Scientific Publications

Open Journal of Psychology, 2025, 5, 6197
www.scipublications.com/journal/index.php/ojp
DOI: 10.31586/ojp.2025.6197

Article

Unequal Burden of Loss of a Loved One in Non-Hispanic Black and White Californians

Shervin Assari [1,2,*], Sharon Cobb [1,2], Mohsen Bazargan [3]

[1] Department of Family Medicine, Charles R Drew University of Medicine and Science, Los Angeles, CA, USA
[2] The Mervyn M. Dymally College of Nursing (MMDCON), Charles R Drew University of Medicine and Science, Los Angeles, CA, USA
[3] The Institute for Integrative and Innovative Research (I³R), University of Arkansas, Fayetteville, AR, USA

*Correspondence: Shervin Assari (ShervinAssari@cdrewu.edu)

Abstract:

Purpose: Although the effect of loss of a loved one on depression is well established, very limited knowledge exists on racial differences in this effect. **Aim:** In the current study we compared Non-Hispanic White (NHW) and Non-Hispanic Black (NHB) Californians for the effects of loss of a loved one on depression in a representative sample of adults in California. **Methods:** This cross-sectional study used data from the Survey of California Adults on Serious Illness and End-of-Life 2019. Overall, 1603 people entered our study. We compared 901 (56.2%) NHB and 702 (43.8%) NHW adults (age 18 and older). Race/ethnicity, demographics (age and gender), socio-economic factors (education, income, employment, and marital status), religiosity, and health (self-rated health and number of chronic medical conditions), and depression were measured. To perform data analysis, we used logistic regression models. **Results:** In the pooled sample, loss of a loved one was not associated with self-reported depression, net of all covariates. Race, however, interacted with loss of a loved one on depression, suggesting a larger association for NHBs compared to NHWs. In race-specific models, loss of a loved one predicted depression for NHBs (*OR* = 1.54) but not NHWs (*OR* = 0.99). **Conclusion:** There are differences between NHBs and NHWs in the effect of loss of a loved one on depression. NHBs show a stronger association between loss of a loved one and depression than NHWs. This result is not in line with the NHB mental health paradox or with NHB resilience but is consistent with the notion that social relations may be more salient for NHBs than for NHWs.

Keywords: Population Groups; Race; Ethnicity; Ethnic Groups; Blacks; African Americans; Loss; Stress; Depression

How to cite this paper:
Assari, S., Cobb, S., & Bazargan, M. (2025). Unequal Burden of Loss of a Loved One in Non-Hispanic Black and White Californians. *Open Journal of Psychology, 5*(1), 52–63.
DOI: 10.31586/ojp.2025.6197

Received: July 28, 2025
Revised: August 31, 2025
Accepted: September 30, 2025
Published: October 4, 2025

1. Introduction

Despite experiencing a wide range of stressors and economic and social adversities, non-Hispanic Blacks (NHBs) have a lower risk of depression than non-Hispanic Whites (NHWs) [1-13]. This paradox is one of the unexplained mysteries of research in the field of race and mental health in the United States [4-8,14]. Some researchers attribute this phenomenon to the fact that NHBs have a greater tendency to experience flourishing, psychological growth, and transcendence when faced with social and economic adversities than NHWs [4].

Another possible explanation for the Black-White mental health paradox, known as the *Differential Effects Hypothesis* [15,16], is that NHBs and NHWs differently gain or lose health due to the risk factors and resources in their social environment [16,17]. In this view, NHBs show a weaker slope of the effects of socioeconomic status (SES) resources than

NHWs [18-22]. Similarly, compared to NHWs, NHBs tend to rely on non-economic resources such as social support, family, and religion [23]. Social support, family, and religion have been freely available to NHBs, even under slavery. Thus, religion and non-religious social support have become central elements of survival for NHBs [24]. In this view, NHBs not only report higher levels of religious and non-religious social interaction than NHWs, they also more effectively mobilize their social relations both inside and outside of church to better cope with harsh environments [25,26].

Cohen's social support theory [40] has emphasized that positive and supportive social relations are protective on health. Social support is one the core elements of maintaining mental health, as it buffers the effects of stress [27,28]. There are many empirical [29-31] and theoretical [28] studies on the protective effects of positive social relations. For example, Krause [32-34], and Taylor and Chatters [35-39] have shown that social support is a main mechanism that NHBs use to maintain their mental health. However, many of these effects may not be equal for NHBs and NHWs [25,26,41,42].

An explanation for the Black-White mental health paradox is the higher availability and salience of positive social resources in the life of NHBs compared to NHWs [4-8]. Mouzen et al. have used the National Survey of American Life data and examined whether social relations in the family and church explain the lower prevalence of depression in NHBs than NHWs [7,8]. Their research could not provide evidence supporting the hypothesis that differences in the quality and the quantity of social relations (friends, fictive kinship, relatives, and family members) in the lives of NHBs and NHWs can explain the Black-White mental health paradox [7,8].

In several studies, Assari has also tried to understand the Black-White mental health paradox [5,43-49]. Various studies have documented differences between NHBs and NHWs in the psychosocial and medical correlates of depression [5,43-49]. This includes evidence suggesting that depression predicts chronic medical conditions [6,52,53] and mortality [50,51] of NHWs but not NHBs. Similarly, baseline depressive symptoms predicted subsequent depression for NHWs but not NHBs [54]. This weaker predictive role of risk factors on psychosocial and physical health outcomes in NHBs compared to NHWs are not limited to depression and shown for several other economic, social, and psychological resources [6,18,40,50,52-57]. These patterns can be either seen as a systemic resilience or diminished returns of resources in NHBs [4,5].

One potential hypothesis that may justify the weaker-than expected effects of social and medical risk factors in the NHB community is higher availability of social support and religiosity [7,8,25,41]. Social support and religiosity are both more common and more effective among NHBs than NHWs [41,42]. In other terms, NHBs might be more resilient to the harmful effects of societal adversities compared to NHWs, simply because social relations and religion are more salient for them. Assari has conducted a few studies showing that social support may have a more salient role in protecting NHB than NHW mental health [25,118]. In another study, Krause showed that church-based support shows stress-buffering effects for NHBs but not for NHWs [42]. Similarly, Lincoln, Chatters and Taylor used data from the National Comorbidity Survey (NCS) and showed that social support and lack of it are more closely associated with psychological distress in NHBs compared to NHWs [41]. Again, these findings are indicative of NHBs' relative advantage to NHWs in receiving some mental health effects of social relations [26].

