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Religious Fatalism and its association with Health Behaviors and Outcomes

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Abstract

Objectives—This study examines religious fatalism as a potential barrier to good health and healthy behavior.

Methods—As part of Nashville's REACH 2010 project, residents (n=1,273) were randomly selected to participate in a telephone survey examining health variables. This survey included the Helpless Inevitability sub-scale of the Religious Health Fatalism Questionnaire.

Results—Results indicate significant racial/ethnicity differences, however associations of fatalism with health outcomes and behaviors were only partially confirmed.

Conclusions—Fatalism may be primarily a coping response to illness rather than an inhibitory belief.

Keywords

Health Disparities; Fatalism; African-American Health; REACH 2010

Introduction

For years, researchers have examined psychological factors most related to health care beliefs and behaviors. A particular area of interest has been the influence of religion belief and involvement on health behaviors. Religious belief and practice have largely been shown to facilitate healthier behaviors and more positive health outcomes. [1–7] The positive effects of religious practice and participation in religious organizations include beneficial physiological changes associated with the practice of religion – i.e. relaxation,[8] social

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support,[1–3,6–7] discouragement - by religious leaders and doctrine - of unhealthy or risky behaviors (e.g. abstinence from sex and harmful substances),[9–10] and lower rates of depression, stress, and anxiety.[11]

Religious beliefs can play a large role in affecting how people perceive their health and their health behaviors.[1–3,6–7,10,12–13] Along with the well documented positive effects, researchers have also suggested that certain religious beliefs may inhibit health care utilization and health care behaviors leading to poor health outcomes. At times, beliefs and practices of various religious groups can conflict with the recommendations of medical professionals and affect an individual's well being --creating conflicts and misunderstandings in patient education and a lack of adherence to treatment.[13–16]

Fatalism, the belief that an individual's health outcome is predetermined or purposed by a higher power and not within the individual's control, has been examined as an inhibitor to participation in health promotion programs and health care utilization.[15–20] A person with fatalistic beliefs perceives health as being beyond one's control and instead dependent on chance, luck, fate, or God.[21–22] Cancer researchers, especially, have been the leaders in fatalism research. Cancer research has shown that African-American women who endorse fatalistic beliefs are less likely to get screened for cancer. In a 2005 qualitative study conducted by Sharf, Stellies and Gordon,[23] male and female lung cancer patients minimized the threat of their illness by not seeking treatment and relied on their faith in a higher power as both a coping mechanism and a rationale for not adhering to treatment reccomendations. In addition, cancer research has shown that age, income, education, and access to health care are often predictors of fatalistic beliefs in African-American women.[16,21]

Few researchers have examined the intersection of fatalism and religious belief that we term “religious fatalism”. We use this term to distinguish individuals whose belief in fatalism is largely connected to their religious beliefs/spiritual practices. This term does not mean to imply that individuals who describe themselves as “religious” are inherently fatalistic, or that fatalism has only religious components. Rather, the focus of this study is to examine the specific beliefs that may intertwine the psychological locus of control factors encaptured by fatalism measures with religious/spiritual beliefs and practices that are adopted by those involved in faith communities. While many participants in organized religion may not endorse such beliefs, some may, prompting the question of how these beliefs may impact health decisions and behaviors for those individuals. Some research has shown that the combination of fatalism and religiosity may have significantly different effects when viewed together rather than separately and that these effects may be due to differences in locus of control beliefs and may vary across race/ethnicity. [24–25]

Racial/ethnic differences in religious belief/practice are another interesting facet of religion/health research. Research shows that African-Americans are more likely to endorse a belief in a higher power and are also more likely to respond that religion is a significant factor in their lives and decision making. Studies show that 84% of African-American adults consider themselves to be religious, while 70% identify themselves as members of a church.[3,26–30] This fact, coupled with the fact that African-Americans suffer from poor health, as compared to Caucasians, raises some interesting questions about potential differences as to

the role of religion in health beliefs and behaviors cross-culturally. Researchers are now suggesting that the impact of religious beliefs upon health may vary significantly dependent upon race/ethnicity.[26,31–33] Based on previous research findings, this research study focuses on two hypotheses: 1) African-Americans will score higher on the fatalism measure than Caucasians, and 2) higher fatalism scores will be associated with decreased health care utilization, poor health behaviors and diagnosis of a chronic illness.

