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Mindfulness and Psychological Stress in Black Male Caregivers

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Master of Public Health

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Abstract

Background. Mindfulness practices are under-studied in Black communities despite their effectiveness in improving mental health. When specifically examining Black male caregivers of people living with Alzheimer's disease or dementia, not much is known about how mindfulness can affect their stress in their role as a caregiver and their identity as a Black male. Therefore, the purpose of this study is to examine mindfulness, self-rated stress, and depressive symptoms among Black male caregivers and non-caregivers and determine whether mindfulness can serve as a protective buffer against psychological stress in each of these groups. **Methods.** 18 Black male caregivers and 29 non-caregivers completed self-reported questionnaires that measured stress, depression, and mindfulness. First, we examined differences in stress and mindfulness then depression and mindfulness between the caregivers and the non-caregivers using t-tests. We then examined correlations between the different measures separately in the caregiver and the non-caregiver subsamples. **Results.** There was a significant difference between the two groups for self-perceived stress, with the caregivers having a higher mean Perceived Stress Scale score than non-caregivers ($p = 0.048$). There were no significant differences on mindfulness ($p = 0.638$) and depressive symptoms ($p = 0.621$). As hypothesized, the results showed significant negative correlations between self-rated stress and mindfulness (caregivers $p < 0.001$, non-caregivers $p = 0.015$; $d = 0.62$) and between depressive symptoms and mindfulness (caregivers $p < 0.001$, non-caregivers $p = 0.003$; $d = 0.38$) in both groups. **Conclusion.** The results of this study support previous findings that mindfulness may protect Black male caregivers from the harmful effects of stress on mental health. Mindfulness has the potential to improve health outcomes in Black men and further research should be conducted to better understand the benefits and challenges of adapting mindfulness practices to specific cultural contexts.

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Introduction

Approximately 16% of the U.S. population that identifies as Black or African American (BA) reported having a mental illness in the past year (Mental Health America, 2021). Despite the need, only 26.4% of Black male adults who experienced daily feelings of anxiety or depression were likely to utilize mental health services, compared to 45.4% of non-Hispanic White men with the same feelings (DeAngelis, 2021). African American men are also at greater risk for depression, but they are less likely to participate in mental health care (Plowden, Thompson Adams & Wiley, 2016). In addition to the barriers that exist for BA men to access the care they need, little is known about the possible factors and practices that could protect BA men against poor mental and psychological health.

It is even rarer to find previous research on the mental health of BA men in a specific context, such as BA men who are caregivers of persons with dementia. In 2020, there was an estimated 53 million adult caregivers in the United States, of which approximately 13% were African American and 2.3 million are African American men (AARP, 2020). African American caregivers less often report being in excellent or very good health compared to non-Hispanic White caregivers, and they express high levels of burden and distress (AARP, 2020). It is crucial to study the experiences of BA male caregivers in a socio-ecological context as the intersection of their different identities, as well as their environmental and cultural settings, can compound and exacerbate poor health outcomes (Bonds Johnson, et al., 2021). This study seeks to fill these gaps of knowledge and explore stress and mental health among Black male caregivers.

Alzheimer's disease and related dementias (ADRD) affect approximately 5.8 million Americans and over 50% are cared for at home by family members or friends (Matthews, et al., 2018; National Institute on Aging, 2020). The demands of caregiving can limit a caregiver's

ability to take care of themselves, and it has been found that family caregivers of people with ADRD are at greater risk for poorer quality of life. Caregivers of persons with dementia also report greater self-rated stress, a higher incidence of depression, more physical symptoms, increased number of hospitalizations, and higher medication usage than non-caregivers (Oken, Fonareva & Wahbeh, 2011).

Chronic stress and negative life events have been found to increase the risk of illness and disease. Psychological stressors are a public health concern as they are adversely associated with poor physical and mental health (de Frias & Whyne, 2014). It is critical to explore adaptive mechanisms that may protect individuals from a cascade of poor health outcomes, especially for caregivers who experience high levels of chronic stress for longer periods of time.

A resource that may serve as a protective agent against the negative effects of stress is mindfulness. A mechanism surrounding self-regulation and stress reduction, mindfulness is a complex and adaptive process that requires paying attention to the present moment in a receptive and non-judgmental attitude. It encourages an emotion-regulation strategy that disarms the pathways of stressor reactivity such that exposure to a stressor is no longer hazardous to one's health (de Frias & Whyne, 2014). In this way, mindfulness has been explored as a protective psychological tool for managing stress and various stress-related health conditions.