2. Aim

This study compared NHB and NHW adults in California for the effects of losing a loved one on depression. In line with previous studies on the Black-White mental health paradox [25,41,42], we expected a weaker effect of losing a loved one on depression in

NHB than in NHW California adults. However, since social support has greater salience for the mental health of NHBs than for NHWs, loss of a loved one may exact a greater psychological toll on NHBs than on NHWs.

3. Methods

3.1. Design and Settings

The Survey of California Adults on Serious Illness and End-of-Life is a cross-sectional representative survey of residents of California in 2019. The survey was conducted on the field June 6, 2019 through July 2, 2019. The study was conducted for the California Health Care Foundation. The survey was administered primarily using Ipsos' KnowledgePanel.

3.2. Participants and Sampling

This study included 2,588 California adults 18 years of age and older. The eligibility criteria were being a California resident and having an age of 18 or older. Participants were drawn from Ipsos' KnowledgePanel, the first representative online research panel in the US. Panel members are randomly recruited through address-based sampling (ABS) methods. All households are provided with Internet access as well as hardware that might be needed. The survey also increased the number of Black respondents by using supplemental, nonprobability sampling.

3.3. Survey weights

Overall, the sample for this survey was designed to target the following numbers of respondents: 1) 800 Californians under 150% federal poverty level (FPL), 2) 800 Californians between 150% and 399% FPL, and 3) 800 Californians at 400% FPL and above. After the survey data were collected, cleaned, and processed, design weights were calculated to account for nonresponse as well as stratification. We applied weights to generate results that would be representative of California adults.

3.4. Process

The survey was conducted in English and in Spanish. Participants answered the questions of the survey in their home online.

3.5. Measures

3.5.1. Independent Variable

Loss of a loved one. The study measured loss of a loved one over the past two months using the following single item measure: "In the past two years, have you lost a loved one - that is, a member of your family or a close personal friend - who passed away?". Responses were 0 (no) and 1 (yes).

3.5.2. Dependent Variable (DV)

Self-Rated Health (SRH). SRH was measured using a single item [74-77]. Participants reported their overall health. Response options included poor. The IOM, the Institute of Medicine, has recommended monitoring the health of the US general population by using single item SRH measures. As is common in the literature, we treated SRH as a dichotomous variable. To accomplish this, we combined the poor and fair categories, and compared it to other responses. Poor or fair SRH was coded as 1. Excellent, very good or good health were coded as 0. Poor SRH is highly valid, as it independently predicts the risk of mortality [74-77].

3.5.3. Moderator

Race. Race and ethnicity, self-identified: [NHBs = 1, NHWs = 0 (reference category)].

3.5.4. Covariates

Sociodemographic Factors. Sociodemographic control variables included gender, age, education, poverty status, household head, marital status, and employment. Gender was a dichotomous measure [male =1, female = 0 (reference group)]. Age was a continuous variable. Education was a four-level categorical variable: 1) <12 years, 2) 12 years, 3) 13-15 years, and 4) 16+ years. Poverty status was measured based on the income per household member. This variable was a three-level categorical variable: 1) under 150% of the federal poverty line, 2) 150% - 399% of the federal poverty line, and 3) 400% + of the federal poverty line. A dichotomous variable measured if the individual is the household head (0 = no, 1=yes). Marital status, a dichotomous variable, was coded as married = 1, other = 0. Employment was coded as employed = 1, unemployed, not in labor market, searching for job, retired, or disabled = 0. Employed included those who conducted any work for pay or those who were self-employed.

3.5.5. Statistics

We applied SPSS 23.0 (IBM, New York, U.S.A.) to perform our data analysis. For descriptive statistics, we reported means and proportions (frequencies). For bivariate analysis, we used the Chi Square or independent sample t test. For multivariable models, we ran four logistic regression models. In all of these models, loss of a loved one was the independent variable, and self-reported depression was the dependent variable. Demographics, education, poverty status, household head, marital status, and employment were the control variables, and race was the focal moderator. First, we ran logistic regression models in the total sample that included NHBs and NHWs. The initial model did not include race by loss interaction term. In the next step, we ran a model with race by loss interaction term. Then, in two separate models, we ran race/specific models in NHWs and NHBs. Adjusted Odds Ratios (ORs), 95% Confidence Intervals (9% CI), and *p*-values were reported. *p*-values equal or less than 0.05 was significant.

4. Results

4.1. Descriptive Statistics

Table 1 summarizes the descriptive statistics of the participants overall. Overall, 1603 people entered our study. We compared 901 (56.2%) NHB and 702 (43.8%) NHW adults (age 18 and older). Compared to NHWs, NHBs were younger, were more likely to be women, had lower education, had lower income, were less likely to be married and employed, and had higher prevalence of losing a loved one.

Table 1. Descriptive data overall and stratified by race.

	Mean	**SD**	**Mean**	**SD**	**Mean**	**SD**
	All		**NHWs**		**NHBs**	
	n	**%**	***n***	**%**	***n***	**%**
Race						
NHWs	901	56.2	901	100.0	-	-
NHBs	702	43.8	-	-	702	100.0
Gender *						
Female	922	57.5	450	49.9	472	67.2
Male	681	42.5	451	50.1	230	32.8
Household Head*						

No	320	20.0	126	14.0	194	27.6
Yes	1283	80.0	775	86.0	508	72.4
Poverty Status*						
Under 150% of the federal poverty line	513	32.0	216	24.0	297	42.3
150% - 399% of the federal poverty line	537	33.5	293	32.5	244	34.8
400% + of the federal poverty line	553	34.5	392	43.5	161	22.9
Employed						
No	657	41.0	422	46.8	235	33.9
Yes	938	58.5	479	53.2	459	66.1
Education*						
Less than High School	57	3.6	20	2.2	37	5.3
High School	324	20.2	181	20.1	143	20.4
Some College	625	39.0	312	34.6	313	44.6
College Or More	597	37.2	388	43.1	209	29.8
Marital Status (Married) *						
No	953	59.5	417	46.3	536	76.4
Yes	650	40.5	484	53.7	166	23.6
Loss of a loved one*						
No	766	47.8	494	54.8	272	38.7
Yes	837	52.2	407	45.2	430	61.3
Depression						
No	1220	76.1	701	77.8	519	73.9
Yes	383	23.9	200	22.2	183	26.1
	Mean	**SD**	**Mean**	**SD**	**Mean**	**SD**
Age**			57.76	16.57	41.41	16.15

**p < 0.05, Chi Square; **p < 0.05, Independent sample t test*

4.2. Pooled Sample Regression

Table 2 provides a summary of the results of our binary logistic regression models that were conducted in the total sample in which loss of a loved one was the independent variable and self-reported depression was the dependent variable. Loss of a loved one was not associated with depression in the pooled sample. We found an interaction between race and loss of a loved one on depression. This finding suggested that the effect of loss of a loved one on depression was larger for NHBs than for NHWs (Table 2).