Methods

Nashville REACH (Racial and Ethnic Approaches to Community Health) 2010 is a CDC funded health initiative designed to examine and reduce health disparities in diabetes and heart disease in the African American community. As a part of the evaluation of this program 1,273 Nashville community members were surveyed regarding their health beliefs and behaviors.

Survey/Questionnaire

The coalition partners of Nashville REACH 2010 conducted two separate phone surveys used to evaluate the contexts and causes of health disparities, widespread changes in risk and protective behaviors, and reductions in health disparities in the target population. The first survey, the REACH 2010 baseline survey, was conducted in late 2000 and early 2001.[34–35] The second (follow-up) survey was conducted in the spring of 2004. Both 25–30 minute surveys were developed to assess access to health care, comorbid illness, health practices, socioeconomic status, and individual health status. Items were selected from previously used and validated questionnaires whenever possible including the Behavioral Risk Factor Surveillance System[36], the CES-D[37], the Eating Behavior Patterns Questionnaire[38], and the Eating Styles Questionnaire[39]. These surveys were pre-tested on a small sample, and revised for clarity and length. Data for this paper was obtained from the second survey in 2004.

Sampling Strategy

Sixteen thousand two hundred (n=16,200) randomly selected residential telephone numbers were purchased from SDR Sampling Services, Inc. (Atlanta, GA). The sample was stratified by two geographic areas of interest; North Nashville (NN) and the rest of Nashville/ Davidson County (NDC). North Nashville, a predominantly African American ares, was chosen because it was the geographic target area for the REACH 2010 project. Nine thousand (9,000) residential numbers in NN and 7,200 numbers in all other areas of NDC were randomly selected. Only household members who were at least 18 years of age were eligible to participate. The adult with the closest approaching birthday was selected to be interviewed, further ensuring randomization.

Telephone Interviews

Telephone interviews, conducted by trained interviewers using a computer-assisted telephone interviewing system (CATI), occurred between 10:00 am and 8:30 pm Monday through Friday. Interviewers were trained and were monitored by a supervisor. Compared to other methods of gathering and entering interview data, a CATI system is more efficient and less likely to compromise the study's internal validity. The system allowed for the creation

of a “real time” electronic database, eliminating the need for a separate data entry process and automatically causing the interviewer to follow predetermined skip patterns. This process insured that all relevant questions were asked.

Fatalism Questionnaire

The Helpless Inevitability Subscale of the Religious Health Fatalism Questionnaire (RHFQ-HI) was included in the follow-up survey as a measure of fatalistic beliefs. The (RHFQ)[40] was developed to better understand fatalistic beliefs in African-American religious communities. Pilot testing and validation analyses of the RHFQ showed that the measure had sufficient variability and construct validity and moderate internal consistency (alpha = . 67) and was significantly associated with less healthy behaviors. In pilot testing, the Helpless Inevitability factor was found to be the most significant dimension of the RHFQ in predicting poor health behaviors. The Helpless Inevitability sub-scale of the Religious Health Fatalism Questionnaire is designed to measure the belief that God, not the individual, has control over health outcomes (Table 1).

Health Outcome Variables

Health outcome variables from three different categories were analyzed: Health care utilization, Health Behaviors and Chronic Illness. Outcome variables from each of these areas will be described here.

Healthcare utilization—Health care utilization questions asked participants questions about their use of the health care system. The survey asked participants whether or not they had a primary care physician and how many times the participant had seen a doctor in the last year.

Health Behaviors—The health behavior items examined dietary behaviors, physical activity behaviors, weight control and smoking behavior. To measure physical activity behaviors, participants were asked to report what type of physical activities - e.g. walking, swimming, biking - they engaged in. An activity index was created by multiplying the average METS (metabolic equivelant – a measure of the level of exertion) per activity by the frequency and duration of each activity for all participants. For participants who indicated participating in more than one activity, the first two (most frequent) activities reported were summed to compute the activity index.

