



Religious participation is associated with fewer dementia diagnoses among Black people in the United States

Eric E. Griffith^{1,2} | Paul A. Robbins^{2,3} | Bethlehem T. Ferede² |
Keisha L. Bentley-Edwards^{2,4}

¹Center for the Study of Aging and Human Development, Duke University, Durham, USA

²Samuel Dubois Cook Center on Social Equity, Duke University, Durham, USA

³Department of Human Development and Family Science, Purdue University, West Lafayette, USA

⁴Department of Medicine, Duke University, Durham, USA

Correspondence

Eric E. Griffith, Center for the Study of Aging and Human Development, Duke University, Durham, USA.

Email: eric.griffith@duke.edu

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Abstract

Introduction: Black people had the highest prevalence of Alzheimer's disease and related dementias (ADRD) of any racial/ethnic group in the United States (US) as of 2020. As racial disparities in the prevalence of ADRD are being investigated, more evidence is necessary to determine the pathways and mechanisms that either slow ADRD progression or improve quality of life for those affected. Religion/spirituality (R/S) has been shown to affect health outcomes but has rarely been studied as a possible pathway for reducing ADRD risk. Crucially, Black people also report higher levels of R/S than other racial/ethnic groups in the United States. This research asks if R/S affects ADRD risk among Black adults and if any effects persist after controlling for hypertension.

Methods: We conducted a secondary data analysis drawing from the Health and Retirement Study (HRS), a nationally representative longitudinal dataset with an oversampling of Black adults.

Results: We used logistic regression analysis to demonstrate how R/S has an ameliorating impact on ADRD risk among Black people, even after controlling for hypertension. Those who never attended religious services had 2.37 higher odds of being diagnosed with ADRD than those who attended more than once a week. Further, as R/S attendance increased, ADRD risk decreased linearly.

Conclusion: These findings demonstrate the importance that existing cultural networks (e.g., R/S) can have for reducing ADRD burden for Black people and has important implications for the role of R/S in shaping ADRD symptomatology.

1 | INTRODUCTION

Rates of Alzheimer's disease and related dementias (ADRD) in the United States are increasing; estimates predict 13–14 million people will be diagnosed by mid-century (Alzheimer's Association, 2022; CDC, 2019). Rates of ADRD differ between ethnic and racial groups. Black people in the United States are more affected by ADRD than any other racial/ethnic group (Matthews et al., 2019). The Alzheimer's

Association has concluded that Black older adults are about twice as likely to have an ADRD diagnosis as their white counterparts (Alzheimer's Association, 2019). As racial disparities in ADRD are investigated, social factors that influence ADRD etiology, plans of care, and intervention science for Black people will be of particular importance (Duran & Pérez-Stable, 2019). This project contributes to the understanding of ADRD for Black people in the United States by examining how religion and

spirituality (R/S) and hypertension, a cardiovascular disease (CVD) risk factor, affect ADRD risk.

R/S offers an avenue to investigate ADRD outcomes among Black people because of the influence R/S can play on health. Specifically, R/S has been associated with improved quality of life for people living with ADRD (Agli et al., 2015; Pakstis et al., 2018) and has been linked to reductions in age-related cognitive decline for older adults (Hill et al., 2006; Hosseini et al., 2019). Older adults benefit from R/S in unique ways compared to other age groups; for older adults, higher levels of religiosity amplify positive effects of R/S on health (Krause, 2009) and church-based friendships correspond with a reduction in depressive symptoms (Krause & Wulff, 2005). Data also show that support from R/S institutions can reduce depression risk and symptoms (Koenig, 2014; Krause & Wulff, 2005). Depression is a primary comorbidity for ADRD (Baruch et al., 2019; Verkaik et al., 2007). Religious affiliation has also been tied to reduced blood pressure for Black people in the United States (Livingston et al., 1991). Finally, prayer and religion have been linked to positive coping during the Covid-19 pandemic (Paredes Ruvalcaba et al., 2023).