Table 2. Effects of loss of a loved one on depression based on race

	Model 1 ***Pooled Sample*** *Without Interaction*				***Model 2*** ***Pooled Sample*** *With Interaction*			
	OR	**95% CI**		**p**	**OR**	**95% CI**		**p**
Race (NHBs)	0.63	0.47	0.84	.001	0.47	0.32	0.71	<.001
Age	0.98	0.97	0.99	<.001	0.98	0.97	0.99	<.001
Gender (Male)	0.57	0.44	0.75	<.001	0.57	0.44	0.74	<.001
Head of the Household	1.46	1.06	2.00	.021	1.45	1.05	1.99	.023
Poverty Status				.008				.008
Under 150% of the federal poverty line	1.00				1.00			
150% - 399% of the federal poverty line	0.74	0.55	0.99	.043	0.74	0.55	1.00	.050
400% + of the federal poverty line	0.59	0.42	0.82	.002	0.59	0.42	0.83	.002
Employed	0.86	0.65	1.13	.278	0.85	0.65	1.12	.248
Education				.038				.041
Less than High School	1.00				1.00			

High School	0.42	0.22	0.78	.006	0.42	0.22	0.79	.007
Some College	0.57	0.31	1.04	.066	0.58	0.32	1.05	.071
College Or More	0.54	0.29	1.00	.051	0.54	0.29	1.01	.052
Married	0.51	0.38	0.68	<.001	0.51	0.38	0.68	<.001
Loss of a Loved One	1.20	0.94	1.54	.141	0.96	0.69	1.34	.803
Loss of a Loved One x Race (NHBs)					1.67	1.01	2.75	.045
Constant	2.82			.006	3.11			.003

OR: Odds Ratio; CI: Confidence Interval

4.3. Race-Stratified Regressions

Table 3 provides a summary of the results of our binary logistic regression models that were conducted in NHWs and NHBs. In these models, loss of a loved one was the independent variable and self-reported depression was the dependent variable. Loss of a loved one was not associated with depression in NHWs. We found an association between loss of a loved one and depression in NHBs (Table 3).

Table 3. Effects of loss of a loved one on depression based on race

	Model 3				***Model 4***			
	NHWs				**NHBs**			
	OR	**95% CI**		**P**	**OR**	**95% CI**		**p**
Age	0.98	0.97	0.99	.000	0.99	0.98	1.00	.069
Gender (Male)	0.61	0.43	0.86	.005	0.48	0.32	0.74	.001
Head of the Household	1.14	0.71	1.85	.589	1.77	1.16	2.71	.009
Poverty Status				.034				.200
Under 150% of the federal poverty line	1.00				1.00			
150% - 399% of the federal poverty line	0.74	0.49	1.13	.167	0.74	0.48	1.14	.177
400% + of the federal poverty line	0.55	0.35	0.87	.009	0.63	0.36	1.09	.099
Employed	0.71	0.49	1.03	.068	1.06	0.70	1.62	.784
Education				.314				.011
Less than High School	1.00				1.00			
High School	0.69	0.24	2.00	.493	0.32	0.14	0.73	.007
Some College	0.92	0.33	2.60	.880	0.42	0.20	0.92	.030
College Or More	1.10	0.39	3.12	.859	0.27	0.11	0.62	.002
Married	0.52	0.37	0.74	.000	0.49	0.30	0.82	.007
Loss of a Loved One	0.99	0.71	1.38	.946	1.54	1.05	2.25	.025
Constant	2.73			.096	1.28			.595

OR: Odds Ratio; CI: Confidence Interval

5. Discussion

We found that NHBs and NHWs differ in the effects of losing a loved one on depression. To be more specific, NHBs showed an association between losing a loved one and depression, an association which could not be found in NHWs.

Although the literature says loss of a loved one is a risk factor for depression [119-121], we did not see any association between losing a loved one and depression in the pooled sample and NHWs. Thus, our finding was not in line with the existing literature on the association between stress and depression. For NHBs, however, we did find an association between losing a loved one and depression. Within NHBs, this link may be explained via many mechanisms. First, loss of a loved one means a decline in social

support and social relations. Thus, it operates as a source of stress. Loved ones may provide support that has direct protective effects or that buffers the effects of stress on health. A decline in social support via loss of a loved one is a predictor of an increase in perceived stress [69].

Our result on the interaction of race and loss of a loved one on depression was indicative of the greater salience for NHBs of social relations for mental health than for NHWs. Assari et al., [25, 118], Lincoln et al., [41] and Krause [70] have shown that race alters the mental health benefits associated with social support both inside and outside of church. Most of these studies have shown that NHBs gain greater health from their social relations and religion than do NHWs [70]. As Skarupski has argued, this is indicative of an advantage of NHBs relative to NHWs [26].

Compared to NHWs, NHBs have different transactions with their social network [71-74]. This may be in part because NHBs and NHWs have differently composed social networks [75,74]. It is likely that in response to discrimination and racism, NHBs have turned to social relations and other organizations such as church to cope with adversity. As a result, the social relations-mental health link may vary between NHBs and NHWs [25,41]. Such historical adaptations may have resulted in more effective social relations required for dealing with adversity [2,78].

