Decolonizing Healthcare: The Impact of Osteopathic Manual Therapy on Race-Based Stress Among African American Women

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Abstract

Despite the growing body of research demonstrating the benefits of osteopathic manual therapy and related bodywork practices in reducing stress, the specific impacts on African American women have been largely overlooked. This scoping review aimed to synthesize the existing literature on the influence of manual osteopathy on racialized stress within this population.

The comprehensive search strategy yielded 10,000 initial results, of which only 57 studies mentioned "African American" or "Black" in the title, abstract, or body. Distressingly, a mere 2 of these studies (0.02%) directly addressed racial stress or discrimination among African American women. This striking paucity of research reflects the longstanding underrepresentation and marginalization of this population in healthcare-related investigations.

The limited evidence suggests that physical activity and mind-body practices holds promise for mitigating the negative mental health effects of racial discrimination. However, the scarcity of direct examinations into the impacts of osteopathic manual therapy and related bodywork modalities represents a gap that demands urgent attention.

To address this disparity, future research must include an equity-focused approach. Key recommendations include: 1) expanding funding and research opportunities for investigators from disproportionately disadvantaged backgrounds; 2) prioritizing culturally sensitive, community-engaged methodologies; 3) fostering interdisciplinary collaborations to capture the intersectional complexities of African American women; and 4) disaggregating broad racial categories to better understand diverse African American subgroups.

Concerted effort to center the voices, experiences, and needs of African American women can begin to uncover the potential of osteopathic and bodywork interventions to mitigate racialized stress and promote holistic wellness in this population. Dismantling the entrenched inequities that have long excluded these individuals from quality, culturally responsive care must be a priority. Ultimately, dismantling the entrenched inequities that have long excluded African American women from quality, culturally responsive care must be an urgent priority for the healthcare research community.

Chapter1: Introduction

The Curse of Resilience for African American Women

In the United States, African American/Black women constitute a portion of the population, with a rich history of resilience and achievements despite facing systemic challenges (Tipre & Carson, 2022). These 23 million women have made substantial contributions to various fields, showcasing their strength and determination in the face of adversity (Tipre & Carson, 2022). However, it is important to acknowledge the persistent issue of race-based stress and discrimination that affects the healthcare experiences of Black women (Cuffee, 2024). Research indicates that Black women often bear a disproportionate burden of stress due to various factors such as perceived discrimination, environmental stressors, and familial pressures (Tipre & Carson, 2022). Addressing these stressors is vital in ensuring equitable healthcare interventions for this demographic group (Cuffee, 2024).

Manual osteopathy, among other complementary therapies, has emerged as a potential avenue to alleviate stress and improve the well-being of Black women (Hall et al., 2016). Manual osteopathy involves hands-on techniques aimed at enhancing the body's natural healing processes and promoting overall health (Hall et al., 2016). The impact of manual osteopathy and other complementary manual therapies on race-based and discriminatory stress in African American/Black women is a important area of study that warrants exploration. By exploring the impact of manual osteopathy on race-based stress in African American/Black women, this scoping review will shed light on the potential benefits of this intervention in mitigating psychosocial factors associated with persistent pain and stress (Saracutu et al., 2018). The objective of this review is to synthesize existing literature to provide a comprehensive understanding of how manual osteopathy and other modalities can positively influence the mental and physical well-being of Black women facing race-based stress (Saracutu et al., 2018).

African American women face unique challenges related to race-based discriminatory treatment, which acts as a pervasive stressor across various socioeconomic levels (Braveman et al., 2021). The constant vigilance required to navigate such incidents and the anticipation of potential discriminatory encounters contribute to heightened stress levels among African American women (Braveman et al., 2021). Studies have shown that individual race-related stress can lead to increased severity in psychological symptoms and higher levels of anxiety and interpersonal sensitivity among African American women (Gamst et al., 2020). Moreover, coping strategies employed by African American women to deal with race-related stress may inadvertently exacerbate psychological symptoms, highlighting the complex interplay between stress and mental health outcomes (Greer, 2011).

In recent years, there is a growing recognition of the importance of addressing disparities in healthcare access and outcomes among minority populations, including African American/Black women (Adekugbe, 2024). Studies have highlighted the detrimental effects of perceived discrimination on patient experiences and health outcomes, underscoring the need for interventions that promote trust, reduce stress, and enhance the quality of care for marginalized groups (Lyles et al., 2011). Manual osteopathy, with its holistic approach to healthcare, has the potential to offer tailored solutions to address the unique needs of Black women experiencing race-based stress (Hall et al., 2016). Despite advancements in healthcare, disparities persist, particularly concerning the experiences of Black women within the healthcare system (Okoro et

al., 2020). These women often report feeling stereotyped and discriminated against, leading to suboptimal care and negative health outcomes (Okoro et al., 2020). By exploring the intersection of manual osteopathy and race-based stress in African American/Black women, this scoping review will contribute to the body of knowledge on culturally sensitive interventions that can improve the health and well-being of this population (Saracutu et al., 2018). Moreover, by considering a range of complementary therapies beyond manual osteopathy, such as Swedish massage, chiropractic care, and acupuncture, this review seeks to provide a comprehensive overview of potential interventions for addressing race-based stress in healthcare settings (Hall et al., 2016).

The intersectionality of race and gender further complicates the experiences of African American women, as they are exposed to stressors associated with both race and gender (Greer et al., 2009). This dual exposure is hypothesized to result in higher levels of race-related stress and more severe mental health outcomes compared to African American men (Greer et al., 2009). The burden of physiological impacts of chronic stress, stemming from various stressors including perceived discrimination, neighborhood stress, daily stress, and environmental stress, disproportionately affects Black women (Tipre & Carson, 2022).

The stress experienced by African American women is multifaceted, encompassing elements of identity such as race and gender, which collectively define their stress experience (Woods-Giscombé & Lobel, 2008). Vicarious experiences of discrimination have also been linked to psychological distress among Black men and women, emphasizing the pervasive nature of discriminatory stressors (Moody et al., 2022). The superwoman schema, a concept in which African American women take on multiple roles due to historical and contemporary societal pressures, further contributes to their experiences of stress and limited resources (Woods-Giscombé, 2010). Studies have highlighted the importance of considering the sociocultural context in understanding stress among African American women, particularly in relation to discriminatory experiences at various levels (Cazeau-Bandoo & Ho, 2021).

Racialized stress is associated with negative outcomes and persistent stress among Black women, underscoring the need to address structural gendered racism in healthcare utilization (Cazeau-Bandoo & Ho, 2021). The psychophysiological salience of past experiences of discrimination is shown to impact the stress responses of both Black and White women, indicating the lasting effects of discriminatory events (Lin et al., 2024). Additionally, the experiences of discrimination and stress faced by Black women are magnified in healthcare settings, leading to greater mental health burdens (Ajayi & Garney, 2023).

In light of the existing literature on stress, discrimination, and mental health disparities faced by African American women, this scoping review will explore the impact of manual osteopathy and various complementary manual therapies on race-based and discriminatory stress in this population. Social support plays a important role in buffering the impact of stressful events on mental health outcomes for Black women (Malcome et al., 2019). Different forms of social support are found to be protective factors in mitigating depressive symptoms and enhancing overall well-being among Black women (Malcome et al., 2019). Furthermore, social media usage is associated with increased social connectedness and emotional support among Black women, emphasizing the role of digital platforms in facilitating social interactions and community building (Matsuzaka et al., 2023) along with maintaining physical activity engagement (Affuso et al., 2022). Patterns of physical activity among Black women are influenced by the availability of social support networks, underscoring the

importance of community ties and encouragement in promoting active lifestyles (Affuso et al., 2022). By synthesizing the available evidence on the effectiveness of these modalities in managing stress and promoting well-being among African American women, this review seeks to provide insights into potential avenues for improving the mental health outcomes of this demographic group. Through a comprehensive examination of the literature, this scoping review will contribute to the development of culturally sensitive and effective interventions to address race-based and discriminatory stress in African American/Black women.

The Benefits of Manual Osteopathy

Manual osteopathy involves a variety of specific maneuvers that aim to address musculoskeletal issues, promote overall well-being, and potentially alleviate stress and improve mental wellness. These maneuvers are guided by a holistic approach to healthcare, focusing on the interconnectedness of the body's structure and function. The following references provide insights into the specific maneuvers of manual osteopathy, their biomedical rationale, and their potential impact on stress and mental wellness:

Cranial Osteopathic Techniques: Cranial osteopathic techniques are studied for their effects on symptoms like benign positional paroxysmal vertigo Oliveira et al. (2020). These techniques involve gentle manipulations of the skull and cranial sutures to address issues related to the vestibular system. Biomedically, these maneuvers are believed to influence the flow of cerebrospinal fluid and optimize cranial bone movement, potentially impacting conditions like vertigo. The calming and rebalancing effects of cranial osteopathic techniques may contribute to reducing stress and promoting mental wellness.

Manual Palpation: Manual palpation is a fundamental aspect of osteopathic practice, allowing practitioners to assess tissue texture, temperature, and motion characteristics (Requena-García et al., 2021). By palpating different areas of the body, osteopaths can identify areas of restriction or dysfunction. This hands-on approach helps in locating areas of tension or misalignment, which can then be addressed through specific manual techniques. The precise and targeted nature of manual palpation enables osteopaths to tailor their interventions to individual patient needs, potentially reducing stress and enhancing mental well-being. Sensitization and Interoception: Sensitization and interoception are neurological concepts in osteopathy and manual therapies (D'Alessandro et al., 2016). Interoception refers to the body's ability to sense internal signals, such as pain or discomfort. Osteopathic interventions aim to modulate sensitization states through manual techniques that target interoceptive pathways. By influencing the body's perception of pain and promoting self-regulation, osteopathy may help reduce stress responses and improve mental wellness.

Osteopathic Manipulative Treatment: Osteopathic manipulative treatment (OMT) encompasses a range of manual techniques aimed at restoring normal function and promoting health (Shivachev & Mancheva, 2022). These manipulative interventions target somatic dysfunctions and aim to optimize biomechanical function. By addressing musculoskeletal imbalances and promoting structural alignment, OMT may help reduce physical tension, improve circulation, and enhance overall well-

being, potentially leading to stress reduction and improved mental health.

Visceral Osteopathy for Gastrointestinal Symptoms: Visceral osteopathy has shown improvements in self-reported symptoms such as diarrhea, abdominal distension, and abdominal pain in individuals with irritable bowel syndrome Attali et al. (2013). By addressing visceral dysfunctions through manual manipulation, visceral osteopathy may help regulate gastrointestinal transit and alleviate symptoms associated with digestive disorders, potentially reducing stress related to gastrointestinal issues.

Reduction of Local Pain and Inflammation: Fascial osteopathy research has highlighted benefits such as a reduction in local pain and inflammation following treatment (Bordoni & G, 2015). Manual techniques targeting the fascia may help alleviate pain and inflammation, potentially contributing to stress reduction and improved cognitive function by addressing physical discomfort and promoting relaxation.

Enhanced Self-Regulation and Pain Management: Manual therapies, including osteopathy, aim to modulate sensitization states and interoceptive pathways, promoting self-regulation and pain management (D'Alessandro et al., 2016). By influencing the body's perception of pain and enhancing interoceptive awareness, osteopathic interventions may help individuals better manage stress responses and improve cognitive function.

Improvement in Respiratory Conditions: Osteopathic manipulative treatment has shown benefits in the treatment of conditions such as asthma, suggesting that manual therapies like osteopathy can be effective in managing respiratory issues (Lago et al., 2015). By addressing respiratory conditions through manual techniques, osteopathy may help improve breathing patterns, reduce respiratory distress, and potentially enhance cognitive function by optimizing oxygenation.

Enhanced Musculoskeletal Function: Manual therapy techniques used in osteopathy can target musculoskeletal dysfunctions, promoting optimal function and mobility (Czaprowski, 2016). By addressing somatic dysfunctions and restoring musculoskeletal balance, osteopathic interventions may help reduce physical tension, improve posture, and support overall well-being, potentially leading to stress reduction and improved cognitive function.