The influence of R/S on health outcomes, particularly among older adults, may be especially pertinent for Black people in the United States. In the Pew Foundation's Religious Landscape Study, 80% of Black respondents reported that religion was very or somewhat important to their lives—a higher percent than other racial/ethnic groups and 97% reported belief in “God or a higher power” (Pew Research Center, 2021). Of all Black adults, 75% identify as Christian, 3% identify with a non-Christian faith, and 21% identify as unaffiliated (Pew Research Center, 2021). Recent research summarizes how R/S has been the source of social support, optimism, and access to health-relevant support for predominantly Black communities; many of these resources were historically denied or limited outside of religious settings for Black people (T. H. Brown & Hargrove, 2018; Holt et al., 2018). Further, Black older adults tend to rely on R/S resources for emotional support. For example, older Black older adults mobilize church support when facing negative consequences of discrimination (Nguyen, 2018; Qin et al., 2020). In comparison to their white peers, Black older adults also report higher religious salience, including relying on god as a crucial source of social support (Lee & Sharpe, 2007).

A significant overlap in risk factors for many types of ADRD and CVD is also pertinent for Black people and thus merits additional consideration. Existing research has found a positive relationship between hypertension and ADRD, and anti-hypertensive medication has been shown to reduce the risk of ADRD (Murray et al., 2018).

With regard to racial disparities, Black people in the United States have a higher risk of CVD than their white peers (M. D. Brown & Gomez, 2021). Elevated blood pressure risk can be at least partly traced to perceived discrimination early in life (Goosby et al., 2015). Past findings have also documented a unique inverse relationship between R/S and blood pressure for Black/African American people, but not for White people (Steffen et al., 2001), underscoring the importance of conducting analyses of the effects of R/S on health that focus exclusively on Black people.

1.1 | Personhood and AD

Conceptually, this article reflects the theoretical work of Thomas Kitwood, who pioneered a person-centered approach to understanding ADRD by emphasizing the capabilities rather than the disabilities of persons living with ADRD (Kitwood, 1997; Ryan et al., 2005). From this perspective, people living with ADRD are seen as complete individuals, and their social contexts (including R/S) play a role in shaping how their cognitive function changes both before and after an ADRD diagnosis. Kitwood theorized that the subjective needs of personhood were addressed through the overlapping accounting of an ADRD patient's identity, attachment, comfort, occupation, and inclusion. Those lifestyle factors all work in the service of the “all-encompassing” need of love in people living with ADRD. Kitwood's work falls short of fully incorporating a modern understanding of embodiment, thereby opening critiques for failing to incorporate the role of the body into formation of the self (see Hendriks, 2023; Kontos, 2003). Nevertheless, Kitwood does emphasize the importance of the sociocultural milieu in shaping ADRD narratives, which arguably is a tacit rejection of biological determinism.

With this in mind, we reframe Kitwood's theory by invoking R/S as its centerpiece in place of “love.” As a cognitive framework, R/S captures both individual beliefs about a higher power's love (i.e., spirituality) and also the generation of a sense of community and belonging for substantial portions of Black people in the United States. Indeed, R/S has been conceptualized as a source of strength/comfort (Koenig, 2014), attachment (Granqvist et al., 2010), belonging (i.e., inclusion) (Stroope, 2011), development of personal identity (Ebstyn King, 2003), and occupation for people living with ADRD (Vance, 2004). Theologian John Swinton further asserts that if R/S is a core component of one's identity, then this faith can be a source of comfort if it can remain cognitively salient in the face of ADRD symptoms (Swinton, 2017). R/S-related support could thus offer a

framework for possible protective effects against ADRD risk by fulfilling essential socioemotional needs as individuals experience cognitive decline. The combined work of Kitwood and Swinton suggests a guide for a multidimensional description of how R/S affects feelings of “love” for Black older adults. We acknowledge that there are other possible constructs to consider when studying the relationship, if any, between R/S and ADRD but argue that the work of Kitwood and Swinton provides an appropriate framework for understanding the R/S experiences of this particular group of participants (i.e., older Black adults in the United States).

1.2 | Research aims

This project examines how a component of the sociocultural environment, specifically R/S, is related to ADRD diagnosis rates for Black people in the United States. ADRD risk for Black people merits continued study given elevated diagnosis rates in that population. R/S is a particularly salient cultural variable for investigating ADRD because of the relatively outsized role that it plays in the lives of many Black people. Further, R/S has rarely been considered in light of ADRD risk, despite acknowledgment that R/S participation plays a role in shaping ADRD experiences and risk (Connell et al., 2009). Second, given racial disparities in CVD risk as well as the positive correlation between CVD and AD, we consider if the link between a CVD risk factor, hypertension, is affected by R/S for Black people.