Dietary behaviors were analyzed by examining several scales. The Eating Problems Index was constructed from items examining the particiapant's subjective judgment of their eating behaviors (e.g. how often the participant reported overeating or making poor food choices during the past month). The Emotional Eating Index was constructed from items examining how often the participants ate for comfort or ate when upset. Stages of change variables were also assessed which examined the incorporation of fruits/vegetables and the reduction of fatty foods in the individual's diet. These analyses used Prochaska & DiClemente's (1982) Transtheoretical Stages of Change Model[41]. Individuals were categorized into the precontemplation, contemplation, action or maintenance stages of change.

Finally, indices of both fat increasing and fat decreasing behaviors were examined. Fat increasing behaviors included behaviors such as eating fast food often, adding fatback or butter to vegetables when cooking and having a serving of meat at every meal. Fat decreasing behaviors included behaviors such as counting fat grams, eating a green salad each day and choosing low-fat options when purchasing groceries or eating in a restaurant.

A measure of weight control was also assessed. Those who endorsed the weight control variable either reported currently trying to lose weight or actively trying to avoid weight gain. An item examining whether the participant was a current smoker (tobacco) was also included.

Chronic Illness—Chronic illness variables assessed whether participants had been diagnosed with several chronic illnesses including hypertension, high cholesterol, and diabetes. In addition, body mass index (BMI=kg/m^2) was computed from self-reported height and weight and was used to identify people who are obese (BMI ≥ 30). In order to account for individuals who had been diagnosed with more than one chronic illness, a chronic illness index was created which indicated how many of the chronic illness variables each individual had been diagnosed with. Additionally, an item assessing perceived health status was included.

Results

A total of 1,273 interviews were completed across both the NN and NDC geographic areas. Table 2 shows the demographic characteristics of the sample by race/ethnicity and gender. The subject sample had a high proportion of African-Americans (58%), and females (69%). The age range of the sample varied from 18 to 96 years old with a mean of 54.3 (± 17.7). Table 2 also depicts means/standard deviations and frequencies/percentages for health outcome variables across gender and racial/ethnic groups. Analyses of means for age, income and years of education indicate significant differences across demographic groups. For age, there is a significant main effect for race ($p \leq .05$), indicating that African-Americans were, on average, older than Caucasians. There is also a significant main effect of race/ethnicity on level of income and years of education, after controlling for age ($p \leq .05$). In this sample, Caucasians had, on average, more years of education and a higher income.

ANCOVA analyses, controlling for age, examined significant differences on health outcome variables. Results indicated that, for a number of health outcome variables, there was a main effect of race/ethnicity including: BMI ($p \leq .05$), number of chronic illnesses (chronic illness index) ($p \leq .05$), the Eating Problems Index ($p \leq .05$), the Emotional Eating Index ($p \leq .05$), obesity ($p \leq .05$) and a diagnosis of diabetes, high cholesterol and hypertension ($p \leq .05$). For all health outcome variables except eating problems and emotional eating indices, African-Americans had significantly poorer health outcomes ($p \leq .05$). African-Americans were also more likely to endorse the weight control variable (trying to lose weight or avoid gaining weight) than Caucasians ($p \leq .05$). Analyses of the Emotional Eating index and Eating Problems index indicated that Caucasians reported significantly more problems with these dietary health behaviors ($p \leq .05$). Gender differences across all racial/ethnic groups

existed on several health outcome variables as well. Females, in this sample, were more likely to have a primary doctor, see a doctor more times during the year, and be diagnosed with hypertension ($p \leq .05$). They were also more likely to report that they were trying to control their weight than males ($p \leq .05$). Interaction effects were found only for BMI. African-American women reported the highest mean BMI across groups, while Caucasian women reported the lowest mean BMI.

To test the first hypothesis, analyses of significant socio-demographic group differences on the Helpless Inevitability subscale were conducted. It was hypothesized that significant differences would exist and that African-Americans, individuals with less income and less education would more strongly endorse fatalistic beliefs. ANCOVA analyses indicated that, after controlling for age, there was a significant main effect of race on scores on the Helpless Inevitability subscale with African-Americans reporting significantly higher scores on the fatalism measure ($p \leq .05$) (see Table 2). Analyses also showed that individuals with less education and a lower level of income were more likely to endorse fatalistic beliefs ($p \leq .05$). Additionally, individuals who had been out of work for over a year, who were retired, and who were unable to work, also endorsed higher levels of fatalism ($p \leq .05$). There were no gender differences on fatalism scores.