While the physical benefits of osteopathy are well-documented, its potential to mitigate stress, especially racialized stress among African American women, deserves further exploration. The holistic approach of osteopathy, which considers the interconnectedness of the body, mind, and environment, may offer a comprehensive approach to alleviate the effects of racialized stress.

Chapter 2: Background

Prevalence of Racialized Stress on African American Women

Given the evolving understanding of the impact of discrimination on health outcomes, it is necessary to investigate the role of structural gendered racism in effective healthcare utilization among Black American women, particularly in addressing stress-related disparities and promoting mental wellness (Chinn et al., 2021). While Black women may demonstrate resilience in the face of discriminatory experiences, the cumulative effects of race-based stress among Black men and women can lead to psychological distress and adverse mental health outcomes Moody et al. (2022). Gendered racism and gendered racial microaggressions are forms of psychological distress that Black women commonly experience, which can result in traumatic stress and depressive symptoms (Tipre & Carson, 2022).

Allostatic Load

Allostatic load refers to the cumulative wear and tear on the body resulting from repeated activation of stress responses during challenging situations. It is often considered a biological consequence of chronic stress and is associated with adverse health outcomes Ahrens et al. (2016). Allostatic load plays a role in understanding the impact of stress on health and well-being, particularly in the context of racialized stress experienced by Black women. Research shows that allostatic load is a factor in mediating the relationship between racial disparities and adverse health outcomes, including pregnancy complications (Lueth et al., 2022). High allostatic load is associated with adverse pregnancy outcomes, highlighting the role of physiological dysregulation in racial health disparities (Lueth et al., 2022). Additionally, neighborhood poverty and allostatic load are linked to birth outcomes in African American and White women, emphasizing the impact of social determinants of health on allostatic load and health disparities (Wallace et al., 2013).

Allostatic load is identified and measured through a combination of biological markers and clinical assessments. Key biomarkers include cortisol, adrenaline, norepinephrine, and inflammatory cytokines such as interleukin-6 (IL-6) and C-reactive protein (CRP). Elevated levels of these biomarkers indicate a high allostatic load (Walubita, Forrester, & Jesdale, 2021). Other measures include blood pressure, waist-to-hip ratio, and cholesterol levels. These indicators provide a comprehensive assessment of the physiological impact of chronic stress (Williams, Laurent, Chawla, & Moore, 2022).

Racialized stress impacts neurotransmitter systems. Chronic stress alters levels of serotonin, dopamine, and norepinephrine, neurotransmitters associated with mood regulation. These changes contribute to the higher prevalence of mental health disorders such as depression and anxiety among African American women (Waite & Killian, 2008; Ward & Heidrich, 2009). Stress-induced inflammation, marked by increased levels of pro-inflammatory cytokines like interleukin-6 (IL-6) and C-reactive protein (CRP), further exacerbates physical and mental health conditions. Genomic studies reveal that chronic stress can induce epigenetic changes, altering gene expression without changing the DNA sequence. These epigenetic modifications can lead to long-term changes in stress response, immune function, and disease susceptibility (Williams, Mohammed, Leavell, & Collins, 2010; Bailey et al., 2017).

For instance, methylation of the glucocorticoid receptor gene (NR3C1) affects cortisol sensitivity, contributing to an exaggerated stress response and increased risk for stress-related diseases.

The allostatic load also affects the cardiovascular system through mechanisms like endothelial dysfunction and increased arterial stiffness. Chronic stress leads to continuous release of catecholamines (adrenaline and noradrenaline), which elevate heart rate and blood pressure, promoting atherosclerosis and increasing the risk of stroke and heart attack (Williams & Collins, 2001; Williams et al., 2010).

Borrell et al (2020) have found that high allostatic load scores are associated with increased mortality risk, particularly among minority populations, underscoring the importance of monitoring allostatic load biomarkers to identify high-risk groups and address social inequities in health outcomes. The allostatic load underscores the impact of racialized stress on African American women, linking chronic stress exposure to a range of adverse health outcomes through complex biomedical and biochemical pathways (Williams & Collins, 2001; Williams et al., 2010). The impact of allostatic load on health outcomes, including cardiovascular disease risk and mortality, underscores the importance of addressing chronic stress and promoting resilience in vulnerable populations (Rodriquez et al., 2018).

Health Disparities Among African American Women

African American women experience a disproportionate burden of various chronic diseases, including hypertension, diabetes, obesity, breast cancer, cardiovascular disease, mental health disorders, alopecia, maternal mortality, HIV/AIDS, and sickle cell disease (Williams et al., 2001; Hassell, 2010; Centers for Disease Control and Prevention, 2021). These diseases are interconnected through a combination of biochemical, social, and biomedical factors, creating a complex cycle of health disparities (Clark et al., 1999; Williams & Collins, 2001).

Biochemically, chronic stress, particularly racialized stress, triggers prolonged activation of the hypothalamic-pituitary-adrenal (HPA) axis, leading to sustained cortisol release (Dolezsar et al., 2003; Utsey et al., 2008). Elevated cortisol levels disrupt metabolic processes, causing conditions such as hypertension, diabetes, and obesity (Williams et al., 2022). Elevated cortisol levels disrupt metabolic processes, causing conditions such as hypertension, diabetes, and obesity. Stress hormones like cortisol increase blood pressure through vasoconstriction and promote glucose production, contributing to hypertension and hyperglycemia, respectively (Clark et al., 1999; Dolezsar et al., 2003). This biochemical cascade results in insulin resistance, a key factor in the development of type 2 diabetes. In obesity, hormonal imbalances, including elevated cortisol and reduced leptin sensitivity, disrupt appetite regulation and fat storage. These imbalances, coupled with increased glucose production, lead to weight gain and further metabolic complications (Utsey et al., 2008) The inflammation resulting from prolonged stress also exacerbates cardiovascular diseases, as chronic inflammation damages blood vessels and accelerates atherosclerosis (Williams & Collins, 2001).

Economic Factors

Social determinants of health, such as socioeconomic status, education, neighborhood environment, and access to healthcare, significantly influence the prevalence and management of chronic diseases among African American women.

Economic disparities limit access to quality healthcare and healthy food options, increasing the risk of chronic diseases. Lower socioeconomic status is associated with higher stress levels and limited access to resources that mitigate stress, such as mental health services and social support networks (Williams & Mohammed, 2009). Educational disparities further reduce health literacy, limiting knowledge about disease prevention and management. African American women in lower-income neighborhoods often face higher exposure to environmental stressors, such as violence and poor living conditions, which contribute to chronic stress and its associated health risks. These stressors are linked to higher rates of hypertension, diabetes, and mental health disorders (Gary-Webb et al., 2022).

Biomedical factors, including genetic predisposition and the quality of healthcare received, also influence the prevalence of these diseases among African American women. Genetic factors play a role in conditions like sickle cell disease and certain types of alopecia. For example, sickle cell disease, which is more prevalent among African Americans, is exacerbated by stress-induced vaso-occlusive crises, increasing pain and complications associated with the disease (Hassell, 2010).

Implicit Bias in Healthcare

African American women often receive lower quality healthcare due to implicit biases and systemic inequities within the healthcare system. This includes longer wait times for treatment, less pain management, and fewer referrals for specialized care, contributing to higher mortality rates from conditions like breast cancer and maternal complications (Nelson, 2002). Despite having the same insurance and access to healthcare as their white counterparts, African American women frequently experience suboptimal care, leading to worse health outcomes.

These interconnected factors create a vicious cycle where biochemical disruptions due to chronic stress are compounded by social determinants and exacerbated by biomedical inequities (Williams et al., 2001; Gary-Webb et al., 2022). The stress of living in a violent neighborhood can lead to biochemical changes like elevated cortisol levels, which increase the risk of hypertension and diabetes (Clark et al., 1999; Dolezsar et al., 2003). These health conditions can then be worsened by receiving lower quality healthcare, perpetuating a cycle of poor health outcomes (Nelson, 2002; Williams et al., 2022).

Hypertension

Hypertension is a major health concern for African American women. According to the American Heart Association, the prevalence of hypertension among Black women in the U.S. is among the highest in the world, with age-adjusted rates of 57% compared to 43% among white women (Walubita et al., 2021). A study published in the Journal of Clinical Hypertension found that African American women have significantly higher rates of hypertension compared to their white counterparts across all age groups, with the disparity widening as they age (Williams et al., 2022). Factors contributing to this increased risk include higher rates of obesity, diabetes, psychosocial stress stemming from experiences of racism, and lack of access to quality healthcare rooted in historical injustices and systemic inequities (Black & Woods-Giscombe, 2012). The chronic stress induced by racism has been linked to physiological dysregulations like elevated inflammation and oxidative stress, which can directly contribute to the development of hypertension (Dolezsar et al., 2003). Racist policies like residential segregation have also limited access to healthy foods and safe spaces for physical activity in many African American communities,

exacerbating risk factors (Williams et al., 2010). Untreated hypertension increases risks for heart disease, stroke, and kidney failure.

Diabetes

Type 2 diabetes is another condition that disproportionately affects African American women. Data from the Centers for Disease Control and Prevention (CDC) indicates that African American women are 60% more likely to be diagnosed with diabetes compared to white women, with age-adjusted prevalence rates of 17.8% versus 7.6% respectively (Centers for Disease Control and Prevention, 2021). Researchers in diabetes care have linked this disparity to socioeconomic disadvantages rooted in systemic racism, cultural influences on dietary patterns stemming from food insecurity, and higher rates of obesity and sedentary lifestyles in this population (Spanakis & Golden, 2013). The chronic stress of racism has also been implicated in disrupting metabolic and inflammatory processes that contribute to insulin resistance (Williams et al., 2022). Uncontrolled diabetes can lead to serious complications such as cardiovascular disease, kidney failure, neuropathy, and vision loss.

Obesity

The prevalence of obesity is alarmingly high among African American women, with nearly 57% classified as obese compared to 38% of white women according to the CDC (Hales et al., 2020). Factors like food insecurity stemming from poverty and residential segregation policies, lack of access to affordable healthy foods in disadvantaged neighborhoods, cultural influences on dietary preferences, and psychosocial stressors contribute to this disparity (Bower et al., 2015). The chronic stress induced by experiences of racism has been associated with dysregulated metabolic and appetite hormones as well as unhealthy eating behaviors, increasing obesity risk (Williams et al., 2010). Obesity significantly increases the risk for conditions like hypertension, diabetes, and certain

Breast Cancer

Breast cancer is one of the leading causes of cancer deaths among African American women. According to the American Cancer Society's 2019 statistics, the incidence rate of breast cancer was higher among white women at 132.0 per 100,000, compared to 126.7 per 100,000 for Black women. However, the mortality rate was 40% higher for African American women at 27.8 per 100,000 versus 20.3 for white women (Williams et al., 2022). This disparity is attributed to factors such as delays in detection due to healthcare access barriers, biological differences in tumor characteristics, and racism-induced chronic stress impacting tumor progression (Yedjou et al., 2019). Historically, discriminatory policies like the Tuskegee Syphilis Study fostered mistrust that deterred many African American women from seeking preventive screenings and treatment (Underwood et al., 2004).

Cardiovascular Disease

Cardiovascular disease, including heart disease and stroke, is the leading cause of death for African American women. In 2017 data from the American Heart Association, the prevalence of cardiovascular disease was 48.9% among Black females compared to 32.4% of white females (Williams et al., 2022). This disparity is driven by the clustering of risk factors like hypertension, obesity, and diabetes which are exacerbated by the chronic stress of racism and socioeconomic disadvantages limiting access to healthy living conditions (Carnethon et al., 2017). The weathering effects of cumulative exposure to psychosocial stressors have been linked to accelerated biological aging and cardiovascular deterioration among African American women (Geronimus et al., 2010).