This study employs the Health and Retirement Study (HRS), a nationally representative longitudinal dataset of people over 50 years of age with an oversampling of Black adults (Fisher & Ryan, 2018). This work contrasts to prior research, which has examined the relationships between R/S and ADRD but has focused on the R/S of caregivers (González-Rivera & Rosario-Rodríguez, 2018; Richardson & Sistler, 1999). Prior studies have also not adequately utilized large samples of Black or African American adults (Hosseini et al., 2019; Rabinowitz et al., 2010) and/or did not use quantitative methods (Berwald et al., 2016; Regan et al., 2012).

1.2.1 | Aim 1

Determine the extent to which differences in dimensions of R/S (i.e., prayer frequency, religious salience, religious services attendance) are associated with differences of odds of an ADRD diagnosis. Based on previous findings, we hypothesize that greater R/S participation will correlate with a reduced risk of ADRD diagnosis.

1.2.2 | Aim 2

In addition to considering the direct relationship between ADRD and R/S among Black people, this study also examines the extent to which R/S may affect ADRD risk after controlling for a diagnosis of hypertension. We hypothesize that a diagnosis of hypertension will attenuate the protective effect, if any, of R/S participation on ADRD risk.

2 | METHODS AND MATERIALS

2.1 | Participants and study design

This secondary data analysis was approved by Duke University's Institutional Review Board prior to requesting and accessing the data. The present study used restricted and public data from the HRS to conduct cross-sectional analyses of the relationship between ADRD, R/S, and hypertension.

The HRS is sponsored by the National Institute on Aging (grant number NIA U01AG009740) and is conducted by the University of Michigan. The HRS is particularly appropriate for this research because it is a nationally representative dataset of people over 50 years of age, with an oversampling of Black adults. Responses in the current study were from 2006 to 2016 across waves two, three, and four and covered broad themes such as demographics, lifestyle, and health. Crucially, the health portion of the survey inquired about ADRD diagnosis status and hypertension; the lifestyle section asked participants to report the role of religion in their daily lives. Additional information about the HRS research design can be found in other work (for a recent example see Fisher & Ryan, 2018).

2.2 | Measures

2.2.1 | ADRD

ADRD diagnosis was the dependent variable for all models. In the HRS, participants reported their diagnosis status for both “dementia” and “Alzheimer's disease” each time they participated in the survey. For this study, the two categories were combined into a single dichotomous variable to describe ADRD diagnosis status. If participants reported a diagnosis of either dementia or Alzheimer's disease, they were categorized as a positive response for the aggregate ADRD variable. Participants who did not reply to either of these questions were excluded from the analysis.

2.2.2 | Hypertension

Participants reported whether they had ever been diagnosed with hypertension and if they were currently taking hypertension medication. If a participant reported having received a hypertension diagnosis at any point during data collection, they were categorized as a positive response.

2.2.3 | Religion and spirituality

To determine the effect, if any, that R/S has on ADRD risk, all models incorporated self-reported measures for R/S services attendance, frequency of prayer, and religious salience. R/S services attendance was measured with the survey question “How often do you attend religious services?” and participants selected from the following responses: more than once a week (1), once a week (2), two or three times a month (3), one or more times a year (4), and not at all (5).

A frequency of prayer variable was created using the results from the question “How often do you pray privately in places other than a church or a synagogue?” Response options from 2010 to 2016 were on a seven-point scale from the following response options: (1) never/not relevant, (2) not in the last month, (3) at least once a month, (4) several times a month, (5) once a week, (6) several times a week, and (7) daily. Response options prior to 2010 were on a six-point scale: (1) less than once a month/never, (2) once a month, (3) a few times a month, (4) once a week, (5) a few times a week, and (6) daily/more than once a day. The first two options of the post-2010 survey (never/not relevant and not in the last month) were combined to create roughly equivalent six-point scales and participant answers were recoded accordingly.

A religious salience variable was generated by taking the mean of the responses to four survey items: (1) I believe in a god who watches over me, (2) The events in my life unfold according to a divine plan, (3) I try hard to carry my religious beliefs over into all my other dealings in life, and (4) I find strength and comfort in my religion. Participants evaluated their level of agreement with each of the four statements on a 6-point Likert-like scale ranging from (1) strongly disagree to (6) strongly agree.