Another reason NHBs and NHWs may differ in the salience of loss of a loved one is self-construal. NHBs, like many other racial and ethnic minority groups, value social relations such as friends and family more than NHWs. Thus, NHBs may be more likely than NHWs to cultivate deep social relationships. This may be because they place a higher value on the family, collectivism, and interdependence in life [122,123]. NHBs are more likely than NHWs to define life and being as something interconnected, which is a part of their cultural beliefs. Such attitudes and values may result in NHBs placing a higher importance on social relations and social support [80]. Difference in the self-construal may result in a difference between NHWs and NHBs in how they approach their social environment and how much a loved one matters [81]. NHB culture is interdependent and communal, and highly values harmony via the establishment of social support networks [82,83]. As a result, compared to NHWs, NHBs may place a higher value on collectivistic attitudes, which includes a positive relationship with a loved one [81]. There are a few studies comparing NHBs and NHWs on their levels of social interaction and the salience of others [81,82,84]. Compared to NHW cultures, NHB culture is more communal or interdependent, which sees others as a part of the self. NHWs' culture, in contrast, endorses independent attitudes. Such world-view values uniqueness and distinction of self from others even from significant and loved ones [81].

In a recent study by Assari, the effects of religious and secular social support on depression differed between NHWs and NHBs, with NHBs benefiting more from social support, across all sources, compared to NHWs [118]. Similar patterns were shown before by Assari [25], Krause [42], and Lincoln [41]. All these studies support the results of our study on the more significant role of social relations for NHBs' than NHWs' depression.

We found that NHWs and NHBs differ in the effect of loss of a loved one on depression. NHWs and NHBs differ in many health effects of risk factors [18,53,101,102]. Similarly, race alters the links between obesity and overweight [43,44,104,105], perceived health [6,45,50], chronic illness [14,46,52] and mortality [50,51] with depression. This suggests that race may also alter sensitivity to a wide range of social risks and protective factors [50,55-57]. Race interacts with a wide range of risk and protective factors in shaping mental health [18,45,48,104,108-112]. Thus, racial differences in health are not the sum of race and risk factors but their multiplicative effects.

6. Limitations

Our study is not without limitations. First, we studied self-reported depression rather than clinical depression diagnosed by a psychiatrist. We also did not include measures of depressive symptoms or use of anti-depressant medications. Self-reported depression is not ideal to measure depression, and NHBs and NHW may have different levels of awareness of their mental health. They may also experience different levels of stigma around mental health, which could affect their willingness to report depression. Thus, our variable may differently reflect depression for NHWs and NHBs [56,108]. Third, we did not control for all possible confounders such as the details of participants' social relations. Fourth, this study did not explore how loss of a loved one operates through stress, reduced emotional social support, or negative thoughts. Emotional social support may be a mechanism by which loss of a loved one is associated with depression [90]. We measured our variables as single items. Research is still needed to explore why racial differences exist in the effects of loss on mental health. Despite the above limitations, using a large and a representative sample of California adults was a strength of this study.

7. Conclusions

We found that NHB and NHW adults in California how different susceptibility to the effects of losing a love one to depression. Differential susceptibility of racial groups to losing a love one is not in line with NHB mental health paradox or NHB resilience but higher salience of social support and social relations in the life of NHBs compared to NHWs.

Ethics

All participants provided written consent. The current analysis is exempt from s separate IRB review because we only used fully de-identified data.

Acknowledgment and Funding

This study was commissioned by the California Black Health Network (CBHN) with funding from the California Health Care Foundation (CHCF). In addition, Sharon Cobb and Mohsen Bazargan are supported by 5R25MD007610-14 (NIH) through the CDU-Clinical Research Education and Career Development Program.

Conflicts of Interest

The authors declare no conflicts of interest.

References

[1] González, H.M.; Tarraf, W.; Whitfield, K.E.; Vega, W.A. The epidemiology of major depression and ethnicity in the United States. *J. Psychol. Res.* **2010**, *44*, 1043-1051.

[2] Williams, D.R.; González, H.M.; Neighbors, H.; Nesse, R.; Abelson, J.M.; Sweetman, J.; Jackson, J.S. Prevalence and distribution of major depressive disorder in African Americans, Caribbean Blacks and Non-Hispanic Whites: Results from the National Survey of American Life. *Arch. Gen. Psychiatr.* **2007**, *64*, 305-315.

[3] Owen, W.F., Jr. Racial differences in incidence, outcome and quality of life for African-Americans on hemodialysis. *Blood Purif.* **1996**, *14*, 278-285.

[4] Keyes, C.L. The Black-White paradox in health: Flourishing in the face of social inequality and discrimination. *J. Pers.* **2009**, *77*, 1677-1706.

[5] Barnes, D.M.; Keyes, K.M.; Bates, L.M. Racial differences in depression in the United States: How do subgroup analyses inform a paradox? *Soc. Psychiatry Psychiatr. Epidemiol.* **2013**, *48*, 1941-1949.

[6] Assari, S.; Zivin, K.; Burgard, S. Long-term reciprocal associations between depressive symptoms and number of chronic medical conditions: Longitudinal support for black? White health paradox. *J. Racial Ethn. Health Dispar.* **2015**, *2*, 589-597.

[7] Mouzon, D.M. Relationships of Choice: Can Friendships or Fictive Kin Explain the Race Paradox in Mental Health? *Soc. Sci. Res.* **2014**, *44*, 32-43.

[8] Mouzon, D.M. Can Family Relationships Explain the Race Paradox in Mental Health? *J. Marriage Fam.* **2013**, *75*, 470-485.

[9] Cabassa, L.J.; Humensky, J.; Druss, B.; Lewis-Fernández, R.; Gomes, A.P.; Wang, S.; Blanco, C. Do race, ethnicity and psychiatric diagnoses matter in the prevalence of multiple chronic medical conditions? *Med. Care* **2013**, *51*, 540-547.

[10] Johnson-Lawrence, V.D.; Griffith, D.M.; Watkins, D.C. The effects of race, ethnicity and mood/anxiety disorders on the chronic physical health conditions of men from a national sample. *Am. J. Men Health* **2013**, *7*, 58S-67S.

[11] Lindhorst, J.; Alexander, N.; Blignaut, J.; Rayner, B. Differences in hypertension between blacks and whites: An overview. *Cardiovasc. J. Afr.* **2007**, *18*, 241-247.