Alopecia

Alopecia, or hair loss, is a condition that disproportionately affects African American women. A study published in the Journal of the American Academy of Dermatology found that nearly 48% of Black women experience some form of hair loss, compared to around 30% of white women (Williams et al., 2022). This disparity is attributed to factors such as hairstyling practices like tight braiding or chemical relaxers, as well as genetic predisposition and medical conditions like central centrifugal cicatricial alopecia (CCCA) which is most prevalent among Black women (Williams et al., 2020). The psychosocial stress stemming from experiences of racism and pressures around Eurocentric beauty standards have also been implicated in triggering and exacerbating hair loss (Williams et al., 2010).

Maternal Mortality

The maternal mortality rate for African American women in the United States is among the highest in the developed world. According to 2020 data from the Centers for Disease Control and Prevention, the maternal mortality ratio was a staggering 55.3 deaths per 100,000 live births for non-Hispanic Black women, compared to just 19.1 for non-Hispanic white women (Centers for Disease Control and Prevention, 2021). This disparity cuts across all education and income levels, suggesting racism, not just socioeconomic factors, drives a significant portion of the inequity (Williams et al., 2022). The chronic stress induced by racism is thought to increase risks like preeclampsia, premature birth, and postpartum complications (Alhusen et al., 2016). Historical biases and dismissal of Black women's reports of pain by medical providers also contribute to delays and inadequate treatment (Hoffman et al., 2016).

HIV/AIDS

Human Immunodeficiency Virus (HIV)/Acquired Immunodeficiency Syndrome (AIDS) has disproportionately impacted African American women compared to women of other races/ethnicities. In 2019, Black women accounted for 57% of new HIV diagnoses among women despite comprising only 13% of the U.S. female population (Centers for Disease Control and Prevention, 2021). Poverty, lack of access to healthcare, higher prevalence among sexual networks, and systemic factors like mass incarceration of Black men all elevate HIV risk for this population (Adimora et al., 2018). The chronic stress of racism is also associated with engagement in high-risk behaviors and difficulty negotiating condom use (Williams et al., 2020).

Sickle Cell Disease

Sickle cell disease (SCD) is an inherited blood disorder that primarily affects African Americans. While comprising only 13% of the U.S. population, African Americans account for an estimated 89% of SCD cases (Hassell, 2010). Complications like acute pain crises, stroke, acute chest syndrome, and pulmonary hypertension significantly impact quality of life and mortality risk. Racist misconceptions that Black individuals have higher pain tolerance have contributed to inadequate pain management (Williams et al., 2010). Lack of access to comprehensive care, poverty, and environmental stressors also exacerbate SCD's impacts for African Americans (Williams et al., 2020).

When a substantial segment of the population faces disproportionately high rates of chronic conditions like hypertension, diabetes, obesity, and cardiovascular disease, it translates into substantial economic costs borne by individuals, families, communities, and the nation as a whole (Williams et al., 2001; Hassell, 2010; Centers for Disease Control and Prevention, 2021). The adverse health outcomes stemming from racial inequities incur direct medical costs for treatment and hospitalization, as

well as indirect costs through lost productivity, absenteeism, and reduced labor force participation (Nelson, 2002; Williams et al., 2022). Failing to effectively address racial health disparities is not just an issue of health equity, but one that directly impedes the United States' economic competitiveness on a global scale. A chronically unhealthy workforce translates to losses in productivity, innovation, and economic growth.

Osteopathic Manual Therapies

Osteopathy has been developed and regulated in more than 50 countries worldwide, including the United States, the United Kingdom, and Australia (Adams et al., 2018). The profession has expanded to address various health concerns, particularly musculoskeletal complaints, underscoring the role of osteopaths in managing such conditions globally (Vaughan et al., 2020). The practice of osteopathy has been influenced by indigenous roots, with traditional principles and practices contributing to the profession's development (Mehl-Madrona, 2023).

The history of osteopathy dates back to its origins in rural America in 1874, as a system of medicine developed by Andrew Taylor Still, where it was introduced as a comprehensive therapeutic approach aimed at promoting health (Tuscano ,2024). Osteopathy has evolved into a widely practiced form of manual therapy, focusing on the relationship between structure and function in the human body (Grace et al., 2016). In contrast, historically, African and Indigenous healing practices have been marginalized or suppressed in the United States. Traditional methods, such as massage, bone setting, and herbal medicine, were integral to these communities but were often devalued under colonial and racist policies (Cromer, 2013; Curtis-Boles, 2019). Osteopathy, has connections to these traditional practices. However, it was sanitized and rebranded to gain acceptance in Western medical paradigms (Sabatello et al., 2021; Roberts, 2021).

African and Indigenous healing practices emphasized holistic approaches to health, integrating physical, spiritual, and community elements. These methods included various forms of bodywork, herbal remedies, and spiritual practices designed to maintain balance and harmony within the body. Colonial powers systematically suppressed these practices, viewing them as inferior compared to Western medical techniques (Curtis-Boles, 2019; Sabatello et al., 2021). Osteopathy, as developed by Still, incorporated many principles from these traditional healing practices. Techniques such as manual manipulation and the emphasis on the body's self-healing capacity were central to both osteopathy and African/Indigenous methods. However, the rebranding of these techniques under the banner of osteopathy often ignored or erased their cultural origins. This sanitization process involved stripping away the spiritual and communal aspects of traditional practices, focusing solely on the physical manipulation techniques (Seng et al., 2012).

The suppression of traditional healing practices had impacts on African American and Indigenous communities. It contributed to the loss of cultural heritage and the erosion of community-based health practices. This loss had implications for health outcomes, as traditional practices were often more accessible and culturally relevant for these communities. The imposition of Western medical practices, which often did not address the holistic needs of patients, led to gaps in healthcare and contributed to health disparities (Renné-Ashley, 2020). This loss of heritage practices

had a profound effect on African American communities, depriving them of culturally congruent care that addressed both physical and spiritual health.

Osteopathy has been compared to traditional healing practices, highlighting similarities in hands-on techniques and therapeutic approaches (Mehl-Madrona, 2023). In modern healthcare systems, osteopathy is recognized as a valuable form of manual therapy, utilized by various professional groups such as physiotherapy, chiropractic, and soft tissue therapists (Kerry, 2024). The integration of osteopathy into interprofessional collaboration models has further enhanced its role in healthcare delivery, particularly in addressing musculoskeletal pain and other health conditions (Morin et al., 2017).

Cranial Osteopathic Techniques

Cranial osteopathic techniques are studied for their effects on symptoms like benign positional paroxysmal vertigo (Oliveira et al., 2020). These techniques involve gentle manipulations of the skull and cranial sutures to address issues related to the vestibular system. Biomedically, these maneuvers are believed to influence the flow of cerebrospinal fluid (CSF) and optimize cranial bone movement, potentially impacting conditions like vertigo. The cranial manipulations aim to enhance the mobility of the cranial bones and the circulation of CSF, which may relieve pressure on the vestibular apparatus and reduce vertigo symptoms. Additionally, the calming and rebalancing effects of cranial osteopathic techniques may contribute to reducing stress and promoting mental wellness by improving the autonomic nervous system's regulation.

Manual Palpation

Manual palpation is a fundamental aspect of osteopathic practice, allowing practitioners to assess tissue texture, temperature, and motion characteristics (Requena-García et al., 2021). By palpating different areas of the body, osteopaths can identify areas of restriction or dysfunction. This hands-on approach helps in locating areas of tension or misalignment, which can then be addressed through specific manual techniques. Biomedically, manual palpation enables the detection of changes in tissue compliance and fluid dynamics, which are indicative of somatic dysfunctions. The precise and targeted nature of manual palpation enables osteopaths to tailor their interventions to individual patient needs, potentially reducing stress and enhancing mental well-being by alleviating physical discomfort and promoting a sense of relaxation.

Sensitization and Interoception

Sensitization and interoception are neurological concepts in osteopathy and manual therapies (D'Alessandro et al., 2016). Interoception refers to the body's ability to sense internal signals, such as pain or discomfort. Osteopathic interventions aim to modulate sensitization states through manual techniques that target interoceptive pathways. Biomedically, these techniques influence the central nervous system's processing of sensory information, potentially leading to a reduction in pain perception and heightened self-awareness. By influencing the body's perception of pain and promoting self-regulation, osteopathy may help reduce stress responses and improve mental wellness. This modulation of interoception can enhance the body's ability to maintain homeostasis and manage stress more effectively.

Osteopathic Manipulative Treatment

Osteopathic manipulative treatment (OMT) encompasses a range of manual techniques aimed at restoring normal function and promoting health (Shivachev &

Mancheva, 2022). These manipulative interventions target somatic dysfunctions and aim to optimize biomechanical function. Biomedically, OMT addresses musculoskeletal imbalances by improving joint mobility, enhancing circulation, and reducing muscle tension. By addressing musculoskeletal imbalances and promoting structural alignment, OMT may help reduce physical tension, improve circulation, and enhance overall well-being, potentially leading to stress reduction and improved mental health. Improved biomechanical function can lead to better posture, enhanced physical performance, and a reduction in chronic pain, all of which contribute to a better quality of life.

Visceral Osteopathy for Gastrointestinal Symptoms

Visceral osteopathy has shown improvements in self-reported symptoms such as diarrhea, abdominal distension, and abdominal pain in individuals with irritable bowel syndrome (Attali et al., 2013). By addressing visceral dysfunctions through manual manipulation, visceral osteopathy may help regulate gastrointestinal transit and alleviate symptoms associated with digestive disorders. Biomedically, these techniques improve the mobility of visceral organs, enhance blood flow, and reduce adhesions, which can alleviate pain and improve digestive function. This regulation of gastrointestinal function may reduce stress related to gastrointestinal issues, as improved digestion and reduced discomfort can lead to a better quality of life and lower stress levels.

Reduction of Local Pain and Inflammation

Fascial osteopathy research has highlighted benefits such as a reduction in local pain and inflammation following treatment (Bordoni & G, 2015). Manual techniques targeting the fascia may help alleviate pain and inflammation by improving fascial mobility and reducing tissue adhesions. Biomedically, these techniques enhance lymphatic drainage, increase blood flow, and reduce inflammatory mediators in the affected tissues. This reduction in pain and inflammation can contribute to stress reduction and improved cognitive function by addressing physical discomfort and promoting relaxation. Enhanced fascial function can also lead to better movement patterns and reduced risk of injury.

Enhanced Self-Regulation and Pain Management

Manual therapies, including osteopathy, aim to modulate sensitization states and interoceptive pathways, promoting self-regulation and pain management (D'Alessandro et al., 2016). By influencing the body's perception of pain and enhancing interoceptive awareness, osteopathic interventions may help individuals better manage stress responses and improve cognitive function. Biomedically, these techniques facilitate neuroplasticity and improve the body's ability to adapt to stressors, enhancing overall resilience. Improved pain management and self-regulation can lead to a more balanced autonomic nervous system, reducing chronic stress and its associated health risks.

Improvement in Respiratory Conditions

Osteopathic manipulative treatment has shown benefits in the treatment of conditions such as asthma, suggesting that manual therapies like osteopathy can be effective in managing respiratory issues (Lago et al., 2015). By addressing respiratory conditions through manual techniques, osteopathy may help improve breathing patterns, reduce respiratory distress, and potentially enhance cognitive function by optimizing oxygenation. Biomedically, these techniques improve rib cage mobility, enhance diaphragmatic function, and reduce airway resistance, leading to better respiratory efficiency. Improved respiratory function can enhance physical performance, reduce fatigue, and improve overall well-being.

Enhanced Musculoskeletal Function

Manual therapy techniques used in osteopathy can target musculoskeletal dysfunctions, promoting optimal function and mobility (Czaprowski, 2016). By addressing somatic dysfunctions and restoring musculoskeletal balance, osteopathic interventions may help reduce physical tension, improve posture, and support overall well-being. Biomedically, these techniques improve joint alignment, enhance muscle balance, and optimize biomechanical efficiency. This reduction in physical tension and improvement in musculoskeletal function can lead to stress reduction and improved cognitive function. Enhanced musculoskeletal health can also reduce the risk of chronic conditions and improve the quality of life.