When examining who uses mindfulness practices, it has been found that men were half as likely as women to participate in any practice. Additionally, lower engagement was reported among non-Hispanic black and Hispanic populations. African Americans experience a disproportionate rate of stress-related health conditions compared to non-Hispanic white counterparts, and therefore, vulnerable population groups with worse health outcomes were less likely to engage in mindfulness practices (Olano et al., 2015; Sternthal et al., 2011).

In studies that have explored mindfulness among BA adults, it has been shown that mindfulness is inversely associated with suicide ideation and elevated suicide risk with clinical implications of mindfulness' potential utility as a psychological buffer and tool for reducing anxious arousal and distress (Brooks et al., 2021). In a qualitative study researching the cultural relevance of mindfulness meditation as a health intervention for African Americans, participants felt that mindfulness meditation helped them with enhanced stress management and direct health improvement (Woods-Giscombé & Gaylord, 2014). Additionally, among caregivers for those with ADRD, participants who underwent mindfulness-based stress reduction programs reported significantly lower levels of perceived stress and mood disturbance compared to those who just received standard social support (Brown, Coogle & Wegelin, 2015).

Although there is existing literature on the benefits of mindfulness on reducing stress and anxiety, the study participants are predominantly women and most were White individuals. Therefore, there is a gap in knowledge surrounding mindfulness and stress in Black men, and more specifically, Black male caregivers. The association between mindfulness and stress has not been well-studied in this population and understanding the effects of mindfulness on stress would help physicians target caregiving support for Black male caregivers of persons with dementia (Bonds Johnson, et al., 2021).

Methods

Participants

Adult Black men were initially recruited for a study (NCR191776) at the George Washington University School of Medicine and Health Sciences that aimed to analyze the cognitive, physical, and physiological effects of caregiving for a family member or loved one

with Alzheimer's disease or dementia. Black males between the ages of 30 to 85 were recruited from the Washington D.C., Maryland, and Virginia metropolitan area. Recruitment took place from October 2020 to March 2022 through social media, word of mouth, and electronic blasts through local news sources, such as the Washington Informer. 79 participants were recruited for the study, and 47 met the eligibility criteria and had complete data for analysis.

Procedure

The questionnaires below were administered on an electronic device (iPad, computer, or smartphone) through an electronic record system, RedCap, with a research assistant.

Eligibility

Interested participants were initially reached out to through email where a phone call was scheduled to determine eligibility. Exclusion criteria included:

1. Use of certain medications known to affect central nervous system function or impact physiologic measures being collected for the intervention study (e.g., steroids or neuroleptics)
2. Significant visual impairment (e.g., best-corrected visual acuity worse than 20/50 binocularly)

During the same phone call, the research assistant screened for depressive symptoms by administering the Center for Epidemiologic Studies Depression Scale (CESD) (Radloff, 1977).

Consent & Demographics

Once the participant was deemed eligible for the study, they were emailed the Consent Form. Through a scheduled Zoom video conference call, a research assistant reviewed the Consent Form with the participant and obtained their electronic consent. During the same call, the self-reported questionnaires were administered.

Self-Reported Questionnaires

Participants completed a series of self-reported questionnaires administered by a research assistant conducted over a 30 to 45 minute Zoom video conference. These questionnaires included:

- Perceived Stress Scale (PSS) (Cohen, Kamarck & Mermelstein, 1983)
- SF-36 Health-related Quality of Life, Energy, and Fatigue subscale (Ware, 1993)
- General Perceived Self-Efficacy Scale (GPSE) (Schwarzer & Jerusalem, 1995)
- Mindful Attention Awareness Scale (MAAS) (Baer, et al., 2006)
- Kentucky Inventory of Mindfulness Skills (KIMS) (Baer, Smith & Allen, 2004)
- Pittsburgh Sleep Quality Index (PSQI) (Buysse, et al., 1989)

Measures

For this study, among the self-questionnaires and cognitive assessments, specific measures were used to examine the present study hypotheses.

Self-rated Stress

The Perceived Stress Scale (PSS) was used as a measure of self-rated stress. The PSS included 10 items ($\alpha = 0.845$), where each item was scored on a 5-point Likert scale (0 = Never to 4 = Very often), with a higher score representing greater perceived stress.

