disease?" but also "What is it about increased reliance on a higher power that reduces a person's risk of disease?" Once we can identify the "active ingredient" of the relevant construct and how it influences specific health behaviors, researchers will not only have a better understanding of how people choose or not choose certain behaviors, but also be able to find ways to provide these active ingredients in health communications and other health interventions.⁹³

Recommendations

Based on findings from this review, we recommend that future work exploring the influence of sociocultural constructs on cancer-related health behaviors take an interdisciplinary approach. Culture and the measurement of sociocultural constructs have long been stud-

ied in disciplines such as anthropology, sociology, psychology, and ethnic studies, and collaboration between health scientists and social scientists would yield a more informed dialogue that might result in the development and use of a common language. These literatures can provide well-documented measures of many of the sociocultural constructs of interest.

The current state of the literature prohibits any clear statement as to the specific sociocultural constructs to be studied in relationship to cancer control and prevention. However, it is possible to suggest a strategy for prioritizing those to be pursued in future research. From this literature review, we have been able to identify the sociocultural constructs that have been most extensively studied among African Americans from 1990 to 2006 with regard to cancer screening behavior. These constructs include medical mistrust, religiosity/spirituality, and fatalism. Further work is needed to determine if other constructs (such as the heretofore understudied constructs of collectivism, time orientation, and ethnic identity) are related to screening behavior and also to determine whether the same or different constructs are related to preventive health behaviors (such as diet, physical activity, and/or tobacco use) in this population.

Extension of the findings from the reviewed studies is needed to establish the reliability and validity of identified measures in other African American populations and to determine whether the observed relationships between sociocultural factors and cancer screening hold in larger, more diverse samples.

Another recommendation is to distill out the active ingredients of the most relevant sociocultural constructs and then determine if those ingredients can be used in cancer prevention and control interventions. It will also be important to determine if contextual factors (eg, age, gender, urban vs rural residence, geographic region) modify the relationship of the sociocultural variables and cancer behaviors.

Funding agencies such as the National Cancer Institute and the American Cancer Society should continue to invest in research that seeks to identify and understand sociocultural constructs and improve measurement of these constructs. Doing so will help meet their objectives of eliminating cancer disparities.

More scientific journals should encourage submission of studies that focus on sociocultural constructs and cancer outcomes, and they should strive to publish high-quality studies that advance understanding of the role of sociocultural constructs on health behaviors and health outcomes.

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