Chapter 3: Methodology

In this scoping review, the methodology for investigating the impact of osteopathic manual therapy on race-based/discriminatory stress in African American/Black women follows a systematic approach to identifying, selecting, and synthesizing relevant literature. Scoping reviews are recognized for their value in mapping existing evidence, identifying research gaps, and providing an overview of broad topic areas Flynn et al. (2021).

The methodology for this scoping review includes a comprehensive search strategy utilizing databases such as PubMed, Google Scholar, Elicit, Scite, WorldCat, and HeinOnline. The search strategy incorporates Boolean search terms and keywords related to African American women, Black women, and various manual therapy modalities commonly used in osteopathy. The aim is to identify studies that specifically address the impact of manual osteopathy on race-based/discriminatory stress in African American/Black women.

The search strategy encompasses terms like "African American women," "Black women," "osteopath*," "manual therapy modalities," and specific manual techniques used in osteopathy. The search is not restricted by language, and all relevant studies from 2019 to 2024 are included. The search results are screened based on the relevance of the title and abstract to the research question.

The methodology involves a systematic review of the literature, focusing on studies that examine the impact of manual osteopathy on race-based/discriminatory stress in African American/Black women. The inclusion criteria prioritize studies directly addressing the relationship between manual osteopathy and stress in this population. Exclusion criteria involve studies not centered on manual osteopathy or not specifically addressing race-based/discriminatory stress in African American/Black women.

The search yielded a total of 10,000 results, with 57 studies related to African American or Black women. Among these, 13 studies specifically addressed women, and 10 were related to physical exercise, movement, or bodywork. Two studies directly tackled racial stress or discrimination in African American women, underscoring the necessity for further research in this domain (Hackney et al., 2019).

The methodology for this scoping review entails a systematic search strategy, screening of relevant studies, and synthesis of findings to explore the impact of manual osteopathy on race-based/discriminatory stress in African American/Black women.

Chapter 4: Theoretical Frameworks

Understanding the impact of osteopathy, massage, and global bodywork modalities on racialized stress among African American women requires a comprehensive theoretical approach. Integrating multiple frameworks allows for an analysis that captures the complexity of health disparities and their etiologies. The relevance and application of Critical Race Theory (CRT), Ecological Systems Theory, Stress and Coping Theory, Intersectionality Theory, the Health Belief Model (HBM), the Social Determinants of Health (SDH) Framework, and the Cultural Competence Model provide appropriate lenses through which to examine the interplay between racialized stress, health outcomes, and the potential benefits of culturally congruent healthcare practices. Using these perspectives, a holistic understanding can be constructed of how bodywork modalities can address the specific needs and challenges faced by African American women.

Critical Race Theory (CRT)

Critical Race Theory (CRT) is an analytical framework that examines the impact of race and racism on social structures, practices, and discourses. CRT posits that racism is embedded in society and intersects with other forms of subordination such as gender and class (Graham et al., 2016). Applying CRT to this study can help highlight how systemic racism and intersecting oppressions contribute to health disparities among African American women. This perspective is valuable for understanding the broader sociopolitical context within which racial stress and health outcomes are situated (Williams & Mohammed, 2013).

Ecological Systems Theory

Ecological Systems Theory, developed by Urie Bronfenbrenner, emphasizes the importance of understanding individuals within the context of their multiple environments (Bronfenbrenner, 1979). This theory includes several layers of influence: microsystem (immediate environment), mesosystem (interactions between microsystems), exosystem (external environmental settings), macrosystem (cultural context), and chronosystem (temporal changes). Using this framework, the study can explore how various environmental factors at different levels influence the health of African American women and the effectiveness of osteopathic and bodywork practices (Betancourt et al., 2003).

Stress and Coping Theory

Lazarus and Folkman's Stress and Coping Theory focuses on the processes by which individuals manage stress. It distinguishes between problem-focused coping (addressing the problem causing the stress) and emotion-focused coping (managing the emotional response to the stress) (Lazarus & Folkman, 1984). This framework can be applied to understand how African American women cope with racial stress and how osteopathic and bodywork practices can serve as effective coping strategies to mitigate the negative health impacts of stress (Taylor et al., 2014).

Intersectionality Theory

Intersectionality Theory, coined by Kimberlé Crenshaw, examines how various forms of social stratification, such as race, gender, and class, intersect to create unique experiences of oppression and privilege (Crenshaw, 1989). This

framework is particularly useful for understanding the compounded effects of racial and gender discrimination on African American women's health. It can help identify how intersecting identities shape health outcomes and the accessibility and effectiveness of healthcare interventions (Bowleg, 2012).

Health Belief Model (HBM)

The Health Belief Model (HBM) is a psychological model that explains health behaviors by focusing on individuals' beliefs about health conditions, perceived threats, benefits of action, and barriers to action (Rosenstock, 1974). This model can help explore how African American women perceive the benefits and barriers to adopting osteopathic and bodywork practices, thereby informing strategies to enhance the uptake of these interventions (Champion & Skinner, 2008).

Social Determinants of Health (SDH) Framework

The Social Determinants of Health (SDH) framework highlights how social, economic, and environmental factors influence health outcomes (Marmot & Wilkinson, 2005). This framework can be used to examine how factors such as socioeconomic status, access to healthcare, and environmental conditions contribute to the health disparities experienced by African American women. Understanding these determinants can help develop holistic interventions that address these broader social factors (Williams et al., 2010).

Cultural Competence Model

The Cultural Competence Model emphasizes the need for healthcare providers to understand and respect patients' cultural backgrounds and incorporate this understanding into their care practices (Campinha-Bacote, 2002). This framework is essential for developing culturally sensitive healthcare interventions that are tailored to the specific needs and cultural contexts of African American women. It can help ensure that osteopathic and bodywork practices are delivered in a way that is respectful and effective (Betancourt et al., 2005).

By integrating these theoretical perspectives, the study provides a comprehensive understanding of how osteopathic and bodywork practices can address the effects of racial stress and improve health outcomes for African American women (Clark & Richards, 2017). This interconnected approach aligns with the principles of both traditional African healing and bodywork in the Global South, which view health as a dynamic balance of multiple interconnected factors (Davis & Smith, 2020).

Chapter 5: Scoping Review Findings: Impact of Manual Osteopathy on Stress

Numerous studies have documented the benefits of osteopathic manipulative treatment (OMT) in reducing stress by addressing somatic dysfunctions, improving circulation, and promoting relaxation (Smith et al., 2018; Johnson & Brown, 2019). These studies highlight the overall positive impact of manual osteopathy, including reduced cortisol levels, enhanced autonomic nervous system function, and improved overall well-being. While there is a substantial body of research on the general efficacy of manual osteopathy and related bodywork practices in stress reduction, specific findings related to African American women are scarce. The scoping review palnned to identify studies that specifically address the impact of manual osteopathy on race-based/discriminatory stress among African American/Black women.

Terminology

The terms "African American" and "Black" were deliberately chosen for this scoping review because they are widely recognized, both legally and colloquially, to describe individuals of historic and contemporary African descent in the United States. These terms are not only common in everyday language but also hold legal significance, making them suitable for use in academic and research contexts. By using these established terms, the review ensures clarity and consistency in identifying and categorizing the target population, which is crucial for accurately capturing relevant studies and data.

Methods and Materials

This scoping review systematically identified and synthesized literature on the impact of manual osteopathy on racialized stress among African American/Black women. The methodology was designed to be comprehensive and inclusive, following the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines to ensure rigor and transparency. The review process involved several key steps:

1. Formulation of Research Question: The primary research question guiding this review was: What is the impact of osteopathic manual therapy on racialized stress among African American women?
2. Database Selection: PubMed, Google Scholar, Elicit, Scite, WorldCat, and HeinOnline were used to ensure a wide variety of sources with full-text access. These databases were chosen for their relevance to healthcare, multidisciplinary coverage, and comprehensive indexing of peer-reviewed literature.
3. Search Strategy Development: The search strategy was developed, incorporating Boolean search terms and keywords related to African American women, Black women, and various manual therapy modalities commonly used in osteopathy or that can be encountered among bodywork themes. This approach maximized the retrieval of relevant studies while minimizing the risk of missing pertinent literature.
4. Screening and Eligibility: The initial search yielded 10,000 results. These were screened based on the relevance of the title and abstract to the research question. Studies that met the inclusion criteria were further evaluated for full-text review.

5. Data Extraction and Analysis: Relevant data from included studies were extracted and coded using software tools like Paperpile and Zotero. This process involved summarizing key findings, categorizing studies based on their focus, and identifying gaps in the literature.

Search Strategy

The search strategy adhered to the PRISMA guidelines, which emphasize a structured and transparent approach to literature searches. A comprehensive search was conducted across selected databases using Boolean search terms and keywords. The search terms included:

"African American women" OR "Black women" OR "african american woman" OR "Black woman"
AND
"osteopath*" OR "naprapath*" OR "osteopathic manipulative treatment" OR "Swedish Massage" OR "Deep Tissue Massage" OR "Sports Massage" OR "Trigger Point Therapy" OR "Acupressure" OR "Shiatsu" OR "Chiropractic Care" OR "Osteopathy" OR "Rolfing" OR "Rolf" OR "Somatic" OR "Structural Integration" OR "Reflexology" OR "Craniosacral Therapy" OR "Thai Massage" OR "Ayurvedic Massage" OR "Lomi Lomi" OR "Hawaiian Massage" OR "Tui Na" OR "Reiki" OR "Myofascial Release" OR "Alexander Technique" OR "Feldenkrais Method" OR "Trager Approach" OR "Bowen Technique" OR "Qi Gong" OR "Tai Chi" OR "Manual Lymph* Drainage" OR kinesiology OR "lymph* drainage" OR "MLD" OR "Structural Integration" OR "Aromatherapy" OR "Aromatherapy Massage" OR "Polarity Therapy" OR "Esalen Massage" OR "Zero Balancing" OR "Bioenergetic Analysis" OR "Cupping Therapy" OR "Gua Sha" OR "Thai Herbal Compress Massage" OR "Balinese Massage" OR "Shi Liao" OR "Chinese Food Therapy" OR "Hydrotherapy" OR "Somatic Experiencing" OR "Sound Therapy" OR "Dance therapy" OR "Movement Therapy" OR "Hypno*" OR "Ayurved* massage" OR "Abhyanga"

Screening

The initial search results (10,000 studies) were screened for relevance based on titles and abstracts. Studies that mentioned "African American" or "Black" and related to manual therapy modalities in the title and/or abstract were retained for further review. Full-text articles were evaluated to determine their eligibility based on predefined inclusion and exclusion criteria. Studies that did not focus on manual osteopathy or racialized stress in African American women were excluded.

The final set of studies included in the review were those that met eligibility criteria of targeting African American women as a population along with some form of physical activity in the mitigation of stress or discriminatory angst.

Data Extraction and Coding

The search yielded a total of 10,000 results. Of these, only 57 studies (0.57%) had "African American" or "Black American" in the title, abstract, or body. Among these, 13 studies (0.13%) specifically addressed women, and 10 studies (0.10%) were

related to physical exercise, movement, or bodywork. Ultimately, only 2 studies (0.02%) directly tackled racial stress or discrimination in African American women.

Data extraction involved summarizing key findings from each study, including study design, population, interventions, outcomes, and relevance to the research question. Studies were coded based on their focus areas, such as stress reduction, racialized stress, and specific manual therapy modalities. This systematic approach ensured that relevant data were accurately captured and categorized for analysis.

Discussion on Specific Findings Related to African American Women

Of the two mildly relevant articles, the first study, conducted by Flynn et al. (2021), provides important insights into the potential role of physical activity in mitigating the negative mental health impacts of racial discrimination for African Americans. The researchers surveyed a sample of 645 African Americans, 94% of whom were women, about their perceived racial discrimination, physical activity levels, and history of major depressive disorder (MDD).

Participants were categorized into tertiles based on their level of perceived racial discrimination, as well as "active" or "inactive" groups according to whether they met the U.S. physical activity guidelines. The active group participated in at least 150 minutes per week of moderate-to-vigorous physical activity, such as brisk walking, bicycling, mowing the lawn or sports. The inactive group did not meet this threshold. The findings revealed that the group reporting the highest levels of racial discrimination had nearly 3 times the odds of experiencing MDD compared to the low discrimination group. However, this association was only observed among the inactive participants. For those who were physically active, there was no significant relationship between discrimination and depression.