We acknowledge that many of these measures of R/S do not capture the diversity of religious beliefs or practices (e.g., “church,” “god who watches over me,” “divine plan”). Accordingly, we make no claim that the survey items and scales in the HRS dataset should be treated as a default method for the study of R/S in other cultural contexts.

2.2.4 | Other covariates

Age, sex, education, and household wealth are all risk factors for various forms of ADRD and were captured by the HRS. Specifically, ADRD risk correlates positively with age, correlates negatively with education and wealth (Majoka & Schimming, 2021), and is higher for those identifying as female (Gong et al., 2023). Accordingly, all four of these variables were added to each model to adjust for their effects on the relationship between R/S and ADRD. Age is measured in years and education is split into three categories (i.e., less than high school, high school, and more than high school). Sex is reported as “male” or “female.” Self-reported estimates of wealth were transformed by calculating the natural logarithm of each participant’s wealth plus the lowest reported wealth in the dataset and adding one.

2.3 | Statistical analyses

Statistical analyses were conducted using Stata 18. Descriptive statistics are reported in Table 1. Two separate logistic regression analyses estimated the effects of R/S on the odds of being diagnosed with ADRD. The first model includes R/S variables and control variables. Model 2 adds the independent variable hypertension to consider the role, if any, that R/S plays in the relationship between hypertension and ADRD risk.

3 | RESULTS

3.1 | Descriptive statistics

We identified 4356 respondents from the HRS dataset who identified as Black/African American and were 40 years of age or older at time of participation. Within that sample, 181 had an ADRD diagnosis (4.16%) and 3250 (74.61%) had been diagnosed with hypertension. The participants had a mean age of 63.32 years and 61.78% identified as female (See Table 1 for full descriptive statistics split by ADRD diagnosis status).

3.2 | Model 1: R/S and ADRD risk

Differences in attending religious services had a significant effect on the odds of being diagnosed with ADRD. Specifically, those who did not attend religious services at all had 2.46 times higher odds of being diagnosed with ADRD than participants who attended religious services more than once a week ($p = .004$). Neither frequency of

TABLE 1 Descriptive Statistics.

	Diagnosed with ADRD		
	Mean (SD) or N (Column %)		
	Yes (N = 181)	No (N = 4175)	Overall
Sex			
Male	76 (41.99)	1589 (38.06)	1665 (38.22)
Female	105 (58.01)	2586 (61.94)	2691 (61.78)
Age	74.62 (12.57)	62.83 (9.81)	63.32 (10.21)
Wealth	13.97 (0.12)	14.00 (0.18)	14.00 (0.18)
Education level			
Less than HS	76 (41.99)	931 (22.41)	1007 (23.23)
HS	51 (28.18)	1270 (30.57)	1321 (30.47)
More than HS	54 (29.83)	1953 (47.01)	2007 (46.30)
Religious services attendance			
More than once a week	24 (13.33)	887 (21.40)	911 (21.07)
Once a week	35 (19.44)	1088 (26.25)	1123 (25.97)
Two or three times a month	26 (14.44)	803 (19.38)	829 (19.17)
One or more times a year	38 (21.11)	729 (17.59)	767 (17.74)
Not at all	57 (31.67)	637 (15.37)	694 (16.05)
Frequency of prayer			
Less than once a month/Never	36 (27.27)	487 (17.92)	523 (18.35)
At least once a month	4 (3.03)	110 (4.05)	114 (4.00)
Several times a month	8 (6.06)	162 (5.96)	170 (5.96)
Once a week	6 (4.55)	112 (4.12)	118 (4.14)
Several times a week	15 (11.36)	338 (12.44)	353 (12.39)
Daily	63 (47.73)	1509 (55.52)	1572 (55.16)
Religious salience	5.34 (1.30)	5.36 (1.20)	5.36 (1.21)
Hypertension diagnosis			
Yes	169 (93.37)	3081 (73.80)	3250 (74.61)
No	12 (6.63)	1094 (26.20)	2006 (25.39)

Abbreviations: ADRD, Alzheimer's disease and related dementias; HS, high school.

prayer nor religious salience had a significant effect on ADRD diagnosis risk.