[12] Signorello, L.B.; Schlundt, D.G.; Cohen, S.S.; Steinwandel, M.D.; Buchowski, M.S.; McLaughlin, J.K.; Blot, W.J. Comparing diabetes prevalence between African Americans and Whites of similar socioeconomic status. *Am. J. Public Health.* **2007**, *97*, 2260-2267.

[13] Jackson, C.L.; Szklo, M.; Yeh, H.C.; Wang, N.Y.; Dray-Spira, R.; Thorpe, R.; Brancati, F.L. Black-white disparities in overweight and obesity trends by educational attainment in the United States, 1997-2008. *J. Obes.* **2013**, *2013*, 140743.

[14] Watkins, D.C.; Assari, S.; Johnson-Lawrence, V. Race and ethnic group differences in comorbid major depressive disorder, generalized anxiety disorder and chronic medical conditions. *J. Racial Ethn. Health Dispar.* **2015**, *2*, 385-394, doi:10.1007/s40615-015-0085-z.

[15] Assari, S. Race and ethnic differences in additive and multiplicative effects of depression and anxiety on cardiovascular risk. *Int. J. Prev. Med.* **2016**, *7*, 22.

[16] Assari, S. Unequal gain of equal resources across racial groups. *Int. J. Health Policy Manag.* **2018**, *7*, 1-9.

[17] Assari, S. Health disparities due to diminished return among black Americans: Public policy solutions. *Soc. Issues Policy Rev.* **2018**, *12*, 112-145.

[18] Assari, S.; Lankarani, M.M. Race and urbanity alter the protective effect of education but not income on mortality. *Front. Public Health*, **2016**, *4*, 100.

[19] Assari, S. Life expectancy gain due to employment status depends on race, gender, education and their intersections. *J. Racial Ethn. Health Dispar.* **2018**, *5*, 375-386.

[20] Assari, S. The Benefits of Higher Income in Protecting against Chronic Medical Conditions Are Smaller for African Americans than Whites. *Healthcare* **2018**, *6*, doi:10.3390/healthcare6010002.

[21] Assari, S.; Mistry, R. Educational Attainment and Smoking Status in a National Sample of American Adults; Evidence for the Blacks' Diminished Return. *Int. J. Environ. Res. Public Health* **2018**, *15*, doi:10.3390/ijerph15040763.

[22] Assari, S.; Thomas, A.; Caldwell, C.H.; Mincy, R.B. Blacks' diminished health return of family structure and socioeconomic status; 15 years of follow-up of a national urban sample of youth. *J. Urban Health* **2018**, *95*, 21-35.

[23] Blank, M.B.; Mahmood, M.; Fox, J.C.; Guterbock, T. Alternative mental health services: The role of the Black church in the South. *Am. J. Public Health* **2002**, *92*, 1668-1672.

[24] Constantine, M.G.; Lewis, E.L.; Conner, L.C.; Sanchez, D. Addressing spiritual and religious issues in counseling African Americans: Implications for counselor training and practice. *Couns. Values* **2000**, *45*, 28-38.

[25] Assari, S. Race and Ethnicity, Religion Involvement, Church-based Social Support and Subjective Health in United States: A Case of Moderated Mediation. *Int. J. Prev. Med.* **2013**, *4*, 208-217.

[26] Skarupski, K.A.; Fitchett, G.; Evans, D.A. Mendes de Leon CF. Race differences in the association of spiritual experiences and life satisfaction in older age. *Aging Ment. Health* **2013**, *17*, 888-895, doi:10.1080/13607863.2013.793285.

[27] Ellison, C.G.; Levin, J.S. The religion-health connection: Evidence, theory and future directions. *Health Educ. Behav.* **1998**, *25*, 700-720.

[28] Koenig, H.G. Research on religion, spirituality and mental health: A review. *Can. J. Psychiatry* **2009**, *54*, 283-291.

[29] Holt, C.L.; Wang, M.Q.; Clark, E.M.; Williams, B.R.; Schulz, E. Religious involvement and physical and emotional functioning among African Americans: The mediating role of religious support. *Psychol. Health* **2013**, *28*, 267-283.

[30] Brownfield, D.; Sorenson, A.M. Religion and drug use among adolescents: A social support conceptualization and interpretation. *Deviant Behav.* **1991**, *12*, 259-276.

[31] Ferraro, K.F.; Koch, J.R. Religion and health among black and white adults: Examining social support and consolation. *J. Sci. Study Relig.* **1994**, 362-375.

[32] Krause, N.; Ellison, C.G.; Marcum, J.P. The effects of church-based emotional support on health: Do they vary by gender? *Sociol. Relig.* **2002**, *63*, 21-47.

[33] Krause, N. Exploring race differences in a comprehensive battery of church-based social support measures. *Rev. Relig. Res.* **2002**, 126-149.

[34] Krause, N.; Ellison, C.G.; Shaw, B.A.; Marcum, J.P.; Boardman, J.D. Church-based social support and religious coping. *J. Sci. Study Relig.* **2001**, *40*, 637-656.

[35] Chatters, L.M.; Nguyen, A.W.; Taylor, R.J.; Hope, M.O. Church and family support networks and depressive symptoms among African Americans: Findings from the National Survey of American Life. *J. Community Psychol*. **2018**, *46*, 403-417.

[36] Chatters, L.M.; Taylor, R.J.; Woodward, A.T.; Nicklett, E.J. Social support from church and family members and depressive symptoms among older African Americans. *Am. J. Geriatr. Psychiatry* **2015**, *23*, 559-567, doi:10.1016/j.jagp.2014.04.008.

[37] Taylor, R.J.; Chatters, L.M. Church members as a source of informal social support. *Rev. Relig. Res.* **1988**, 193-203.

[38] Taylor, R.J.; Chatters, L.M. Church-based informal support among elderly blacks. *The Gerontologist* **1986**, *26*, 637-642.

[39] Taylor, R.J.; Chatters, L.M.; Levin, J. *Religion in the Lives of African Americans: Social, Psychological and Health Perspectives*; Sage Publications: Thousand Oaks, CA, USA, 2003.

[40] Cohen, S.; Wills, T.A. Stress, social support and the buffering hypothesis. *Psychol. Bull.* **1985**, *98*, 310-357.