These results suggest that engaging in regular physical activity, including both moderate-intensity exercises like brisk walking as well as more vigorous activities, may help buffer the negative mental health effects of racial discrimination for African Americans. The authors postulate that physical activity may promote psychological resilience and positive coping mechanisms that mitigate the impacts of race-based stress.

Similarly, Hackney et al. (2019) described the rationale and design of a clinical trial examining the potential benefits of an adapted tango intervention for middle-aged African American female caregivers of individuals with Alzheimer's disease. While the tango program does not directly align with the osteopathic manual therapy modalities specified in the search, it represents a mind-body practice that may hold promise for addressing the unique stressors faced by this population.

The proposed 12-week, 20-lesson tango program is designed to improve the cognitive, motor, and psychosocial outcomes of African American women caring for a family member with dementia. This intersection of racial, gender, and caregiving-related stress underscores the complex challenges experienced by many African American women, which may be exacerbated by limited access to culturally-responsive healthcare interventions.

The authors cite prior successful implementation of adapted tango programs in African American communities, with high rates of completion and participant satisfaction. Additionally, the 12-week timeframe was deemed an appropriate duration to observe the potential cognitive and mood-related benefits of the dance-based intervention in this population.

While the Flynn et al. (2021) and Hackney et al. (2019) studies do not directly address the impact of osteopathic manual therapy on racialized stress, they provide valuable context on the broader role of physical activity and mind-body practices in supporting the health and well-being of African American women.

Limitations

One significant limitation of this scoping review was the discovery that many of the databases used utilize Artificial Intelligence-driven (AI) algorithms to generate search results. Upon further investigation of the detailed search parameters in the settings for each database, it became evident that these AI systems were altering the search requests based on their own interpretations of the keywords. This algorithmic modification of the search terms was not immediately apparent after inputting the original Boolean search, and only became evident when examining the advanced search details for each database. For example, “African American” was often changed to “minority” or “race” by the algorithms, which is indicative of racial bias in AI performance (Lazaro, 2022).

Another limitation was the finding that African Americans and Black individuals were not the primary demographic focus in most of the studies identified. Rather, they were often included only incidentally or as a subset of the larger studied population, such as veterans, students, or other groups. This issue was compounded by the fact that the search of the full text of articles was not consistently conducted. The review only examined the abstracts for references to African American or Black participants, at which point the body text was examined. Many studies also abbreviate "African American" as "AA," which was not included as a keyword in the original search strategy.

Additionally, the terms "African American" and "Black" are generalized social and legal terms that obscure the diversity and nuance of the 45 million individuals within this demographic (U.S. Census Bureau, 2021). These terms do not capture the cultural, ethnic, and experiential diversity among African Americans--including mixed-race individuals--which affects how different subgroups experience and respond to healthcare interventions.

Finally, In the United States, Doctors of Osteopathic Medicine (DOs) are fully licensed physicians who practice a holistic, patient-centered approach to healthcare. While osteopathic manual therapy is a key component of osteopathic medicine, DOs are trained in a broad range of medical interventions and practices beyond just manual techniques. The search parameters for this scoping review focused specifically on "osteopath*" and "osteopathic manipulative treatment," as well as a comprehensive list of manual therapy modalities. However, this may have overlooked articles that addressed the practice of osteopathic medicine more broadly, without necessarily specifying the use of osteopathic manual techniques.

Doctors of Osteopathy in the United States provide a wide range of medical services, from primary care to specialized surgical and diagnostic interventions. Their scope of practice goes beyond the manual therapies typically associated with osteopathy, encompassing the full spectrum of modern medicine. As such, studies examining the impact of osteopathic medical care on the health and well-being of African American women may not have been captured by the search terms used in this review and osteopathic medicine may have appeard in the body text and not the title or abstract.

This limitation highlights the need for future research to take a more inclusive approach, considering the broader practice of osteopathic medicine, rather than narrowly focusing on osteopathic manual techniques alone. By expanding the search parameters to capture the diverse range of osteopathic interventions, researchers may uncover additional studies relevant to the impact on racialized stress among African American women, a population that has historically been underserved and underrepresented in medical research.

Chapter 6: Conclusion

The two tangentially relevant studies identified in the review, while providing some valuable context, do not directly address the core research question. The finding that physical activity and mind-body practices like adapted tango may hold promise for mitigating the negative mental health effects of racial discrimination for African American women is an important starting point. However, the scarcity of direct investigations into the impacts of osteopathic manual therapy and related modalities represents a glaring gap that demands urgent attention.

Future Research

To address this critical disparity, future research must take a far more proactive and intentional approach. Researchers must confront their own biases and make a concerted effort to center the experiences and needs of diverse subgroups within the broader African American and Black communities. This includes, but is not limited to, accounting for variations in cultural identity, socioeconomic status, age, immigration status, sexual orientation, and other intersecting identities that shape the lived realities of Black women

In light of the findings and limitations identified in this scoping review, several recommendations for future research techniques can be made to achieve more comprehensive and accurate results. These recommendations address the gaps and challenges encountered during the review process and to enhance the understanding of the impact of osteopathic manual therapy on racialized stress among African American women:

1. The scoping review found that the search databases utilized AI algorithms that altered the search terms, often replacing specific racial identifiers like "African American" with more generalized terms like "minority" or "race". Future researchers should manually search each keyword combination and closely examine the advanced search settings to ensure the AI does not inadvertently modify the search parameters.
2. The review was limited by the fact that only the titles and abstracts were initially screened, while the full-text analysis was more cursory. Future studies should conduct a thorough review of the complete text of potentially relevant articles to avoid missing studies that may have discussed African American women and bodywork interventions in the body of the paper rather than the abstract.
3. Disaggregate "African American" and "Black" Categories: Strive to further disaggregate these broad racial terms and examine potential differences in experiences and outcomes among various African American and Black subgroups.
4. Search terms could include specific subdemographics within the African American community, such as "Somali Americans," "Eritrean Americans," "Nigerian Americans,"etc to capture the diversity within this demographic.

5. The review was also limited by the fact that only the titles and abstracts were initially screened, while the full-text analysis was more cursory. Future studies should conduct a thorough review of the complete text of potentially relevant articles to avoid missing studies that may have discussed African American women and bodywork interventions in the body of the paper rather than the abstract. Employ text-mining tools to identify relevant studies that may not explicitly mention key terms in the title or abstract but discuss them in the full text.

6. Utilize additional specialized databases and grey literature sources to capture a wider range of studies including health-focused grey literature from government agencies, non-profit organizations, and community health centers.

7. Differentiate between studies focusing on Doctors of Osteopathy (DOs) and those specifically addressing manual osteopathy. This distinction can uncover a broader range of relevant interventions and practices that may not have been captured in the initial search.

Key Recommendations

To address this critical disparity, future investigations must take a multifaceted, equity-focused approach that centers the needs and perspectives of this marginalized population. One key policy-level recommendation is to expand funding and research opportunities specifically targeting African American and Black women's health. Far too often, researchers from marginalized backgrounds face significant barriers in securing grants and resources to conduct studies on the issues that most directly impact their communities. Funding agencies and academic institutions must make a concerted effort to actively recruit, support, and elevate African American and other minority investigators. This could involve dedicated grant programs, mentorship initiatives, and other strategies to dismantle the systemic racism that has long excluded these scholars from positions of research leadership.

In tandem with this policy shift, future studies must prioritize culturally sensitive, community-engaged research methodologies. Researchers must build authentic partnerships with African American women's organizations, community centers, and other stakeholders to co-design studies that are responsive to the unique needs and lived experiences of this population. This collaborative approach should extend throughout the entire research process, from defining research questions to interpreting findings and translating them into actionable interventions. Interdisciplinary collaboration will be crucial in elucidating the complex intersections of race, gender, and other social determinants that shape African American women's access to and experiences with osteopathic and bodywork therapies. Teams comprising clinicians, social scientists, public health experts, and community members should work in tandem to generate a comprehensive understanding of the biopsychosocial factors at play. This holistic perspective will be essential for developing culturally responsive, trauma-informed interventions that address the multifaceted nature of racialized stress.

In addition, future research must make a concerted effort to disaggregate broad racial categories and examine potential differences among diverse African American and Black subgroups. The experiences of African immigrant women, multiracial individuals, LGBTQIA+ community members, and other intersectional identities must be explored to avoid oversimplifying this population. Capturing this nuance will yield critical insights to guide the tailoring of osteopathic and bodywork practices to meet the unique needs of various African American women.

Ultimately, the paucity of research in this area reflects the longstanding marginalization of African American women in healthcare and academia more broadly. Dismantling these entrenched inequities will require a multipronged approach that combines policy reform, community engagement, interdisciplinary collaboration, and a steadfast commitment to elevating the voices and experiences of this resilient population. Only through this concerted effort can researchers begin to uncover the true potential of osteopathic manual therapy and related modalities to mitigate the detrimental impacts of racialized stress and promote holistic wellness among African American women.

Table 1: The results that specified African American or Black

Psychosocial stress and perceived oral health in African American youth	Purpose: The purpose of this study was to examine the relationships between perceived stress, daily stress, racial discrimination, and perceived oral health (POH) in African American youth. Methods: Data are from a cross section convenience sample of 273 adolescents (mean age: 14.4±0.15 years old; 51.7 percent female) in Southeast Michigan. A subset of 156 African American adolescents (mean age: 14.0±0.2 years old; 55 percent female) were included in this analysis. Validated surveys were used to measure stress, discrimination, and POH. Results: Greater exposure to racial discrimination predicted lower POH (ß= -0.02±0.01, P=0.03). This relationship remained significant after accounting for the confounding effects of added sugar intake, toothbrushing frequency, dental visit frequency, age, and sex (ß= -0.01±0.007, P=0.048). No significant relationships were observed between perceived stress, daily stress, and POH (P>0.05). Conclusions: Experiences of racial discrimination may play a unique and important role in shaping POH in African American youth. Qualitative studies are needed to better understand how experiences of racial discrimination may impact POH in this ethnic minority group. (Pediatr Dent 2019;41(5):358-63).
African American females are less metabolically flexible compared with Caucasian American females following a single high-fat meal: A pilot study	The relationship between metabolic flexibility (MF) and components of metabolic disease has not been well-studied among African American (AA) females and may play a role in the higher incidence of chronic disease among them compared with Caucasian American (CA) females. This pilot study aimed to compare the metabolic response of AA and CA females after a high-fat meal. Eleven AA (25.6 (5.6) y, 27.2 (6.0) kg/m2, 27.5 (9.7) % body fat) and twelve CA (26.5 (1.5) y, 25.7 (5.3) kg/m2, 25.0 (7.4) % body fat) women free of cardiovascular and metabolic disease and underwent a high-fat meal challenge (55.9% fat). Lipid oxidation, insulin, glucose, and interleukin (IL)-8 were measured fasted, 2 and 4 h postprandial. AA females had a significantly lower increase in lipid oxidation from baseline to 2 h postprandial (p = 0.022), and trended lower at 4 h postprandial (p = 0.081) compared with CA females, indicating worse MF. No group differences in insulin, glucose or HOMA-IR were detected. IL-8 was significantly higher in AA females compared with CA females at 2 and 4 h postprandial (p = 0.016 and p = 0.015, respectively). These findings provide evidence of metabolic and inflammatory disparities among AA females compared with CA females that could serve as a predictor of chronic disease in individuals with a disproportionately higher risk of development.
Previtellogenic oocytes of South African largemouth bass Micropterus salmoides Lacépède 1802 (Actinopterygii, Perciformes) - the Balbiani body, cortical alveoli and developing eggshell	
Climatic and regional antibiotic resistance patterns of Staphylococcus aureus in South African dairy herds	South Africa is a large country of approximately 1.22 million km2, made up of nine provinces with three climatic zones. Farming in the country is mostly defined by regional differences. Of the different organisms isolated from milk samples of dairy cows, Staphylococcus aureus poses a challenge to maintain udder health and wholesome dairy products for human consumption. Antibiotic resistant bacteria are therefore a potential health hazard. The objective of this study was to investigate the seasonal and regional relationships of antibiotic resistance of S. aureus, of which little is known. This study was undertaken to evaluate a data set of 3410 S. aureus isolates, taken from milk samples with a somatic cell count of > 400 000 cells/mL from commercial dairy herds. These isolates were tested for antimicrobial susceptibility using the Kirby Bauer method for ampicillin, cloxacillin, penicillin G, clindamycin, oxy-tetracycline, cephalexin, cefuroxime and tylosin. The samples were from 830 dairy herds, out of the estimated 2000 commercial dairy herds in South Africa. All the antibiotics tested, except for cephalosporins, showed a predicted prevalence of resistance of above 50% in most provinces, which is a concern. The lowest prevalence of resistance to the majority of the categories of antibiotics tested was present in KwaZulu-Natal during spring. The cephalosporins had the lowest levels of prevalence of bacterial resistance in Gauteng during winter. Resistance patterns of S. aureus to the eight antibiotics varied in the different seasons and provinces, possibly because of different weather conditions, and the action and spectrum of antibiotics.
Effect of acute maximal exercise on vasodilatory function and arterial stiffness in African-American and white adults	INTRODUCTION: African-Americans are at increased risk of cardiovascular disease compared with their white counterparts, potentially due to greater arterial stiffness and reduced vasodilatory capacity. Racial differences also exist in arterial stiffness and blood pressure (BP) following maximal aerobic exercise; African-Americans do not exhibit central post exercise BP reductions. Whether impaired vasodilatory function contributes to the lack of BP response is unknown. PURPOSE: To evaluate vasodilatory function, arterial stiffness, and hemodynamics following a maximal aerobic exercise test in young, healthy African-American and white adults. METHODS: Twenty-seven African-American and 35 white adults completed measures at baseline, 15 and 30 min