Further analyses examined the associations between high fatalism scores and three categories of health related outcomes: healthcare utilization, health behaviors, and chronic illness. Correlation analyses were conducted, initially, to examine the direction and significance of associations between fatalism scores and health outcome variables. Correlation analyses (Table 3) revealed some interesting associations, including a positive association between fatalistic beliefs and three chronic illnesses (diabetes, hypertension and high cholesterol) ($p \leq 0.01$) as well as a positive association between fatalistic beliefs and the index of chronic illness ($p \leq 0.01$). However, individuals who endorsed fatalistic beliefs also reported that they were more active ($p \leq 0.01$). Higher scores on the fatalism measure were also found to be significantly correlated with both fat increasing behaviors (e.g. frequently eating fast food, adding fat to vegetables when cooking) and fat decreasing behaviors (e.g. choosing low fat foods, counting fat grams). Individuals who scored highly on the fatalism scale were also more likely to report low scores on the Eating Problems index. There were no associations between fatalistic beliefs and healthcare utilization items.

Subsequent analyses included both binary logistic regression analyses (for dichotomous variables: Table 4) and hierarchical regression analyses (for continuous variables: Table 5). All analyses examined whether fatalism was a significant predictor of the dependent variable (health outcome variable) after accounting for demographic variables (age, race, gender, income, education).

Fatalistic beliefs were not found to be a significant predictor for any of the healthcare utilization variables. Results did show that higher scores on the fatalism scale predicted higher scores on the Emotional Eating index (eating for comfort or when upset) ($p \leq .05$), but did not significantly predict scores on the Eating Problems index. Higher scores on the fatalism scale also significantly predicted higher scores on questions examining both fat increasing and fat decreasing behaviors ($p \leq .001$). Of the four individual chronic illness

variables, fatalism predicted only a diagnosis of high cholesterol ($p \leq .001$). However, it was determined that individuals with higher scores on the chronic illness index (greater number of chronic illnesses) were more likely to endorse fatalistic beliefs. Additionally, analyses on a measure of self-reported health status showed that individuals who endorse fatalistic beliefs perceived their health as being poorer than those who do not.

Discussion

The hypothesis that African Americans will be more likely to endorse religious fatalism compared to Caucasians was supported. Previous research has established the importance of religion for African-Americans as compared to Caucasians. This study shows that `religious fatalism' is also a belief system more strongly held by African-Americans. This finding further confirms research highlighting the importance of cross-cultural differences in religion/health research.

The hypothesis that an inceased endorsement of fatalistic beliefs would lead to decreased health, healthcare utilization and poorer health behaviors was only partially confirmed. After accounting for sociodemographic variables, only certain specific health factors were shown to be associated with fatalistic beliefs. Analyses indicated that the strongest relationships were found between health outcomes/chronic illness rather than healthcare utilization. Thus, fatalism may, rather than inhibit health behaviors, be a reaction to poor health or chronic illness. Dietary health behaviors were also found to be associated with fatalistic beliefs, but their relationships seemed to be counter-intuitive and unclear. With regards to the differences in Emotional Eating and Eating Problems index, it may be that individuals who endorse fatalistic beliefs are willing to acknowledge emotional eating behaviors, but do not perceive their eating behaviors to be problematic. Additionally, there was an association between fatalistic beliefs and both fat increasing and decreasing behaviors.

Chronic illness may also be a factor involved in the relationship between fatalism and eating, since it is significantly associated with fatalistic beliefs as well as dietary behaviors. It is intuitive that individuals with higher fatalistic beliefs engage in more fat increasing behaviors. However, there are a large number of individuals diagnosed with a chronic illness who may also be working towards decreasing fat content in their diet and improving their health (incorporating fruits/vegetables and decreasing fat content in their diet). Additionally, although there was a positive association between fatalistic beliefs and activity level, fatalistic beliefs were not a significant predictor of activity after accounting for demographic variables. Healthcare utilization and health behaviors, such as smoking were not found to be related to fatalistic beliefs.