Among the control variables, older age significantly increased odds of ADRD (OR = 1.10, $p < .001$) and higher wealth was associated with decreased odds of being diagnosed with ADRD (OR = .16, $p = .022$). Gender and education did not have significant effects on ADRD risk (See Table 2 for complete results from this model, including odds ratios, confidence intervals, and p -values for the effects of all variables on ADRD risk).

3.3 | Model 2: R/S, hypertension, and ADRD risk

When added to Model 1, a diagnosis of hypertension increased the odds of an ADRD diagnosis by 3.07 times

($p = .003$) compared to those who had not been diagnosed with hypertension. As was the case in Model 1, neither frequency of prayer nor religious salience had a significant effect on ADRD diagnosis risk (See Table 2 for complete results from this model).

Differences in attending religious services still had a significant effect on the odds of being diagnosed with ADRD, even after controlling for hypertension. Those who did not attend religious services at all had 2.37 higher odds of being diagnosed with ADRD than participants who attended religious services more than once a week ($p = .006$). Further, rates of ADRD increased as religious attendance decreased. ADRD diagnoses were lowest (2.63%) for those who attended religious services more than once a week and highest (8.21%) for those who did not attend religious services at all. A Cochran-Armitage trend test was statistically significant for this

	Model 1		Model 2	
	OR (95% CI)	<i>p</i>	OR (95% CI)	<i>p</i>
Sex (ref = male)				
Female	0.73 (0.5, 1.07)	.107	0.70 (0.48, 1.03)	.071
Education (ref = less than high school)				
High school	0.95 (0.60, 1.49)	.821	0.93 (0.59, 1.46)	.752
More than high school	0.85 (0.53, 1.37)	.508	0.88 (0.55, 1.41)	.591
Wealth	0.16 (0.03, 0.77)	.022	0.17 (0.03, 0.80)	.025
Age	1.10 (1.08, 1.12)	<.001	1.09 (1.07, 1.11)	<.001
Attending religious services (ref = more than once a week)				
Once a week	1.07 (0.57, 1.99)	.833	1.01 (0.54, 1.88)	.972
Two or three times a month	1.42 (0.73, 2.77)	.300	1.33 (0.68, 2.60)	.400
One or more times a year	1.85 (0.98, 3.50)	.060	1.79 (0.94, 3.40)	.075
Not at all	2.46 (1.34, 4.51)	.004	2.37 (1.29, 4.37)	.006
Frequency of Prayer (ref. = less than once a month/never)				
At least once a month	0.58 (0.20, 1.70)	.317	0.59 (0.20, 1.76)	.348
Several times a month	1.06 (0.47, 2.41)	.892	1.10 (0.48, 2.51)	.821
Once a week	1.00 (0.39, 2.55)	.994	1.14 (0.44, 2.92)	.787
Several times a week	0.89 (0.46, 1.71)	.726	0.93 (0.49, 1.80)	.837
Daily	0.68 (0.43, 1.08)	.106	0.70 (0.44, 1.11)	.125
Religious salience	0.97 (0.83, 1.13)	.674	0.97 (0.82, 1.13)	.659
Hypertension diagnosis (ref = no)			3.07 (1.46, 6.46)	.003

Note: Dependent variable is ADRD diagnosis status (i.e., yes/no).

Abbreviations: CI, confidence interval; OR, odds ratio; ref, reference value.

relationship ($p < .001$) (See Table 1 for full diagnosis rates at each response level for religious attendance).

Among the control variables, older age significantly increased odds of ADRD (OR = 1.09, $p < .001$) and increased wealth significantly decreased odds of being diagnosed with ADRD (OR = 0.17, $p = .025$). Gender and education did not have a significant effect on ADRD risk.

3.4 | Models 3 & 4: A focus on R/S attendance and ADRD risk

Response rates differed between the three R/S variables. All 181 people living with ADRD responded to the R/S services attendance question, but only 132 and 134 people living with ADRD responded to the frequency of prayer and religious salience questions, respectively. Given the relatively low number of people living with ADRD in the sample, we repeated the previous two logistic regression analyses but excluded the frequency of prayer and religious salience variables in order to confirm that the effects of R/S services attendance were preserved with the larger sample of people living with ADRD.

TABLE 2 Logistic regressions examining effects of R/S and hypertension on ADRD risk.