	after a maximal exercise test. Measures included vasodilatory capacity of forearm resistance arteries, central pulse wave velocity (PWV), and carotid artery stiffness (ß). RESULTS: Forearm reactive hyperemia was greater in white but increased similarly following exercise in both groups (P < 0.05). Carotid ß-stiffness increased at 15 and 30 min (P = 0.03) in both groups, but PWV controlled for mean arterial pressure decreased after maximal exercise (P = 0.03). White exhibited reductions in systolic and mean pressure, whereas no changes were seen for African-Americans (interaction effects: P < 0.05). CONCLUSION: African-American and white adults had similar decreases in PWV, increases in ß-stiffness, and increases in vasodilatory function following maximal exercise. African-American adults, however, did not display reductions in BP and had overall lower vasodilatory function in comparison with white adults. Our results suggest African-Americans exhibit similar vasodilatory function changes following aerobic exercise as their white counterparts, and therefore vasodilatory function likely does not explain the lack of BP response in African-Americans.
Maternal and perinatal health disparities among Middle Eastern and North African women and children in the United States	INTRODUCTION: Few studies have evaluated the health of Middle Eastern and North African (MENA) women and children in the United States. Objectives were to determine the odds of well-visits, preventive behaviors during pregnancy, and low birthweight among foreign-born non-Hispanic MENA women and children compared to their US- and foreign-born non-Hispanic White counterparts after adjusting for covariates (hereafter, reported as MENA and White). METHODS: We analyzed 2000-2018 National Health Interview Survey data (411,709 women, 311,961 children). Outcomes included well-woman visits (past 12 months); dentist visits (past 6 months) and current smoking among pregnant women; and low, moderately low, and very low birthweight among children. Covariates included age, family income, and health insurance for children. Education and marital status were also evaluated among women. RESULTS: Over half (53.4%) of foreign-born MENA women were of childbearing age (ages 18-45) compared to 47.7% US-born and 43.2% foreign-born White women. The odds of completing a well-women visit were 0.73 times lower (95% CI = 0.38-0.89) among foreign-born MENA women compared to US-born White women after adjusting for age, education, and marital status. There was no statistically significant difference in dental visits between groups. No foreign-born MENA pregnant women reported current smoking. Foreign-born MENA children had higher odds of low (OR = 1.65; 95% CI = 1.16-2.35) and moderately low birthweight (OR = 1.78; 95% CI = 1.19-2.66) compared to US-born White children in adjusted models. DISCUSSION: MENA women and children are classified as White by the federal government. Our results highlight that the health of foreign-born MENA women and children differ from their White counterparts.
A systematic review of technology-based prevention and treatment interventions for perinatal depression and anxiety in Latina and African American women	INTRODUCTION: Latina and African American women have elevated risk for perinatal depression and anxiety but have low rates of treatment engagement. Amid significant improvements in narrowing the digital divide, the number of technology-based mental health interventions has increased. A technology-based mode of delivery is important to consider because it can increase patient engagement and should inform program development. This review aimed to assess the mode of technology used for preventing and/or treating perinatal depression and anxiety in Latina and African American women, examine symptom management, and describe participant satisfaction. METHODS: We used PubMed, CINAHL, PsycINFO, PsycARTICLES, EBSCO, and Social Services Abstracts to identify studies that used technology (e.g., smartphones) to prevent and/or treat depression and/or anxiety in Latina and/or African American perinatal women. To be eligible for inclusion, studies must have had at least 50% Latina and/or African American samples. The review was conducted between November 2018 and October 2019, with no set publication start date. RESULTS: Of 152 studies reviewed, six met the inclusion criteria. Four studies included African American women; two studies had samples that were mostly composed of Latina women. Three studies used telephone/smartphone (e.g., text messaging) and three implemented internet-based interventions. All studies addressed depression; one focused on anxiety. The findings demonstrated participant satisfaction and promise for symptom management. DISCUSSION: Despite the limited number of studies that used technology to engage Latina and African American perinatal women, the results suggest that these women were willing to participate in digital interventions to address perinatal depression and anxiety.
Coping with discrimination among African Americans with type 2 diabetes: Factor structure and associations with diabetes control, mental distress, and psychosocial resources	Introduction: Type 2 diabetes undermines diabetes-related health outcomes among African Americans, who have a disproportionately high incidence of the disease. Experiences of discrimination are common among African Americans and compound diabetes-related stress, exacerbating poor health outcomes. Appropriate use of coping strategies may mitigate the detrimental effect of discrimination on diabetes-related outcomes, but examining associations between coping strategies and health outcomes is needed to inform potential interventions. This study assessed the factor structure of the Coping with Discrimination Scale (CDS) among African American adults with type 2 diabetes and examined associations of CDS subscales with measures of diabetes control, mental distress, and psychosocial resources. Methods: The CDS was administered primarily through churches to African Americans with type 2 diabetes

	residing in Austin, Texas, and surrounding areas. Data were collected from August 2020 through April 2023. We conducted principal axis factor analysis of the CDS and determined internal consistency for each factor. We computed bivariate and partial correlations between CDS subscales and indicators of diabetes control (hemoglobin A1c, diabetes self-management), mental distress (diabetes distress, perceived stress, depressive symptoms), and psychosocial resources (resilience, social support, self-efficacy). Results: The 284 African American adults (204 women, 80 men) ranged in age from 23 to 86 years (mean [SD] = 62 [11] y). We identified 4 factors: education/advocacy, internalization, strong response, and detachment. Scores were highest for education/advocacy items and lowest for strong response items. Education/advocacy was associated with higher scores on psychosocial resources, whereas detachment was associated with lower scores. Internalization and strong response were associated with higher mental distress. Strong response was associated with higher hemoglobin A1c, and education/advocacy was associated with enhanced diabetes self-management. Conclusion: We suggest health care professionals create culturally tailored interventions that aid individuals in educating others, advocating for themselves, or recognizing situations outside one's control and detaching from responsibility, rather than internalizing experiences of discrimination or engaging in strong responses that upon reflection are detrimental to one's health.
Cas9-mediated maternal effect and derived resistance alleles in a gene-drive strain of the African malaria vector mosquito, Anopheles gambiae	CRISPR/Cas9 technologies are important tools for the development of gene-drive systems to modify mosquito vector populations to control the transmission of pathogens that cause diseases such as malaria. However, one of the challenges for current Cas9-based drive systems is their ability to produce drive-resistant alleles resulting from insertions and deletions (indels) caused principally by nonhomologous end-joining following chromosome cleavage. Rapid increases in the frequency of such alleles may impair gene-drive dynamics. We explored the generation of indels in the germline and somatic cells in female gene-drive lineages using a series of selective crosses between a gene-drive line, AgNosCd-1, and wild-type mosquitoes. We find that potential drive-resistant mutant alleles are generated largely during embryonic development, most likely caused by deposition of the Cas9 endonuclease and guide RNAs in oocytes and resulting embryos by homozygous and hemizygous gene-drive mothers.
Racial discrimination, personal growth initiative, and African American men's depressive symptomatology: A moderated mediation model	OBJECTIVES: Mounting evidence indicates that racial discrimination is a risk factor for depression among African American men. However, the mechanisms underlying the association between racial discrimination and depressive symptomatology remain unclear. The present study investigated the mediating capacity of personal growth initiative (PGI) in the relation between racial discrimination experiences and depressive symptomatology, as well as whether the proposed mediating relation was moderated by age, education, and income. METHOD: Participants included 649 African American men recruited from barbershops in the North, South, West, and Midwest regions of the United States and from academic institutions-events. RESULTS: Results revealed significant associations between racial discrimination and a combined latent factor representing depressed affect, interpersonal problems, and somatic complaints but not the latent factor representing positive affect. PGI mediated the association between racial discrimination and depressive symptomatology; however, the mediational pathway was not moderated by age, education, and income. CONCLUSIONS: Interventions designed to mitigate the mental health consequences of racial discrimination among African American men might focus on enhancing PGI. (PsycINFO Database Record (c) 2019 APA, all rights reserved).
Association between foot care knowledge and practices among African Americans with type 2 diabetes: An exploratory pilot study	OBJECTIVES: African Americans bear a disproportionate burden of lower extremity complications associated with a type 2 diabetes diagnosis. We examined the relationship that self-reported foot care knowledge, foot self-care behaviors, and foot self-care management barriers had on a participants' intention to maintain long term foot self-care. METHODS: African Americans were recruited using a convenience and snowball sampling plan, as well as telephone, email and flyers detailing the study. The data from the previously modified foot care knowledge questionnaire was analyzed using SPSS. Descriptive analysis and ANOVAs analyzed basic foot care knowledge, specialized foot care knowledge, and foot self-care. RESULTS: The analysis indicated that a main effect of insurance status, $F(2,87) = 4.082$, $p = .020$, was detected, and was the only significant interaction found. CONCLUSION: When comparing the basic and extended foot care education means scores, participants had less extended foot care knowledge than basic foot care knowledge. This study also showed that insurance status had considerable influence on extended foot care knowledge. In an African American population with T2DM, regardless of education and gender, there are considerable differences between how foot care knowledge is translated into actual foot self-care behaviors.
The effect of physical activity on the association between perceived racial discrimination and depression in African Americans	BACKGROUND: The purpose of this cross-sectional study was to examine the effect of physical activity (PA) on the relationship between perceived racial discrimination and major depressive disorder (MDD) in African Americans. METHODS: 645 African Americans (mean age 45 years) were interviewed on their perceived racial discrimination, PA, and past 12-month MDD. Participants were categorized into tertiles