Depressive symptoms

Depressive symptoms were assessed using the Center for Epidemiologic Studies Depression Scale (CES-D) (Radloff, 1977). CES-D had 20 items ($\alpha = 0.899$) where participants indicated how often they felt or behaved during the past week, including the day of the assessment. Each item was scored on a 4-point Likert scale (0 = Rarely or none of the time to 3 = Most or all of the time), with higher scores indicating the presence of more symptomatology.

Mindfulness

Two mindfulness questionnaires were used to assess whether mindfulness is affected by caregiving and may mediate the caregiver effect on stress. The Mindful Attention Awareness Scale (MAAS) is a 15-item ($\alpha = 0.907$) scale designed to assess a core characteristic of dispositional mindfulness, namely, open or receptive awareness of and attention to what is taking place in the present. Previous studies have shown that the MAAS taps a unique quality of consciousness that is related to, and predictive of, a variety of self-regulation and well-being constructs (Baer, 2006). Participants indicated how frequently or infrequently they currently have each experience on a 6-point Likert scale (1 = Almost Always to 6 = Almost Never). To score the MAAS, the sum of the answers is divided by the total number of questions, and a higher score reflects higher levels of dispositional mindfulness.

The Kentucky Inventory of Mindfulness Skills (KIMS) measures is a 39-item ($\alpha = 0.905$) self-report inventory that is used for the assessment of mindfulness skills. The KIMS is used to assess four mindfulness skills (Baer, 2004):

- Observing: Involves observing, noticing, or attending to various stimuli including internal phenomena (cognitions, bodily sensations) and external phenomena (sounds, smells).
- Describing: Involves participant describing, labelling, or noting of observed phenomena by applying words in a nonjudgmental way.
- Acting with awareness: Being attentive and engaging fully in one's current activity.
- Accepting (or allowing) without judgment: To allow reality or what is there, to be as it is without judging, avoiding, changing, or escaping it.

Participants rated how true a statement was for them on a 5-point Likert scale (1 = Never or very rarely true to 5 = Very often or always true). The score for each subscale is summed to total for the overall KIMS score.

Data Analysis

All data analyses were conducted in RStudio (Version 1.3.1073). The variables were inspected for normality using Shapiro-Wilk testing. Spearman's correlations and Wilcoxon Rank Sum tests were conducted to analyze correlation strength between the nonparametric variables and the association of the means between the caregiver and non-caregiver populations. For the variables that displayed normality (MAAS and KIMS), unpaired t-tests were conducted.

Results

The participants ($n = 47$) included 18 Black men who were caregivers and 29 Black men who were not caregivers. The average age for the caregiver participants was 60.9 ± 8.9 and 57.3 ± 12.6 for non-caregivers ($t(46) = -1.127, p = 0.470$). The average mean of education for the caregiver participants was 6.3 ± 0.3 and 6.1 ± 0.3 for non-caregivers, a score of 6 indicating the attainment of a Bachelor's degree ($t(46) = -0.436, p = 0.665$). Groups were not different in terms of age or education (Table 1). All data were obtained successfully for the eligible participants and there were no missing data points.

Self-rated Stress and Depressive Symptoms

The two groups were different in self-rated stress. Caregivers had a higher mean Perceived Stress Scale score of 13.6 ± 6.1 and non-caregivers had a mean of 10.2 ± 5.3 ($t(46) = -1.945, p = 0.048; d = 0.62$). However, there were no significant differences in depressive

symptoms when comparing caregivers to non-caregivers. Caregivers had a mean CES-D score of 10.3 ± 9.1 and non-caregivers had a mean of 7.8 ± 5.3 ($t(46) = -1.089, p = 0.621; d = 0.38$).

Mindfulness Measures

In both mindfulness measures, statistically significant differences by caregiver status were not found. MAAS scores for caregivers averaged 4.6 ± 0.9 and for non-caregivers, averaged 4.8 ± 0.7 ($t(46) = 0.708, p = 0.485; d = 0.23$). Non-caregivers also had a slightly greater average overall KIMS score of 145.2 ± 20.0 while caregivers scored an average of 134.6 ± 20.0 , although the difference between the two group means was not statistically significant ($t(46) = 1.771, p = 0.085; d = 0.54$). The KIMS scores were then broken down for further analysis into the four areas of assessment: observing ($t(46) = 1.005, p = 0.321; d = 0.29$), describing ($t(46) = 1.563, p = 0.918; d = 0.49$), acting with awareness ($t(46) = 1.447, p = 0.634; d = 0.48$), and accepting without judgement ($t(46) = 1.023, p = 0.313; d = 0.31$). Even within the subcategories, non-caregivers consistently had a greater mean score, although there were no statistically significant differences (Table 2).