For both analyses, differences in attending religious services still had a significant effect on the odds of being diagnosed with ADRD; this was still true in Model 4 even after controlling for hypertension. Specifically, in both models those who attended attend religious services more than once a week had significantly lower odds of being diagnosed with ADRD than those who attended only one or more times a year and those who never attended. In Model 4, hypertension was also positively correlated with risk of diagnosis.

Among co-variates, increased age and decreased wealth were both correlated with higher risk of diagnosis. Sex and education did not have a significant effect on ADRD risk in either model. (See Table 3 for complete results from these models, including odds ratios, confidence intervals, and *p*-values for the effects of all variables on ADRD risk).

4 | DISCUSSION

This study considers whether the higher relevance of R/S in the daily lives of Black people in the United States may affect their ADRD risk. Our first hypothesis was

TABLE 3 Logistic regressions examining effects of religious services attendance and hypertension on ADRD risk.

	Model 3		Model 4	
	OR (95% CI)	<i>p</i>	OR (95% CI)	<i>p</i>
Sex (ref = male)				
Female	0.79 (0.57, 1.09)	.156	0.76 (0.55, 1.05)	.093
Education (ref = less than high school)				
High school	0.80 (0.54, 1.19)	.274	0.81 (0.55, 1.19)	.280
More than high school	0.78 (0.52, 1.16)	.217	0.82 (0.55, 1.22)	.328
Wealth	0.19 (0.05, 0.70)	.013	0.19 (0.05, 0.72)	.014
Age	1.10 (1.08, 1.12)	<.001	1.09 (1.08, 1.11)	<.001
Attending religious services (ref = more than once a week)				
Once a week	1.06 (0.62, 1.82)	.837	0.99 (0.58, 1.71)	.984
Two or three times a month	1.30 (0.73, 2.32)	.378	1.22 (0.68, 2.18)	.507
One or more times a year	2.02 (1.18, 3.47)	.011	1.94 (1.13, 3.34)	.017
Not at all	2.82 (1.69, 4.69)	<.001	2.75 (1.65, 4.60)	<.001
Hypertension diagnosis (ref = no)			3.38 (1.80, 6.36)	<.001

Note: Dependent variable is ADRD diagnosis status (i.e., yes/no).

Abbreviations: CI, confidence interval; OR, odds ratio; ref, reference value.

partially supported: Attending religious services, but not frequency of prayer nor religious salience, was associated with a reduced risk of ADRD for self-identified Black people. Our second hypothesis was rejected: Attending religious services correlated with a reduced likelihood of ADRD diagnosis even after controlling for hypertension, an ADRD risk factor. This project is innovative because it (1) examines how R/S may help to reduce the risk of ADRD diagnosis, even for people who have comorbid conditions such as hypertension, and (2) leverages a dataset with an oversampling of Black people to conduct a quantitative analysis of the R/S–ADRD diagnosis relationship.

Regarding the first point, the current findings demonstrate the importance that existing cultural networks can have for reducing ADRD burden and could be used to develop non-pharmacological interventions that improve quality of life for those living with ADRD and their caregivers. Our findings suggest that the protective effects of R/S on ADRD diagnosis risk persist even in the face of CVD risk; increased R/S attendance still reduced ADRD risk while controlling for hypertension, despite the direct effect that hypertension had on increasing ADRD diagnosis risk. This control shows that the observed effect of R/S is not simply a result of people who attend services less frequently having higher or lower blood pressure than others. Thus, the effects of R/S attendance on ADRD diagnosis merit their own consideration for two reasons: (1) R/S may play a role in reducing the chances of an ADRD diagnosis even among those who already suffer from other risk factors, and (2) the

pathway or mechanism by which R/S reduces ADRD risk may extend beyond simply ameliorating other risk factors.

Regarding the second point, Black people are often underrepresented in ADRD research (Gilmore-Bykovskiy et al., 2019; Salazar et al., 2020), despite facing higher risk than other racial groups (Matthews et al., 2019). Past research also indicates that R/S may help ameliorate negative health disparities for Black people (examples include: Agli et al., 2015; Assari & Lankarani, 2016; Nguyen et al., 2018). By examining the relationship between R/S and a health outcome (i.e., ADRD) within a predominantly Black social context this study captures discrete protective factors of R/S that may be unique to experiences within predominantly Black congregations. This counteracts existing research that conducts R/S research utilizing samples of predominantly white people and therefore may overlook sociocultural factors unique to Black people. In other words, our work acknowledges that social determinants of health in the United States, particularly those tied to institutional racism, create unique biocultural dynamics for Black people thus generating the need for research focusing exclusively on this demographic.