[41] Lincoln, K.D.; Chatters, L.M.; Taylor, R.J. Psychological distress among Black and White Americans: Differential effects of social support, negative interaction and personal control. *J. Health Soc. Behav.* **2003**, *44*, 390-407.

[42] Krause, N. Exploring the stress-buffering effects of church-based and secular social support on self-rated health in late life. *J. Gerontol. B Psychol. Sci. Soc. Sci.* **2006**, *61*, S35-S43.

[43] Sachs-Ericsson, N.; Burns, A.B.; Gordon, K.H.; Eckel, L.A.; Wonderlich, S.A.; Crosby, R.D.; Blazer, D.G. Body mass index and depressive symptoms in older adults: The moderating roles of race, sex and socioeconomic status. *Am. J. Geriatr. Psychiatry* **2007**, *15*, 815-825.

[44] Gavin, A.R.; Rue, T.; Takeuchi, D. Racial/ethnic differences in the association between obesity and major depressive disorder: Findings from the Comprehensive Psychiatric Epidemiology Surveys. *Public Health Rep.* **2010**, *125*, 698-708.

[45] Assari, S. Separate and Combined Effects of Anxiety, Depression and Problem Drinking on Subjective Health among Black, Hispanic and Non-Hispanic White Men. *Int. J. Prev. Med.* **2014**, *5*, 269-279.

[46] Assari, S.; Lankarani, M.M. Race and ethnic differences in associations between cardiovascular diseases, anxiety and depression in the United States. *Int. J. Travel Med. Glob. Health* **2014**, *2*, 103-109.

[47] Lewis, T.T.; Guo, H.; Lunos, S.; de Leon, C.F.M.; Skarupski, K.A.; Evans, D.A.; Everson-Rose, S.A. Depressive Symptoms and Cardiovascular Mortality in Older Black and White Adults Evidence for a Differential Association by Race. *Circ. Cardiovasc. Qual. Outcomes* **2011**, *4*, 293-299.

[48] Capistrant, B.D.; Gilsanz, P.; Moon, J.R.; Kosheleva, A.; Patton, K.K.; Glymour, M.M. Does the association between depressive symptoms and cardiovascular mortality risk vary by race? Evidence from the Health and Retirement Study. *Ethn. Dis.* **2013**, *23*, 155-160.

[49] Assari, S.; Sonnega, A.; Pepin, R.; Leggett, A. Residual Effects of Restless Sleep over Depressive Symptoms on Chronic Medical Conditions: Race by Gender Differences. *J. Racial Ethn. Health Dispar.* **2016**, doi:10.1007/s40615-015-0202-z.

[50] Assari, S.; Burgard, S. Black-White differences in the effect of baseline depressive symptoms on deaths due to renal diseases: 25 year follow up of a nationally representative community sample. *J. Renal Inj. Prev.* **2015**, *4*, 127-134, doi:10.12861/jrip.2015.27.

[51] Assari, S.; Moazen-Zadeh, E.; Lankarani, M.M.; Micol-Foster, V. Race, Depressive Symptoms and All-Cause Mortality in the United States. *Front. Public Health.* **2016**, *4*, 40, doi:10.3389/fpubh.2016.00040.

[52] Assari, S.; Lankarani, M.M. Chronic Medical Conditions and Negative Affect; Racial Variation in Reciprocal Associations over Time. *Front. Psychiatry* **2016**, doi:10.3389/fpsyt.2016.00140.

[53] Assari, S. Combined Racial and Gender Differences in the Long-Term Predictive Role of Education on Depressive Symptoms and Chronic Medical Conditions. *J. Racial Ethn. Health Dispar*. **2016**, doi:10.1007/s40615-016-0239-7.

[54] Moazen-Zadeh, E.; Assari, S. Depressive Symptoms Predict Major Depressive Disorder after 15 Years among Whites but Not Blacks. *Front. Public Health* **2016**, *4*, 13, doi:10.3389/fpubh.2016.00013.

[55] Lee, S.J.; Moody-Ayers, S.Y.; Landefeld, C.S.; Walter, L.C.; Lindquist, K.; Segal, M.R.; Covinsky, K.E. The relationship between self-rated health and mortality in older black and white Americans. *J. Am. Geriatr. Soc.* **2007**, *55*, 1624-1629.

[56] Assari, S.; Lankarani, M.M.; Burgard, S. Black White Difference in Long Term Predictive Power of Self-Rated Health on All-Cause Mortality in United States. *Ann. Epidemiol* **2016**, *26*, 106-114, doi:10.1016/j.annepidem.2015.11.006.

[57] Ferraro, K.F.; Kelley-Moore, J.A. Self-rated health and mortality among black and white adults: Examining the dynamic evaluation thesis. *J. Gerontol. B Psychol. Sci. Soc. Sci.* **2001**, *56*, S195-S205.

[58] Krause, N. *Religion, Aging and Health Survey, 2001, 2004 [United States]. ICPSR03255-v2*; Inter-University Consortium for Political and Social Research [distributor]: Ann Arbor, MI, USA, 2006.

[59] Krause, N. Church-based volunteering, providing informal support at church and self-rated health in late life. *J. Aging Health* **2009**, *21*, 63-84, doi:10.1177/0898264308328638.

[60] Radloff, L.S. The CES-D scale: A self-report depression scale for research in the general population. *Appl. Psychol. Meas*. **1977**, *1*, 385-401.

[61] Amtmann, D.; Kim, J.; Chung, H.; Bamer, A.M.; Askew, R.L.; Wu, S.; Cook, K.F.; Johnson, K.L. Comparing CESD-10, PHQ-9 and PROMIS depression instruments in individuals with multiple sclerosis. *Rehabil. Psychol.* **2014**, *59*, 220-229.

[62] Zhang, W.; O'Brien, N.; Forrest, J.I.; Salters, K.A.; Patterson, T.L.; Montaner, J.S.; Hogg, R.S.; Lima, V.D. Validating a shortened depression scale (10 item CES-D) among HIV-positive people in British Columbia, Canada. *PLoS ONE* **2012**, *7*, e40793.

[63] Andresen, E.M.; Malmgren, J.A.; Carter, W.B.; Patrick, D.L. Screening for depression in well older adults: Evaluation of a short form of the CES-D (Center for Epidemiologic Studies Depression Scale) *Am. J. Prev. Med.* **1994**, *10*, 77-84.