Correlation between Stress and Mindfulness

Spearman's rank correlation coefficients were calculated to assess the relationship between the potential mediators.

Among caregivers, positive correlations were shown between depressive symptoms and perceived stress ($r_s(16) = .83, p < 0.001$) and between the two mindfulness measures ($r_s(16) = .91, p < 0.001$). The measures between mindfulness and stress as well as mindfulness and depressive symptoms were found to be negatively correlated as predicted. MAAS mindfulness and depressive symptoms ($r_s(16) = -.85, p < 0.001$) and MAAS mindfulness and perceived stress ($r_s(16) = -.94, p < 0.001$) showed very strong negative correlations. KIMS mindfulness and

depressive symptoms ($r_s(16) = -.76, p < 0.001$) showed a strong negative correlation and KIMS mindfulness and perceived stress ($r_s(16) = -.89, p < 0.001$) showed very strong negative correlations as well (Table 3).

The correlations between mediators among non-caregivers were found to be in the same direction as the relationships found among caregivers, although the strength of the correlation differed. Non-caregivers showed a moderate positive correlation between depressive symptoms and perceived stress ($r_s(27) = .54, p = 0.002$) and a strong positive correlation between the two mindfulness measures ($r_s(27) = .69, p < 0.001$). MAAS mindfulness and depressive symptoms ($r_s(27) = -.54, p = 0.003$) and MAAS mindfulness and perceived stress ($r_s(27) = -.45, p = 0.015$) showed moderate negative correlations. Similarly, KIMS mindfulness and depressive symptoms ($r_s(27) = -.57, p = 0.001$) and KIMS mindfulness and perceived stress ($r_s(27) = -.52, p = 0.004$) showed moderate negative correlations (Table 4).

Discussion

The findings of this study suggest that Black male caregivers experience greater levels of self-perceived stress than Black male non-caregivers, although the two groups do not differ significantly in their mindfulness levels. Additionally, there was a very strong negative correlation between mindfulness and self-perceived stress as well as mindfulness and depressive symptoms among the caregiver group, meaning that higher levels of mindfulness were associated with lower scores of stress and depression. The same directional relationships between the variables were found in the non-caregiver group, but the strengths of the correlations were not as strong.

This study aims to add to the body of literature surrounding male caregiving, specifically for BA males as they are underrepresented in existing peer-reviewed studies. It is also our hope that the results of the study can contribute to the conversation regarding the mental health of BA men, knowing the context that BA men, compared with men from other racial and ethnic groups, are disproportionately exposed to socioeconomic inequalities and structural racism that contribute to health disparities. BA men exhibit the highest mortality rate and the worst health profile compared to the other racial and ethnic groups of men, and having a role of caregiving can come with additional stressors that may worsen their mental health and exacerbate health outcomes. It is imperative to continuously explore and consider ways to improve the mental health services provided that are culturally tailored to this population, and mindfulness has the potential to be a tool that alleviates the effects of stress that Black male caregivers experience.

The results of our study corroborate those of previous research. For example, our findings add a quantitative lens to a previous qualitative study conducted by Deskins et al. that illustrated the experiences of African American male caregivers. One of their findings indicated that several men accepted their responsibilities as caregivers and adapted to the role. Accepting or allowing without judgment is one of the areas of mindfulness that the KIMS questionnaire measures, and our study shows that higher scores of KIMS were found to have a very negative correlation to self-perceived stress. Additionally, the participants in the Deskins et al. study all described physiological and psychological adverse effects of caregiving. While the participants refrained from using the term “depression” or its derivatives, many of the caregivers reported symptoms of depression such as the inability to sleep, exhaustion, tiredness, and tension (Deskins et al., 2022). A different study by Yoon et al. compared the effect of perceived discrimination on the mental health of older African Americans and found that older men experienced more lifetime

discrimination than older women. The older men's model found that depressive symptomology was significantly explained by everyday discrimination and mediated by self-acceptance (Yoon et al., 2019). Although our results did not show a statistically significant difference in depressive symptoms between caregivers and non-caregivers, there is a pressing need to develop interventions and care avenues for African American male caregivers who are experiencing deteriorating mental health. These studies provide overdue attention to the African American male caregiving experience and the implications of the findings include the need for more culturally congruent support services for African American male caregivers and older African American males in general.