Although the study contained a large and diverse sample, a limitation, found in most health behavior studies, is the use of self-report methodology. Individuals who choose to participate in this study may be incorrect in knowledge about their health (e.g. remembering their accurate weight, eating habits, activity level, etc.) or may be unwilling to report unpleasant or discomforting health information about themselves. Another limitation to this study is it's cross-sectional nature. Because of a lack of temporal precedence, inferences

about causation can not be made. Therefore, it is unclear whether fatalistic beliefs cause certain health outcomes or if fatalistic beliefs occur as a result of poor health, for example.

Results of this study suggest that, while fatalism is an interesting concept that may impact certain health behaviors and health outcomes, it is a complicated construct. One note is that the RHFQ is a measure of religious fatalism, which incorporates the idea that God, not luck or chance, is in control of health outcomes. Pilot data on the RHFQ was collected in African-American faith communities, the population of interest for the development of the questionnaire. These results may partially indicate that further development of the measure would be needed for cross-cultural use and for use with subjects who do not endorse religious beliefs.

The results offer compelling evidence regarding the differences in fatalistic beliefs about health across racial/ethnic groups. The results also highlight the complex nature of the construct of fatalism in predicting health outcomes. More research on this area is warranted in order to gain a better understanding of ways in which fatalistic beliefs influence health behaviors which then influence health outcomes. Research on the construct of fatalism is important in understanding health belief systems, which may be more strongly held when associated with religious beliefs. More research is needed examining the ways in which fatalism, along with other health beliefs are associated with religion. Although there has been significant research examining cross-cultural differences in religious/spiritual beliefs, more research examining cross-cultural differences in the impact of these beliefs on health is also warranted. With the increasing role of faith communities in health intervention and education, an understanding of how these beliefs are associated with health behaviors and outcomes is essential.

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Table 1

Helpless Inevitability Subscale Items

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	1	2	3	4	5
1. I don't need to try to improve my health because I know it is up to God.					
2. If an illness runs in my family, I am going to get it too.					
3. If I am meant to have an illness, changing my health habits won't matter.					
4. I can control a small health issue, but only God can control a big health issue.					

Table 2

Sample Characteristics

	Caucasian				African American			
	Male Mean (SD or %)		Female Mean (SD or %)		Male Mean (SD or %)		Female Mean (SD or %)	
Subject Totals	202	(34.2%)	389	(65.8%)	238	(28.2%)	605	(71.8%)
Age [r] (Mean ± SD)	51.5	±16.8	55.1	±17.6	53.2	±17.6	55.9	±17.8
Income [r,a]	45,954.2	±21,613.9	40,476.2	±22,330	32,798.7	±19,361.6	31,181.1	±19,876.7
Years Education [ra]	13.9	±2.3	13.5	±2.6	13.4	±2.1	12.8	±2.9
Helpless Inevitability [ra]	9.7	±2.8	9.9	±3.0	10.6	±2.8	10.6	±2.8
BMI(kg/m2) [rrxg]	26.8	±5.1	26.3	±5.9	28.2	±5.9	29.6	±7.3
Activity Index [a]	0.5	±0.5	0.5	±0.5	0.5	±0.5	0.5	±0.5
Chronic illness index [ra]	0.9	±0.9	1.0	±1.0	1.3	±1.1	1.5	±1.1
Eating Problems [ra]	11.5	±2.6	11.3	±2.6	10.9	±2.6	11.0	±2.7
Emotional Eating [ra]	13.5	±2.1	13.5	±2	13.1	±2.1	13.1	±2
Stage of change for fruits and vegetables	2.2	±1.7	3.0	±1.9	2.1	±1.6	2.6	±1.8
Stage of change for fat [a]	2.5	±1.9	3.1	±1.9	2.5	±1.8	2.9	±1.8
Number of doctor visits/year [g]	3.1	±1	3.4	±1.0	3.1	±1.0	3.5	±1.0
Primary Doctor (yes) [g]	170.0	(84.2%)	359.0	(92.3%)	193.0	(81.4%)	544.0	(90.5%)
Seen Doctor last year (yes)	179.0	(88.6%)	358.0	(92%)	217.0	(91.2%)	569.0	(94.2%)
Current Smoker (yes)	50.0	(24.8%)	76.0	(19.5%)	52.0	(21.8%)	110.0	(18.2%)
Trying to control weight (yes) [rg]	169.0	(83.7%)	336.0	(86.4%)	192.0	(80.7%)	533.0	(88.1%)
Diagnosed diabetes (yes) [r]	13.0	(6.4%)	26.0	(6.7%)	38.0	(16.0%)	110.0	(18.2%)
Diagnosed Hypertension (yes) [rg]	67.0	(33.2%)	154.0	(39.6%)	113.0	(47.5%)	363.0	(60.0%)
Diagnosed High Cholesterol (yes)	57	(28.2%)	133	(34.2%)	69	(29.0%)	181	(30.0%)
Obesity (BMI>30) [r]	38.0	(18.8%)	72.0	(18.5%)	81.0	(34.0%)	224.0	(37.0%)