[64] Abu-Raiya, H.; Pargament, K.I.; Krause, N. Religion as problem, religion as solution: Religious buffers of the links between religious/spiritual struggles and well-being/mental health. *Qual. Life Res.* **2016**, *25*, 1265-74, doi:10.1007/s11136-015-1163-8.

[65] Hayward, R.D.; Krause, N. Forms of Attrition in a Longitudinal Study of Religion and Health in Older Adults and Implications for Sample Bias. *J. Relig. Health* **2016**, *55*, 50-66, doi:10.1007/s10943-014-9949-5.

[66] Krause, N. Church-Based Emotional Support and Self-Forgiveness in Late Life. *Rev. Relig. Res.* **2010**, *52*, 72-89.

[67] Krause, N. A comprehensive strategy for developing closed-ended survey items for use in studies of older adults. *J. Gerontol. Soc. Sci.* **2002**, *57*, S263-S274.

[68] Krause, N.; Hayward, R.D. Church-based social support, functional disability and change in personal control over time. *J. Relig. Health* **2014**, *53*, 267-278.

[69] Cohen, S.; Underwood, L.G.; Gottlieb, B.H. (Eds.) *Social Support Measurement and Intervention: A Guide for Health and Social Scientists*; Oxford University Press: Oxford, UK, 2000.

[70] Krause, N. Church-based social support and health in old age: Exploring variations by race. *J. Gerontol. B Psychol. Sci. Soc. Sci.* **2002**, *57*, S332-S347.

[71] Mutran, E. Intergenerational family support among blacks and whites: Response to culture or to socioeconomic differences. *J. Gerontol.* **1985**, *40*, 382-389.

[72] Strogatz, D.S.; James, S.A. Social support and hypertension among blacks and whites in a rural, southern community. *Am. J. Epidemiol.* **1986**, *124*, 949-956.

[73] Taylor, R.J.; Chatters, L.M.; Jackson, J.S. Changes over time in support network involvement among black Americans. In *Family Life in Black America*; Taylor, R.J., Jackson, J.S., Chatters, L.M., Eds.; Sage Publications: Thousand Oaks, CA, USA, 1997. pp. 293-316.

[74] Drevenstedt, G. Race and ethnic differences in the effects of religious attendance on subjective health. *Rev. Relig. Res.* **1998**, *39*, 245-263.

[75] Billingsley, A. *Climbing Jacob's Ladder: Enduring Legacy of African American Familie*; Simon and Schuster: New York, NY, USA, 1992.

[76] Chaves, M.L.; Higgins, M. Comparing the community involvement of black and white congregations. *J. Sci. Study Relig.* **1992**, *31*, 425-440.

[77] Ammerman, N. *Tatom Bible Believers: Fundamentalists in the Modern World*; Rutgers University Press: New Brunswick, NJ, USA, 1987.

[78] Chatters, L.M.; Taylor, R.J.; Jackson, J.S.; Lincoln, K.D. Religious coping among African Americans, caribbean blacks and non-hispanic whites. *J. Community Psychol.* **2008**, *36*, 371-386.

[79] Assari, S. Whites but Not Blacks Gain Life Expectancy from Social Contacts. *Behav. Sci.* **2017**, *7*, doi:10.3390/bs7040068.

[80] Schwartz, S.J. The applicability of familism to diverse ethnic groups: A preliminary study. *J. Soc. Psychol.* **2007**, *147*, 101-118.

[81] Constantine, M.G.; Gainor, K.A.; Ahluwalia, M.K.; Berkel, L.A. Independent and interdependent self-construals, individualism, collectivism and harmony control in African Americans. *J. Black Psychol.* **2003**, *29*, 87-101.

[82] Morling, B.; Fiske, S.T. Defining and measuring harmony control. *J. Res. Personal.* **1999**, *33*, 379-414.

[83] Ebigbo, P.O.; Oluka, J.; Ezenwa, M.; Obidigbo, G.; Okwaraji, E. Harmony restoration therapy—An African contribution to psychotherapy. *IFE Psychol. Int. J.* **1997**, *5*, 51-70.

[84] Morling, B.; Kitayama, S.; Miyamoto, Y. Cultural practices emphasize influence in the United States and adjustment in Japan. *Personal. Soc. Psychol. Bull.* **2002**, *28*, 311-323.

[85] McDowell, I. Measures of self-perceived well-being. *J. Psychosom. Res.* **2010**, *69*, 69-79.

[86] Hunt, M.O. The Individual, society, or both? A comparison of black, latino and white beliefs about the causes of poverty. *Soc. Forces* **1996**, *75*, 293-332.

[87] Hunt, M.O.; Jackson, P.B.; Powell, B.; Steelman, L.C. Color- blind: The treatment of race and ethnicity in social psychology. *Soc. Psychol. Q.* **2000**, *63*, 352-364.

[88] Lett, H.S.; Blumenthal, J.A.; Babyak, M.A.; Strauman, T.J.; Robins, C.; Sherwood, A. Social support and coronary heart disease: Epidemiologic evidence and implications for treatment. *Psychosom. Med*. **2005**, *67*, 869-878, doi:10.1097/01.psy.0000188393.73571.0a.

[89] House, J.S. *Work Stress and Social Support*; Addison-Wesley: Reading, MA, USA, 1981.

[90] House, J.S.; Kahn, R.L. Measures and concepts of social support. In *Social Support and Health*; Cohen, S., Syme, S.L., Eds.; Academic Press: New York, NY, USA, 1985; pp. 83-108.

[91] House, J.S.; Landis, K.R.; Umberson, D. Social relationships and health. *Science* **1988**, *241*, 540-545.

[92] Uchino, B.N.; Cacioppo, J.T.; Kiecolt-Glaser, J.K. The relationship between social support and physiological processes: A review with emphasis on underlying mechanisms and implications for health. *Psychol. Bull.* **1996**, *119*, 488-531.

[93] Kiecolt-Glaser, J.K.; Newton, T.L. Marriage and health: His and hers. *Psychol. Bull.* **2001**, *127*, 472-503.

[94] Cacioppo, J.T.; Hawkley, L.C.; Crawford, E.; Ernst, J.M.; Burleson, M.H.; Kowalewski, R.B.; Berntson, G.G. Loneliness and health: Potential mechanisms. *Psychosom. Med.* **2002**, *64*, 407-417.