Expanding on the discussion surrounding stressors in older Black men, a study conducted by Brown and Hargrove examined the direct effects of psychosocial resources on health and the stress-moderating effects of psychosocial resources. They found that only two measures of stressors out of the six studied had statistically significant adverse effects, one of which being chronic strains (Brown & Hargrove, 2018). Caregiving has all the features of a chronic stress experience as it creates physical and psychological strain over extended periods of time, is accompanied by high levels of unpredictability and uncontrollability, has the capacity to create secondary stress in multiple life domains (Vitaliano, et al., 2003). A key implication of findings from the Vitaliano et al. study is that conventional measures of stressors and coping resources – originally developed to account for variance in health outcomes among predominantly white samples – may not fully capture the psychosocial factors most salient for older Black men's health. Therefore, it is important that more future research on older Black men's health is conducted to provide more richness and reliability to current measures of stressors and resources in an effort to better reflect their experiences and health outcomes.

After establishing how the mental health, and therefore the overall health, of Black male caregivers is affected by caregiving, it is important to then consider the most appropriate and effective ways to assuage the detrimental effects that may result from that role. Several studies have conducted mindfulness-based stress reduction (MBSR) randomized controlled trials within caregiver populations. MBSR is a technique that was initially developed for stress management but has since evolved to encompass the treatment of a variety of health-related disorders, such as anxiety and depression (Niazi & Niazi, 2011). Participants undergoing MBSR therapy receive training in formal mindfulness meditation techniques involving simple stretches and postures. Whitebird et al. randomly assigned 78 family caregivers to an MBSR or community caregiver education and support (CCES) intervention for family caregivers of people with dementia (PWD). After 8 weekly intervention sessions and home-based practice, MBSR was shown to be more effective at improving overall mental health, reducing stress, and decreasing depression than CCES (Whitebird et al., 2013). A more recent study by Kor et al. randomized 113 family caregivers of PWD to either the intervention group that received modified Mindfulness-Based Cognitive Therapy (MBCT) for 10 weeks or the control group that received brief education on dementia care. The modified MBCT intervention enhanced the level of mindfulness in the caregivers and was effective in reducing the caregivers' stress and promote their psychological well-being during a 6-month follow-up. The intervention group had a statistically greater improvement in stress, depression, and anxiety and increased levels of mindfulness among caregivers was significantly correlated with the improvement of various psychological outcomes (Kor et al., 2021). Our results showing the strong correlation measures between stress, depression, and mindfulness echoes the findings of these RCTs in support of mindfulness-based interventions and therapy.

Unfortunately, finding literature that reflected similar mindfulness interventions methods in African American, and more specifically African American male, caregiving populations was challenging. Woods-Giscombé and Gaylord interviewed fifteen African American adults regarding their past and current experiences with mindfulness meditation training, and participants felt that mindfulness meditation helped them with enhanced stress management, direct improvement, and enhanced self-awareness and purposefulness. Although they felt that they would recommend it and that other African Americans would be open to the practice, they emphasized the need for the practices to be delivered in a culturally relevant and meaningful way, such as having African American facilitators and building a community of trust (Woods-Giscombé & Gaylord, 2014). Our study adds to the existing literature that provides a strong rationale for mindfulness-based interventions in African American communities, although their current representation in formal study is limited. A systematic review conducted by Biggers et al. explains that some potential reasons for low representation may be mistrust of medical research, lower knowledge of clinical research, and limited opportunities to participate. Some also argue that mindfulness is geared towards Caucasians and the link between mindfulness and Eastern traditions of Buddhism may not appeal to many African Americans given the community's strong Christian ties (Biggers et al., 2020; Proulx et al., 2018). The importance of cultural adaptations of mindfulness programs is consistently underscored and must be prioritized as future studies are designed for underrepresented minority populations. Our results can supplement these previous findings with empirical evidence that mindfulness-based practices could be particularly beneficial among Black male caregiver populations.