The analysis featured here is cross-sectional, taking a pathways model approach (Thayer et al., 2022) to consider whether R/S behaviors mediate the relationship between social disparities and ADRD risk, a health outcome, for Black people. A specific consequence of the cross-sectional analysis is that it cannot be definitively determined if reduced R/S services attendance is a risk

factor for ADRD, or if reduced R/S services attendance is a consequence of symptom burden subsequent to ADRD diagnosis. Past findings show that people living with chronic illnesses generally reduce their R/S services attendance (Benjamins et al., 2003; Chatters & Linda, 2009; Hill et al., 2020). This trend applies specifically to both Black people (Bruce et al., 2022) and people living with ADRD (Agli et al., 2015). Despite the reduced R/S services attendance for the ADRD group in this study, our analyses also show that religious salience and frequency of private prayer do not differ between people living with ADRD and their peers. It is thus striking that people living with ADRD are attending R/S services less frequently despite other measures indicating that R/S is as pertinent to their daily lives as it is to their peers who attend more frequently.

The relative incongruity between frequency of R/S services attendance and the other R/S measures has two possible, albeit conflicting, implications. First, if reduced R/S services attendance is an antecedent to ADRD diagnosis, it follows that the inverse may also be true: R/S participation may buffer the effects of age-related cognitive decline, or even protect against ADRD. This would align with past work arguing that R/S involvement can protect against cognitive decline in older adults (Hill et al., 2006; Hosseini et al., 2019; Kaufman et al., 2007). A second possibility is that reduced R/S services attendance is subsequent to ADRD diagnosis, while other measures of R/S (i.e., prayer frequency and salience) persist. This would suggest that people living with ADRD lose access to social support, coping mechanisms, and other benefits of organized religion, which they may have relied upon before a diagnosis and which remain important in their lives. If Black people living with ADRD are struggling to attend R/S services, it underscores the importance of burgeoning “dementia friendly” endeavors for predominantly Black churches (Epps et al., 2021; Gore et al., 2022).

Interestingly, our findings show that only the social measure of R/S, attending services, correlated with lower levels of ADRD while the inward-facing variables of private prayer and religious salience did not. The effect of in-person R/S seems to partially align with Kitwood’s five great needs that coalesce into a feeling of “love” for people living with ADRD. For Black people in the United States who engage in R/S, a key feature is the development a loving relationship with God (Branch et al., 2006; Levin, 1984), and this relationship permeates many of their sociocultural contexts (Swinton, 2017). This is especially the case in historically Black churches, which commonly have themes of family and community, while emphasizing prayer and other ways to connect personally with the religion (Collins & Perry, 2015; Marks et al., 2005).

Our findings, however, do not necessarily align with Kitwood’s entire “love” framework for ADRD personhood. Per Kitwood’s description, “identity” and “occupation” seem to be at least partially defined by an individual’s psychology, whereas “inclusion,” “attachment,” and “comfort” all require social interaction. Swinton, in turn, conceptualizes personhood in terms of social relations, arguing that a primary driver of lost personhood in people living with ADRD is loss of established interpersonal relationship dynamics, which effectively undermines the socioemotional salience of memory. Religion, or a belief in a Christian god in Swinton’s argument, serves as a unifying agent that enhances existing relationships and encourages sustainable personhood in people living with ADRD. For Black people in the United States, this is particularly relevant given the crucial role organized religion has historically played in compensating for exclusion from formal social safety nets and in the face of persistent racism. Thus, we suggest that the unique history and practice of religion for many Black people in the United States may be a driving force for creating an engaged sociality which sustains the personhood of people living with ADRD.

Deeper examination of the intersection between race, personhood, and R/S in ADRD research could contribute to further exploring the nuanced effects of the differing forms of R/S practice (Mast et al., 2021). Specifically, is it possible to decouple the effects of spirituality, an individual’s beliefs about the love of a higher power in this case, from the effects of religion (i.e., participation/support associated with spiritual communities)? Or do religion and spirituality work in tandem to generate the observed effects? Overall, our findings do suggest support for a model of ADRD that includes the social environment, but perhaps in a way that modifies Kitwood’s aspects.