[95] Cohen, S. Social Relationships and Health. *Am. Psychol.* **2004**, *59*, 676-684.

[96] Krause, N. Feelings of Gratitude toward God among Older Whites, Older African Americans and Older Mexican Americans. *Res. Aging* **2012**, *34*, 156-173.

[97] Nelsen, H.M.; Nelsen, A.K. *Black Church in the Sixties*; University of Kentucky Press: Lexington, KY, USA, 1975.

[98] Roberts, J.D. *Black Religion, Black Theology*; Goatley, E.M., Ed.; Trinity Press International: Harrisburg, PA, USA, 2003.

[99] Dowd, J.B.; Zajacova, A. Does the predictive power of self-rated health for subsequent mortality risk vary by socioeconomic status in the US? *Int. J. Epidemiol.* **2007**, *36*, 1214-1221.

[100] Assari, S. Hostility and Cardiovascular Mortality among Blacks and Whites. *Res. Cardiovasc. Med.* **2016**, doi:10.5812/cardiovascmed.34029.

[101] Flegal, K.M.; Kit, B.K.; Orpana, H.; Graubard, B.I. Association of all-cause mortality with overweight and obesity using standard body mass index categories: A systematic review and meta-analysis. *JAMA* **2013**, *309*, 71-82.

[102] Patel, A.V.; Hildebrand, J.S.; Gapstur, S.M. Body mass index and all-cause mortality in a large prospective cohort of white and black us Adults. *PLoS ONE* **2014**, *9*, e109153.

[103] Cohen, S.S.; Signorello, L.B.; Cope, E.L.; McLaughlin, J.K.; Hargreaves, M.K.; Zheng, W.; Blot, W.J. Obesity and all-cause mortality among black adults and white adults. *Am. J. Epidemiol*. **2012**, *176*, 431-442.

[104] Assari, S. Additive effects of anxiety and depression on body mass index among blacks: Role of ethnicity and gender. *Int. Cardiovasc. Res. J.* **2014**, *8*, 44-51.

[105] Assari, S. Association between obesity and depression among American Blacks: Role of ethnicity and gender. *J. Racial Ethn. Health Dispar.* **2014**, *1*, 36-44.

[106] Gariepy, G.; Wang, J.; Lesage, A.D.; Schmitz, N. The Longitudinal Association from Obesity to Depression: Results From the 12-year National Population Health Survey. *Obesity* **2010**, *18*, 1033-1038.

[107] Cheng, J.K.Y.; Fancher, T.L.; Ratanasen, M.; Conner, K.R.; Duberstein, P.R.; Sue, S.; Takeuchi, D. Lifetime suicidal ideation and suicide attempts in Asian Americans. *Asian Am. J. Psychol.* **2010**, *1*, 18-30.

[108] Assari, D.; Dejman, M.; Neighbors, H.W. Ethnic Differences in Separate and Additive Effects of Anxiety and Depression on Self Rated Mental Health among Blacks. *J. Racial Ethn. Health Dispar.* **2015**, doi:10.1007/s40615-015-0154-3.

[109] Lynch, C.P.; Gebregziabher, M.; Echols, C.; Gilbert, G.E.; Zhao, Y.; Egede, L.E. Racial disparities in all-cause mortality among veterans with type 2 diabetes. *J. Gen. Intern Med.* **2010**, *25*, 1051-1056.

[110] Assari, S. Cross-Country Differences in the Additive Effects of Socioeconomics, Health Behaviors and Medical Comorbidities on Disability among Older Adults with Heart Disease. *J. Tehran Heart Cent.* **2015**, *10*, 24-33.

[111] Assari, S. Cross-country variation in additive effects of socio-economics, health behaviors and comorbidities on subjective health of patients with diabetes. *J. Diabetes Metab. Disord.* ***2014***, *13*, 36.

[112] Assari, S. Race, sense of control over life and short-term risk of mortality among older adults in the United States. *Arch. Med. Sci.* **2016**, doi:10.5114/aoms.2016.59740.

[113] Assari, S. Over-adjustment bias by controlling for overall health. *Int. J. Prev. Med.* **2013**, *4*, 491-492.

[114] Schisterman, E.F.; Cole, S.R.; Platt, R.W. Overadjustment bias and unnecessary adjustment in epidemiologic studies. *Epidemiology* **2009**, *20*, 488-495.

[115] MacKinnon, D.P.; Krull, J.L.; Lockwood, C.M. Equivalence of the mediation, confounding and suppression effect. *Prev. Sci.* **2000**, *1*, 173-181.

[116] Deaton, A.; Lubotsky, D. Mortality, inequality and race in American cities and states. *Soc. Sci. Med.* **2003**, *56*, 1139-1153.

[117] Dressler, W.W.; Oths, K.S.; Gravlee, C.C. Race and ethnicity in public health research: Models to explain health disparities. *Annu. Rev. Anthropol.* **2005**, *34*, 231-252.

[118] Assari, S.; Moghani Lankarani, M. Secular and Religious Social Support Better Protect Blacks than Whites against Depressive Symptoms. *Behav. Sci.* **2018**, *8*, 46.

[119] Stroebe, W., Abakoumkin, G., & Stroebe, M. Beyond depression: Yearning for the loss of a loved one. *OMEGA-Journal of Death and Dying*, **2010**, *61*, 85-101.

[120] Nolen-Hoeksema, S., Parker, L. E., & Larson, J. Ruminative coping with depressed mood following loss. *Journal of personality and social psychology*, 1994, *67*, 92.

[121] Fried, E. I., Bockting, C., Arjadi, R., Borsboom, D., Amshoff, M., Cramer, A. O., ... & Stroebe, M. From loss to loneliness: The relationship between bereavement and depressive symptoms. *Journal of abnormal psychology*, **2015**, *124*, 256.

[122] Markus, H. R., & Conner, A. *Clash!: How to thrive in a multicultural world*. Penguin.2014.

[123] Constantine, M. G., Gainor, K. A., Ahluwalia, M. K., & Berkel, L. A. Independent and interdependent self-construals, individualism, collectivism, and harmony control in African Americans. *Journal of Black Psychology*, 2003, *29*, 87-101.