Limitations and Suggestions for Future Research

There were some limitations to this study. The participants were recruited from a specific geographic area, decreasing the generalizability of the results, and the small sample size was determined by convenience and available resources. However, future research can use this data as a pilot study to recruit for more participants on a much larger scale. Similar analyses can be performed to see if the same associations hold true. The self-report questionnaires were administered verbally by a research assistant, so the participants may have also displayed social desirability bias when it comes to answering questions about how their feelings or actions resulting in the data being skewed. Additionally, a result that was interesting to note was the statistically insignificant difference in CES-D scores between caregivers and non-caregivers. Previous research suggests that the BA population in addition to caregivers have displayed higher CES-D scores compared to non-Hispanic White or non-caregiver control groups (Assari & Moazen-Zadeh, 2016; Ying, Yap & Liew, 2019). While our participants' mean scores were lower than the threshold of 16, which indicates potential risk for clinical depression, we are unable to make a comparison to the general population and determine whether they show the expected number of depressive symptoms compared to other population groups. A future direction could be to conduct a deeper dive study into the factors that play into this specific population's depressive symptoms and compare it to a larger nationwide cohort. Lastly, it is important to note that the data collection for this study started only months after the onset of the Covid-19 pandemic, which we know to have had deleterious effects on the population's mental health, especially amongst the Black community (Snowden & Snowden, 2021). While the scope of this study is unable to account for the differences that may have had on our participants'

experiences, further studies could be conducted to provide more robust data on how the pandemic specifically could have affected these results.

Conclusion

As the aging population continues to increase, there is a pressing need to provide the necessary and appropriate resources to support caregivers' wellbeing and promote their overall health. This study adds to the literature by offering insight into Black male caregivers specifically and by providing evidence that mindfulness-based interventions have the potential to be beneficial particularly for this population. We hope that our findings acknowledge the uniqueness of the Black male caregiver experience and conclude that higher degrees of mindfulness are indeed associated with lower levels of self-perceived stress and depression for both Black male caregivers and non-caregivers.

References

- 2020 Report Caregiving in the U.S. AARP. (2020, May). Retrieved November 28, 2021, from https://www.aarp.org/content/dam/aarp/ppi/2020/05/full-report-caregiving-in-the-united-states.doi.10.26419-2Fppi.00103.001.pdf?te=1&nl=in-her-words&emc=edit_gn_20210316.
- Alzheimer's disease education and referral center. Progress Report on Alzheimer's Disease. 2000. [online]. Available at: <http://www.alzheimers.org/prog00.htm#impact>
- Assari, S., & Moazen-Zadeh, E. (2016). Ethnic Variation in the Cross-sectional Association between Domains of Depressive Symptoms and Clinical Depression. *Frontiers in psychiatry*, 7, 53. <https://doi.org/10.3389/fpsy.2016.00053>
- Baer RA, Smith GT, Allen KB. Assessment of mindfulness by self-report: the Kentucky inventory of mindfulness skills. *Assessment*. 2004;11(3):191-206.
doi:10.1177/1073191104268029
- Baer RA, Smith GT, Hopkins J, Krietemeyer J, Toney L. Using self-report assessment methods to explore facets of mindfulness. *Assessment*. 2006;13(1):27-45.
doi:10.1177/1073191105283504
- Biggers, A., Spears, C. A., Sanders, K., Ong, J., Sharp, L. K., & Gerber, B. S. (2020). Promoting Mindfulness in African American Communities. *Mindfulness*, 11(10), 2274–2282.
<https://doi.org/10.1007/s12671-020-01480-w>

Black and African American communities and Mental Health. Mental Health America. (2021).

Retrieved November 28, 2021, from <https://www.mhanational.org/issues/black-and-african-american-communities-and-mental-health>.

Bonds Johnson, K., Brewster, G. S., Cicero, E., Hepburn, K., Clevenger, C. K., Daniel, G., Pak,

V., Paul, S., & Epps, F. (2021). Promoting Caregiver Mastery in Black American Dementia Caregivers. *The Gerontologist*. <https://doi.org/10.1093/geront/gnab147>

Brooks, J. R., Lebeaut, A., Zegel, M., Walker, R. L., & Vujanovic, A. A. (2021). Anxiety

sensitivity and suicide risk: Mindfulness as a psychological buffer for Black Adults.

Journal of Affective Disorders, 289, 74–80. <https://doi.org/10.1016/j.jad.2021.04.012>

Brown, K. W., Coogle, C. L., & Wegelin, J. (2015). A pilot randomized controlled trial of

mindfulness-based stress reduction for caregivers of family members with dementia. *Aging & Mental Health*, 20(11), 1157–1166. <https://doi.org/10.1080/13607863.2015.1065790>

Brown, T. H., & Hargrove, T. W. (2018). Psychosocial Mechanisms Underlying Older Black

Men's Health. *The journals of gerontology. Series B, Psychological sciences and social sciences*, 73(2), 188–197. <https://doi.org/10.1093/geronb/gbx091>

Buyse DJ, Reynolds CF, Monk TH, Berman SR, Kupfer DJ. The Pittsburgh Sleep Quality

Index: a new instrument for psychiatric practice and research. *PsychiatryRes*.