4.1 | Future directions and limitations

The current findings indicate that R/S involvement is important when considering potential strategies for reducing ADRD risk, specifically for Black people in the United States. We determined how three components of R/S were related to ADRD diagnosis status, rather than drawing conclusions from non-specific measures of religion. This should encourage future research with higher levels of nuance on R/S engagement that could better explain protective factors in the lives of Black people experiencing cognitive decline. Future studies could draw from existing methodologies to develop more robust measures of R/S than those found in HRS. In particular, a focus on incorporating a critical biocultural perspective that more carefully considers who is diagnosed with

ADRD and why in religious contexts may help unravel more nuanced findings, especially through the incorporation of ethnographic methodology (Leatherman & Goodman, 2022). Further, integrating ethnography into these investigations would have a reciprocal positive effect of expanding the range of biocultural research, which has rarely considered religion and religious practice in recent decades (Hoke & Schell, 2020). A follow-up question could also consider if R/S is unique in this effect or if other social networks that foster multi-dimensional “love” could offer similar protective effects against ADRD risk.

Our findings align with past research that argues R/S is not a race-neutral determinant of health and that the relationships between R/S and health outcomes may sometimes differ for Black people. Historically Black churches share some common threads (e.g., high values of spirituality, cultural heritage, and commitment to family) (Billingsley & Caldwell, 1991), but vary greatly in their views on women and social justice, socioeconomic indicators, and integration of health initiatives (Harvey et al., 2013; Murphy, 2000; Thomas et al., 1994). Recent research has documented denominational differences in cardiovascular health outcomes in predominantly Black/African American congregations (Bentley-Edwards et al., 2020; Robbins et al., 2021), suggesting that the relationship between R/S and health can have contextual nuance. Future researchers should focus on delineating denominational differences in the role of R/S for reducing ADRD risk among predominantly Black churches.

Although HRS is the most appropriate dataset given the oversampling of Black people and the inclusion of questions regarding hypertension, ADRD diagnosis status, and R/S, it is important to remember this study is correlational and cannot discern the mechanism for the observed relationship. The HRS data were also collected before the emergence of Covid-19 and thus do not account for the syndemic-like effects that many people experienced during the pandemic (Gravlee, 2020) which may have altered the relationship between R/S and health outcomes.

Finally, a weakness of this analysis is that the measures of R/S used in the dataset are not necessarily appropriate for generalizing these results to other cultural contexts. Rather, these findings seem to speak to the way that effective social engagement with older adults experiencing neurocognitive changes can be related back to existing institutions for this particular group of people. Attempts to clarify or replicate these findings in other contexts should focus on that aspect, and not the ways in which R/S was measured in this study. Further, the HRS does not include a robust measure of sex or gender, using

the two terms interchangeably and offering only “male” and “female” reply options (Hanes & Clouston, 2021).

5 | CONCLUSION

Our results showed that communal R/S activity (i.e., attending R/S services) impacted ADRD risk but private R/S (i.e., prayer and religious salience) did not have protective effects for Black people living in the United States. These findings demonstrate the importance that existing cultural networks (e.g., R/S) can have for reducing the burden of ADRD on Black people and has important implications for the role of R/S in shaping ADRD symptomatology. Our analysis stresses the necessity of studying multidimensional measures of R/S involvement for Black people to understand how specific aspects of R/S may mitigate health disparities. As the size of our aging population continues growing, perhaps R/S can be viewed as a tool for reducing ADRD risk and other health disparities.

AUTHOR CONTRIBUTIONS

E. E. G. conducted statistical analyses, wrote the manuscript and revised the manuscript; P. A. R. helped to plan the study, consulted on statistical analyses, and revised the manuscript; B. T. F. assisted in writing and revision; K. L. B.-E. planned the study, supervised statistical analyses, and helped revise the manuscript.

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CONFLICT OF INTEREST STATEMENT


The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from <https://hrs.isr.umich.edu/data-products>. Restrictions apply to the availability of these data, which were used under license for this study.

ORCID

Eric E. Griffith  <https://orcid.org/0000-0003-3930-1970>

Paul A. Robbins  <https://orcid.org/0000-0003-4997-014X>

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