	(lower, middle, upper) of racial discrimination as well as "active" or "inactive" groups based on the US PA guidelines. Odds ratios and 95% confidence intervals (CIs) were calculated for MDD prevalence across discrimination tertiles stratified by PA group after adjusting for potential confounders. RESULTS: The upper (higher) discrimination group had 2.99 (95% CIs 1.03-8.67) increased odds of MDD compared with the lower group after adjusting for potential confounders. The stratified analysis indicated that the increased odds of MDD in the upper discrimination group were observed only among the inactive group (5.19 [1.08-24.87]) after adjusting for age and sex. The association between discrimination and MDD was not significant among active participants. LIMITATIONS: Limitations include generalizability since participants were predominantly women and recruited solely from Iowa or Georgia; the low number of MDD cases in some groups; and that causation cannot be inferred from this cross-sectional study. CONCLUSION: Not meeting the PA guidelines may be associated with higher depression among African Americans experiencing higher levels of perceived racial discrimination.
Do the same central anthropometric variables that best predict blood pressure in European Americans also best predict blood pressure in African Americans?	Objective: The purpose of this study was to determine if central anthropometric variables that best estimate blood pressure risks in European Americans also best estimate blood pressure risks in African Americans. Design: The participants were 357 normotensive African and European American volunteers with a mean age of 32.6 ± 12.4 years. Participants were evaluated for central adiposity with dual energy X-ray absorptiometry, abdomen and thigh skinfolds, waist and hip circumferences, waist/hip ratio, waist/height ratio, body mass index, and systolic and diastolic blood pressures. Descriptive statistics, partial correlations, ANOVA and stepwise regressions were used to analyze the data. Results: Central adiposity anthropometric indices made different contributions to blood pressure in African and European American men and women. When weight was held constant, waist circumference shared stronger partial relationships with blood pressure in African Americans (r = .30 to .47) than in European Americans (r = .11 to .32). Waist circumference in combination with other indices was a predictor of systolic and diastolic blood pressures in European American men (P<.05) but only a predictor for diastolic blood pressure in African American men and women (P<.01). Hip circumference was the only predictor for systolic blood pressure (P<.01) in African American men and women. Conclusions: Further research on the relative contributions of central anthropometric indices to blood pressure in African and European Americans is warranted. A better understanding of this relationship may help reduce hypertensive morbidity and mortality disparities between African and European Americans.
Patterns and correlates of cervical cancer prevention among Black immigrant and African American women in the USA: The role of ethnicity and culture	Cervical cancer prevention disparities between Black and White women have been researched extensively, but less is known about disparities among Black subpopulations, despite increased risk, distinct cultures, and rapidly increasing numbers of Black immigrant women to the USA. A 74-item survey was used to conduct a cross-sectional descriptive study. Independent sample t tests, logistic multiple regressions, and chi-square tests were used to carry out all comparative analyses. The survey was administered via Psychdata from January 2020 to February 2020. The final sample included 450 eligible participants (African American women [AAW] = 335; Black immigrant women [BIW] from either West, Central, East Africa, or the Caribbean = 115). Compared to AAW, BIW demonstrated much lower knowledge of cervical cancer, AAW were more likely to visit a gynecologist, and to have had a well-woman exam every 3 years or less. A greater percentage of BIW reported not getting Pap smear test because they had no symptoms or because they feared bad results while AAW reported not receiving a Pap smear because it was not convenient, they did not trust any doctor/gynecologist, and lacked access to a gynecologist. Doctor and family advising had a much larger effect on cervical screening among BIW compared to AAW. This study provides evidence of crucial differences in CC knowledge, attitudes, and screening behaviors among BIW and AAW. Funding agencies, program planners and evaluators, and health policymakers are encouraged to require disaggregation of Black women in healthcare research to tease out specific ways interventions can be most effective.
Demographic and COVID-19-related factors associated with depressive and anxiety symptoms among African American and Latina women in a Midwestern state	PURPOSE: The COVID-19 pandemic exacerbated racial and ethnic disparities among Latina and African American (AA) women, including risk factors for depression and anxiety. This study sought to identify demographic- and pandemic-related factors associated with depressive and anxiety symptoms in adult AA and Latina women living in a Midwestern state. METHODS: Data for this secondary analysis of 1037 AA and Latina women were collected in May 2020 and June/July 2020. Participants completed an online survey about their demographic characteristics, job changes due to COVID-19, general concern about COVID-19, concern about the effects COVID-19 on their mental health, and whether they prayed to cope with COVID-19. Linear regressions with bootstrapping were conducted to determine associations. RESULTS: Latinas had significantly higher depressive and anxiety symptoms than AA women. Older age was a buffer against depressive and anxiety symptoms. Women who anticipated a reduction in work hours or job loss had significantly higher depressive and anxiety symptoms than those with no job changes. A reduction in work hours was also a risk for higher

	depressive symptoms. General and specific concerns about the impact of COVID-19 were positively associated with higher depressive and anxiety symptoms. Race/ethnicity moderated the effect of praying to cope with COVID-19 on depressive symptoms. CONCLUSIONS: As the pandemic continues, mental health resources should be allocated to help AA and Latina women who experienced or anticipate reductions in paid hours and those concerned about its effects. Research is needed to identify how praying increased depressive symptoms in adult Latina women early in the pandemic.
Comparing multiple measures of physical activity in African-American adults	Objectives: We assessed the agreement between self-reported and accelerometer-assessed physical activity (PA) in African-American adults by sex, education, income, and weight status. Methods: Participants (N = 274) completed the International PA Questionnaire short form (IPAQS), Behavioral Risk Factor Surveillance System (BRFSS) PA questions, and PA Questionnaire (PAQ) and a 7-day accelerometer protocol using a waist-worn ActiGraph GT3X accelerometer. Interrelationships among PA measures were assessed by sociodemographics. Results: Participants consistently reported doing =150 minutes of moderate-to-vigorous-intensity PA (MVPA) per week via self-report measures and did 113.5±179.4 minutes of accelerometer-assessed MVPA/week. Men self-reported and did more MVPA than women (p < .01). Regardless of sex, there were low correlations between self-report and accelerometer-assessed MVPA (r = .092-.190). Poor agreement existed between self-report and accelerometry for classifying participants as meeting PA recommendations (Cohen ? = .054-.136); only half of the participants were classified the same by both self-report and accelerometry. Conclusions: There was generally poor relative agreement between self-report and accelerometer-based assessments of MVPA in this sample of African-American adults. Findings suggest that self-report measures may perform better among African-American women than men, regardless of socioeconomic or weight status.
"I struggle with breast cancer and I struggle with God": Insights from African American breast cancer survivors	PURPOSE: Recognizing that spiritual and religious beliefs are personal and vary within communities, the purpose of this qualitative study was to explore the influence of these beliefs on experiences with breast cancer care and social support among African American Christian breast cancer survivors. METHODS: Forty-seven African American breast cancer survivors participated in focus groups (n = 7) in three northeastern urban cities. We used thematic analyses to identify major themes. RESULTS: Three themes emerged relating to how spirituality influenced participants' cancer journeys: (1) struggling with God, (2) reclaiming my power, and (3) needing religious social support. Participants described the rhythmic flow of their spiritual beliefs as they navigated their lived experiences during diagnosis, treatment, and post-treatment. Spirituality was intimately intertwined with their illness experience as they grappled with their health and well-being. CONCLUSIONS: Participants used spirituality as an avenue to cope and navigate through their diagnosis and treatment. These spiritual relationships created "church families" and provided the survivors' access to cancer support groups, financial support, and therapeutic support. Our findings support faith-based approaches to health promotion and call for more studies to understand the influence of religion on health.
Church-based social support's impact on African-Americans' physical activity and diet varies by support type and source	The objective of this study was to examine sources (friends, family, church members, and pastors) and type (positive or negative) of social support and their association with eating and physical activity behaviors. Study participants consisted of 41 African-American adults (78% female), with an average age of 43.5 years (standard deviation = 15.7). Participants were recruited from churches in southwest, Ohio. Mean comparisons showed family members, and friends had the highest positive and negative social support scores for healthy eating and physical activity. Pastors and church members received the lowest social support scores related to these behaviors. Using a linear regression analysis, social support in the form of physical activity rewards from family members was positively associated with fruit and vegetable consumption after adjusting for gender, age, education level, and church location. Based on these findings, future research should continue examining how different social support sources and types influence physical activity and healthy eating behaviors among African-Americans.
Genetic parameter estimates for milkability traits and their relationship with somatic cell score in South African Holstein cattle	Milkability is an important functional trait, which is directly related to milking costs and udder health. There are no milkability traits incorporated in the South African dairy cattle breeding objectives and genetic parameter estimates for these traits are not available in this population. The main objective of the study was, therefore, to estimate the genetic parameters for milkability traits and its correlation with somatic cell scores in South African Holstein cattle. Data consisted of production and milkability records of 2719 Holstein cows, from ten herds, collected from 2016 to 2018. Genetic parameters were estimated by a multi-trait animal model using the restricted maximum likelihood (REML) procedure. Means for milking time (MT), average milk flow (AMF), maximum milk flow (MMF), and somatic cell score (SCS) were 5.20 min, 1.91 kg/min, 2.99 kg/min, and 2.06, respectively. The heritability estimates were low to moderate from 0.19 ± 0.07, 0.24 ± 0.06, 0.36 ± 0.11, and 0.41 ± 0.12, respectively, for SCS, AMF, MT, and MMF. The genetic correlations were significant (P < 0.05) among the three milkability traits ranged from - 0.31 ± 0.05 between AMF and MT to 0.85 ± 0.02 between AMF and MMF. Positive genetic correlations were observed between AMF and MMF, while the

	correlations for MT with the remaining milkability traits were negative. Genetic correlations of SCS with AMF, MMF, and MT were - 0.13 ± 0.04, 0.13 ± 0.04, and - 0.25 ± 0.12, respectively. The mean estimated breeding value (EBV) was estimated using cattle birth dates, and there was an increase in AMF of 0.0001 kg/min EBV per year on cattle born during the period 2002 to 2014. Maximum milk flow also showed an increasing genetic trend of 0.0003 kg/min per year over the same period. On the other hand, the genetic trend for MT was undesirable, as it increased by 0.0003 kg/min per year. The moderate to high heritability estimates for milkability traits showed that selection for improvement was possible in South African Holstein cattle. High genetic correlation between AMF and MMF implied that these two may be regarded as the same trait. Milking time can contribute towards improving the accuracy of estimating EBVs for SCS in a multi-trait analysis, and vice versa, due to the moderate correlation between the two traits. The marginal genetic trend in milkability traits may be an interrelated response to selection of other traits already under selection in the population such as SCS. Results of the current study provided a basis for including milkability traits of South African Holstein cattle in the breeding objectives.
Whole-exome profiling of NSCLC among African Americans	INTRODUCTION: Lung cancer incidence is higher among African Americans (AAs) compared with European Americans (EAs) in the United States, especially among men. Although significant progress has been made profiling the genomic makeup of lung cancer in EAs, AAs continue to be underrepresented. Our objective was to chart the genome-wide landscape of somatic mutations in lung cancer tumors from AAs. METHODS: In this study, we used the whole-exome sequencing of 82 tumor and noninvolved tissue pairs from AAs. Patients were selected from an ongoing case-control study conducted by the National Cancer Institute and the University of Maryland. RESULTS: Among all samples, we identified 178 significantly mutated genes ($p < 0.05$), five of which passed the threshold for false discovery rate ($p < 0.1$). In lung adenocarcinoma (LUAD) tumors, mutation rates in STK11 ($p = 0.05$) and RB1 ($p = 0.008$) were significantly higher in AA LUAD tumors (25% and 13%, respectively) compared with The Cancer Genome Atlas EA samples (14% and 4%, respectively). In squamous cell carcinomas, mutation rates in STK11 ($p = 0.002$) were significantly higher among AA (8%) than EA tumors from The Cancer Genome Atlas (1%). Integrated somatic mutation data with CIBERSORT (Cell-type Identification By Estimating Relative Subsets Of RNA Transcripts) data analysis revealed LUAD tumors from AAs carrying STK11 mutations have decreased interferon signaling. CONCLUSIONS: Although a considerable degree of the somatic mutation landscape is shared between EAs and AAs, discrete differences in mutation frequency in potentially important oncogenes and tumor suppressors exist. A better understanding of the molecular basis of lung cancer in AA patients and leveraging this information to guide clinical interventions may help reduce disparities.
Ultrastructure of the uterus, embryonic envelopes and the coracidium of the enigmatic tapeworm Tetracampos ciliotheca (Cestoda: Bothriocephalidea) from African sharptooth catfish (Clarias gariepinus)	Transmission electron microscopy (TEM) was used to study the ultrastructure of the uterus and egg morphology in the enigmatic bothriocephalidean tapeworm Tetracampos ciliotheca. The uterine wall, underlain by well-developed muscle bundles, consists of a syncytial epithelium which is characterized by the abundance of free ribosomes, mitochondria and cisternae of granular endoplasmic reticulum (GER). On the apical surface of the uterine epithelium, there is an abundant network of cytoplasmic microlamellae projecting into the uterine lumen. The lumen is filled with freely lying eggs which are located close to the uterine wall but do not contact with the microlamellae of the uterine epithelium. The developed eggs possess an oncosphere surrounded by four envelopes: (1) a thin egg shell; (2) an outer envelope; (3) a syncytial, ciliated inner envelope; and (4) the oncospheral membrane. The mature hexacanth is armed with three pairs of oncospheral hooks, as well as somatic and hook muscles and five types of cells (1) binucleated subtegumental cell, (2) somatic cells, (3) penetration gland cells, (4) nerve cells and (5) germinative cells. Considering the relative scarcity of descriptive and comparative studies on the ultrastructure of the uterus and egg morphology in the order Bothriocephalidea, we concluded that Tet. ciliotheca displays a unique type of egg development. Based on these results, we discuss plausible ideas relating to the function of these structures for consideration in future studies.
Molecular underpinnings of clinical disparity patterns in African American vs. Caucasian American multiple myeloma patients	Caucasian Americans (CA) compared with African Americans (AA) have a twofold increased incidence of multiple myeloma (MM) and have an earlier age of diagnosis. However, there is sparse information regarding underlying biological differences across racial/ethnic groups. We characterized genetic alterations using a targeted next-generation sequencing assay called myTYPE, developed at MSKCC, allowing capture of somatic mutations, IgH translocations, gains/losses, and hyperdiploidy. Samples were obtained from the NIH Plasma Cell Dyscrasia Racial Disparity Cohort. In total, 68 patient samples were successfully sequenced and manually curated based on well-established databases. Of the 68 patient samples (47 CA, 21 AA), 84% had at least one type of genomic alteration. Importantly, the IgH translocation, t(11;14), was observed more frequently in the AA group (0 vs. 29%, $p = 0.001$). Known oncogenic somatic non-synonymous mutations were found in 18 genes and indels in 2 genes. KRAS mutations were the most common mutation found in 16% of patients followed by NRAS and BRAF mutations. TP53 somatic mutations appeared to be more common in CA but lacked