1989;28(2):193-213.

Cohen S, Kamarck T, Mermelstein R. A global measure of perceived stress. *J Health Soc Behav*.

1983;24(4):385-396.

de Frias, C. M., & Whyne, E. (2014). Stress on health-related quality of life in older adults: The protective nature of mindfulness. *Aging & Mental Health, 19*(3), 201–206.

<https://doi.org/10.1080/13607863.2014.924090>

DeAngelis, T. (2021, September 1). *Black men's mental health matters*. Monitor on Psychology.

Retrieved November 28, 2021, from <https://www.apa.org/monitor/2021/09/ce-black-mental-health>.

Deskins, B. P., Letvak, S., Kennedy-Malone, L., Rowsey, P. J., Bedini, L., & Rhew, D. (2022).

The Experiences of African American Male Caregivers. *Healthcare (Basel, Switzerland), 10*(2), 252. <https://doi.org/10.3390/healthcare10020252>

Kor, P. P., Liu, J. Y., & Chien, W. T. (2020). Effects of a modified mindfulness-based cognitive therapy for family caregivers of people with dementia: A randomized clinical trial. *The Gerontologist, 61*(6), 977–990. <https://doi.org/10.1093/geront/gnaa125>

Matthews, K. A., Xu, W., Gaglioti, A. H., Holt, J. B., Croft, J. B., Mack, D., & McGuire, L. C.

(2018). Racial and ethnic estimates of Alzheimer's disease and related dementias in the United States (2015–2060) in adults aged ≥ 65 years. *Alzheimer's & Dementia, 15*(1), 17–24. <https://doi.org/10.1016/j.jalz.2018.06.3063>

Niazi, A. K., & Niazi, S. K. (2011). Mindfulness-based stress reduction: a non-pharmacological

approach for chronic illnesses. *North American journal of medical sciences, 3*(1), 20–23.

<https://doi.org/10.4297/najms.2011.320>

- Oken, B. S., Fonareva, I., & Wahbeh, H. (2011). Stress-related cognitive dysfunction in dementia caregivers. *Journal of Geriatric Psychiatry and Neurology*, *24*(4), 191–198.
<https://doi.org/10.1177/0891988711422524>
- Olano, H. A., Kachan, D., Tannenbaum, S. L., Mehta, A., Annane, D., & Lee, D. J. (2015). Engagement in mindfulness practices by U.S. adults: Sociodemographic barriers. *The Journal of Alternative and Complementary Medicine*, *21*(2), 100–102.
<https://doi.org/10.1089/acm.2014.0269>
- Plowden, K. O., Thompson Adams, L., & Wiley, D. (2016). Black and blue: Depression and African American men. *Archives of Psychiatric Nursing*, *30*(5), 630–635.
<https://doi.org/10.1016/j.apnu.2016.04.007>
- Proulx, J., Croff, R., Oken, B., Aldwin, C. M., Fleming, C., Bergen-Cico, D., Le, T., & Noorani, M. (2018). Considerations for Research and Development of Culturally Relevant Mindfulness Interventions in American Minority Communities. *Mindfulness*, *9*(2), 361–370. <https://doi.org/10.1007/s12671-017-0785-z>
- Radloff LS. The CES-D Scale: A Self-Report Depression Scale for Research in the General Population. *Applied Psychological Measurement*. 1977;1(3):385-401.
doi:10.1177/014662167700100306
- Schwarzer R, Jerusalem M. Generalized Self-Efficacy scale. In: Weinman J, Wright S, Johnston M, eds. *Measures in Health Psychology: A User's Portfolio. Causal and Control Beliefs*. Windsor, UK: NFER-NELSON; 1995:35-37.

[https://www.drugsandalcohol.ie/26768/1/General_Self-Efficacy_Scale%20\(GSE\).pdf](https://www.drugsandalcohol.ie/26768/1/General_Self-Efficacy_Scale%20(GSE).pdf).

Accessed May 5, 2019.

Snowden, L. R., & Snowden, J. M. (2021). Coronavirus Trauma and African Americans' Mental Health: Seizing Opportunities for Transformational Change. *International journal of environmental research and public health*, 18(7), 3568.