[r] Main effect for race, $p \leq 0.05$

[g] Main effect for gender, $p \leq 0.05$

[rxg] Race by gender interaction effect, $p \leq 0.05$

[a] Age was a significant covariate, $p \leq 0.05$

Table 3

Bivariate Correlation Analyses between Helpless Inevitability and Health Outcome Variables

	Helpless Inevitability
Health care Utilization	
Number of doctor visits/year	0.04
Primary Doctor (yes)	0.02
Health Behaviors	
Activity Index	0.08**
Current Smoker (yes)	0.05
Trying to control weight (yes)	−0.02
Eating Problems	−0.06*
Emotional Eating	0.03
Stages of Change for Fruits and vegetables	0.06*
Stages of Change for Fat	0.07**
Fat Increasing Behaviors	0.09**
Fat Decreasing Behaviors	0.10**
Chronic Illness	
Diagnosed diabetes (yes)	0.13**
Diagnosed Hypertension (yes)	0.14**
Diagnosed High Cholesterol (yes)	0.13**
Chronic illness index	0.17**
Perceived Health Status	−0.19**
BMI (kg/m2)	0.05
Obesity	0.05

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Table 4

Binary Logistic Regression Predicting Health Outcomes using Helpless Inevitability after controlling for other variables

Dependent Variable (0=no, 1=yes)	Odds Ratio[a]
Healthcare Utilization	
Primary Care Doctor	0.957
Seen Doctor in past year	1.009
Health Behaviors	
Current Smoker	1.076
Weight Control	0.993
Chronic Illness	
Hypertension	1.024
High cholesterol	1.094*
Diabetes	1.047
Obesity	1.022

[a] The odds ratio for helpless inevitability after controlling for age, gender, race, income and education

* Tests the hypothesis that the odds ratio is equal to 1.0, $p \leq .001$

Table 5

Linear Regression Analyses Predicting Health Outcomes and Behaviors using Helpless Inevitability after controlling for demographic variables

	R^2 [a]	R^2 change[b]	B[c]
Healthcare utilization			
Doctor visit in past year	.021	.000	.005
Number of visits	.070	.001	−.035
Health Behaviors			
Activity Index	.050	.001	−.037
Eating Problem Index	.075	.002	−.054
Emotional Eating Index	.020	.006*	.082
Fat Increasing Behaviors	.100	.012**	.115
Fat Decreasing Behaviors	.074	.015**	.127
Stages of change for fruits/vegetables	.045	.008**	.095
Stages of change for fat	.049	.011**	.110
Chronic Illness			
Chronic Illness Index	.182	.007**	.089
Perceived Health Status	.120	.011**	−.113

[a] R^2 for age, gender, race, income and education.

[b] Change in R^2 from adding helpless inevitability

[c] Standardized beta coefficient Tests the hypothesis that R^2 change is greater than zero

** Significant at the 0.01 level (2-tailed)

* Significant at the 0.05 level (2-tailed)