<https://doi.org/10.3390/ijerph18073568>

Sternthal, M. J., Slopen, N., & Williams, D. R. (2011). Racial disparities in health. *Du Bois Review: Social Science Research on Race*, 8(1), 95–113.

<https://doi.org/10.1017/s1742058x11000087>

Vitaliano, P. P., Zhang, J., & Scanlan, J. M. (2003). Is caregiving hazardous to one's physical health? A meta-analysis. *Psychological bulletin*, 129(6), 946–972.

<https://doi.org/10.1037/0033-2909.129.6.946>

Ware JE. SF-36 Health Survey: Manual Interpretation Guide. Boston, Massachusetts: The Health Institute; 1993. https://czresearch.com/info/SF36_healthsurvey_ch6.pdf. Accessed May 5, 2019.

Whitebird, R. R., Kreitzer, M., Crain, A. L., Lewis, B. A., Hanson, L. R., & Enstad, C. J. (2013). Mindfulness-based stress reduction for family caregivers: a randomized controlled trial. *The Gerontologist*, 53(4), 676–686. <https://doi.org/10.1093/geront/gns126>

Woods-Giscombé, C. L., & Gaylord, S. A. (2014). The cultural relevance of mindfulness meditation as a health intervention for African Americans. *Journal of Holistic Nursing*, 32(3), 147–160. <https://doi.org/10.1177/0898010113519010>

- Ying, J., Yap, P., Gandhi, M., & Liew, T. M. (2019). Validity and Utility of the Center for Epidemiological Studies Depression Scale for Detecting Depression in Family Caregivers of Persons with Dementia. *Dementia and geriatric cognitive disorders*, 47(4-6), 323–334. <https://doi.org/10.1159/000500940>
- Yoon, E., Coburn, C., & Spence, S. A. (2019). Perceived discrimination and mental health among older African Americans: the role of psychological well-being. *Aging & mental health*, 23(4), 461–469. <https://doi.org/10.1080/13607863.2017.1423034>

Table 1. Participant demographics by group

Demographic Characteristics	Caregivers (n = 18)	Non-Caregivers (n = 29)	p-value
Age Mean (SD)	13.6 (6.1)	10.2 (5.3)	0.048*
Education Level n (%)			0.665
<i>High school diploma</i>	0	1 (3.4)	
<i>Some college</i>	2 (11.1)	5 (17.2)	
<i>Associate's degree</i>	1 (5.6)	1 (3.4)	
<i>Bachelor's degree</i>	7 (38.9)	7 (24.1)	
<i>Master's degree</i>	6 (33.3)	11 (37.9)	
<i>Graduate/professional degree</i>	2 (11.1)	4 (13.8)	

Table 2. Group differences in possible mediators between caregivers and non-caregivers given as mean (std dev). P values are from t-test.

Possible Contributors/Associations	Caregivers (n = 18)	Non-Caregivers (n = 29)	p-value
Perceived Stress Scale (PSS)	13.6 (6.1)	10.2 (5.3)	0.048*
Depression (CES-D)	10.3 (9.1)	7.8 (5.3)	0.621
Mindfulness (MAAS)	4.6 (0.9)	4.8 (0.7)	0.638
Mindfulness (KIMS)	133.4 (19.3)	144.3 (20.0)	0.072
<i>Observing</i>	40.3 (2.1)	43.2 (2.1)	0.321
<i>Describing</i>	30.8 (1.5)	33.7 (1.1)	0.128
<i>Acting with Awareness</i>	32.1 (1.7)	34.8 (0.9)	0.159
<i>Accepting without Judgment</i>	30.3 (1.7)	32.6 (1.4)	0.313

*p-value < 0.05

Table 3. Spearman's rho correlation between variables amongst caregivers (n = 29)

Potential Mediators	PSS	MAAS	KIMS
Depression (CESD)	0.830**	-0.845**	-0.759**
Perceived Stress (PSS)		-0.940**	-0.886**
Mindfulness (MAAS)			0.906**
Mindfulness (KIMS)			---

*p-value < 0.05

**p-value < 0.001

Table 4. Spearman's rho correlation between variables amongst non-caregivers (n = 18)

Potential Mediators	PSS	MAAS	KIMS
Depression (CESD)	0.542*	-0.535*	-0.573*
Perceived Stress (PSS)		-0.448*	-0.520*
Mindfulness (MAAS)			0.688**
Mindfulness (KIMS)			---

*p-value < 0.05

**p-value < 0.001