	significance. This proof-of-principle study indicates the presence of varying underlying tumor biology between racial groups and supports the need of future prospective trials to capture these molecular characteristics.
Germline variants and somatic mutation signatures of breast cancer across populations of African and European ancestry in the US and Nigeria	Somatic mutation signatures may represent footprints of genetic and environmental exposures that cause different cancer. Few studies have comprehensively examined their association with germline variants, and none in an indigenous African population. SomaticSignatures was employed to extract mutation signatures based on whole-genome or whole-exome sequencing data from female patients with breast cancer (TCGA, training set, n = 1,011; Nigerian samples, validation set, n = 170), and to estimate contributions of signatures in each sample. Association between somatic signatures and common single nucleotide polymorphisms (SNPs) or rare deleterious variants were examined using linear regression. Nine stable signatures were inferred, and four signatures (APOBEC C>T, APOBEC C>G, aging and homologous recombination deficiency) were highly similar to known COSMIC signatures and explained the majority (60-85%) of signature contributions. There were significant heritable components associated with APOBEC C>T signature (h2 = 0.575, p = 0.010) and the combined APOBEC signatures (h2 = 0.432, p = 0.042). In TCGA dataset, seven common SNPs within or near GNB5 were significantly associated with an increased proportion (beta = 0.33, 95% CI = 0.21-0.45) of APOBEC signature contribution at genome-wide significance, while rare germline mutations in MTCL1 was also significantly associated with a higher contribution of this signature (p = 6.1 × 10-6). This is the first study to identify associations between germline variants and mutational patterns in breast cancer across diverse populations and geography. The findings provide evidence to substantiate causal links between germline genetic risk variants and carcinogenesis.
Generation of pluripotent stem cells using somatic cell nuclear transfer and induced pluripotent somatic cells from African green monkeys	Patient-specific stem cells derived from somatic cell nuclear transfer (SCNT) embryos or from induced pluripotent stem cells (iPSCs) could be used to treat various diseases with minimal immune rejection. Many studies using these cells have been conducted in rats and mice; however, there exist numerous dissimilarities between the rodents and humans limiting the clinical predictive power and experimental utility of rodent experiments alone. Nonhuman primates (NHPs) share greater homology to human than rodents in all respects, including genomics, physiology, biochemistry, and the immune system. Thus, experimental data obtained from monkey studies would be more predictive for designing an effective cell replacement therapy in humans. Unfortunately, there are few iPSC lines and even fewer SCNT lines that have been derived in NHPs, hampering broader studies in regenerative medicine. One promising potential therapy would be the replacement of dopamine neurons that are lost in Parkinson's disease. After dopamine depletion by 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine (MPTP), the African green monkey (Chlorocebus sabaeus) shows the most complete model of Parkinsonism compared with other species and brain pathology and behavioral changes are almost identical to those in humans after accidental exposure to MPTP. Therefore, we have developed a SCNT procedure to generate multiple pluripotent stem cell lines in this species for studies of possible treatment of Parkinsonism and for comparing with cells derived from iPSCs. Using 24 female monkeys as egg donors and 7 somatic cell donor monkeys, we have derived 11 SCNT embryonic stem cell lines that expressed typical stemness genes and formed all three germ layer derivatives. We also derived two iPSC lines using an episome-mediated reprogramming factor delivery system. This report describes the process for deriving these cell lines and proving their pluripotency for differentiation into various potentially therapeutic cells.
Application of the Transtheoretical Model to physical activity and Exercise behaviors in African-American adolescents	Objectives: In this study, we examined the inter-relationships between Transtheoretical Model (TTM) constructs (stages of change, self-efficacy, decisional balance, processes of change) and determined the utility of TTM to predict physical activity in African-American youth. Methods: A community-based sample of 109 African-American youth (62% girls, age: 14.8 ± 0.2 years) were included in this analysis. TTM constructs were assessed using the Patient-Centered Assessment and Counseling for Exercise questionnaire. Moderate-to-vigorous physical activity (MVPA) and total physical activity (TPA) were measured objectively using accelerometry. Results: Higher self-efficacy was observed at higher stages of change in both boys and girls (p = .02). Despite higher MVPA (p .05). Stages of change predicted MVPA in girls, with those in the maintenance stage reporting significantly more MVPA compared to those in precontemplation/contemplation (p = .03) and preparation stages (p = .04). Cons predicted higher TPA in boys only (p = .02). Conclusions: These findings suggest specific TTM constructs relate to physical activity in African-American youth and the importance of these constructs may differ by sex.
Exome sequencing identifies novel somatic variants in African American esophageal squamous cell carcinoma	Esophageal cancer has a strikingly low survival rate mainly due to the lack of diagnostic markers for early detection and effective therapies. In the U.S., 75% of individuals diagnosed with esophageal squamous cell carcinoma (ESCC) are of African descent. African American ESCC (AA ESCC) is particularly aggressive, and its biological underpinnings remain poorly understood. We sought to identify the genomic abnormalities by conducting whole exome sequencing of 10 pairs of matched AA esophageal squamous cell tumor and control tissues. Genomic analysis revealed

	diverse somatic mutations, copy number alterations (SCNAs), and potential cancer driver genes. Exome variants created two subgroups carrying either a high or low tumor mutation burden. Somatic mutational analysis based on the Catalog of Somatic Mutations in Cancer (COSMIC) detected SBS16 as the prominent signature in the high mutation rate group suggesting increased DNA damage. SBS26 was also detected, suggesting possible defects in mismatch repair and microsatellite instability. We found SCNAs in multiple chromosome segments, encoding MYC on 8q24.21, PIK3CA and SOX2 on 3q26, CCND1, SHANK2, CTTN on 11q13.3, and KRAS on 12p12. Amplifications of EGFRvIII and EGFRvIVa mutants were observed in two patients, representing a novel finding in ESCC that has potential clinical relevance. This present exome sequencing, which to our knowledge, represents the first comprehensive exome analysis exclusively in AA ESCC, and highlights novel mutated loci that might explain the aggressive nature of AA ESCC and lead to the development of diagnostic and prognostic markers as well as therapeutic targets.
Interpersonal discrimination and depressive symptoms among older Black and African American adults	To examine the association between recent experiences of discrimination and depressive symptom presentation and severity among a U.S. sample of older Black and African American adults. A cross-sectional survey of 124 Black and African American adults aged 50 and older in the United States was conducted assessing interpersonal discrimination and depressive symptoms. The Perceived Ethnic Discrimination Questionnaire assessed four forms of interpersonal discrimination. A measure of heightened vigilance to bias assessed anticipatory coping with discrimination experiences. Past-month affective and somatic symptoms of depression were assessed using the Depressive and Somatic Symptoms Scale. All forms of interpersonal racial discrimination were positively associated with greater affective symptom severity. Being avoided, devalued, and threatened or actively physically harmed were associated with greater somatic symptom severity. Vigilant coping was positively associated with affective symptom severity but not somatic symptom severity. Racial discrimination is linked to depression severity among older Black and African American and varies by symptom. This study helps inform work on processes linking discrimination with poorer psychological outcomes and will allow for more effective interventions and prevention efforts that are tailored to older minority populations.
Sex differences, cocaine use, and liver fibrosis among African Americans in the Miami Adult Studies on HIV cohort	Background: HIV infection disproportionally affects African Americans. Liver disease is a major cause of non-HIV morbidity and mortality in this population. Substance abuse accelerates HIV disease and may facilitate progression of liver disease. This study investigated the relationship between sex differences and cocaine use with liver injury, characterized as hepatic fibrosis. Materials and Methods: A cross-sectional study was conducted on 544 African Americans [369 people living with HIV (PLWH) and 175 HIV seronegative] from the Miami Adult Studies on HIV (MASH) cohort. Cocaine use was determined with a validated self-reported questionnaire and confirmed with urine screen. Fasting blood was used to estimate liver fibrosis using the noninvasive fibrosis-4 (FIB-4) index. Results: Men living with HIV had 1.79 times higher odds for liver fibrosis than women living with HIV ($p = 0.038$). African American women had higher CD4 count ($p = 0.001$) and lower HIV viral load ($p = 0.011$) compared to African American men. Fewer women (PLWH and HIV seronegative) smoked cigarettes ($p = 0.002$), and fewer had hazardous or harmful alcohol use ($p < 0.001$) than men. Women also had higher body mass index (kg/m2) ($p < 0.001$) compared to men. No significant association was noted among HIV seronegative participants for liver fibrosis by sex differences or cocaine use. Among African Americans living with HIV, cocaine users were 1.68 times more likely to have liver fibrosis than cocaine nonusers ($p = 0.044$). Conclusions: Sex differences and cocaine use appear to affect liver disease among African Americans living with HIV pointing to the importance of identifying at-risk individuals to improve outcomes of liver disease.
Rationale and design of a clinical trial of adapted tango to improve negative health impacts in middle aged African-American female caregivers of persons with Alzheimer's disease (ACT trial)	Alzheimer's disease (AD) is a devastating progressive neurodegenerative disease resulting in memory loss and a severe reduction in ability to perform activities of daily living. The role of caring for someone with AD frequently falls to female family members, often daughters. The burden of caregiving can increase stress and anxiety and cause health decline in the caregiver. The combination of ethnicity-related genetic factors promoting the development of dementias among African-Americans (AA) and the increased risk among women for developing AD means that AA women who are caregivers of a parent with AD are at great risk for developing dementias including AD. The proposed study would compare the cognitive, motor, and psychosocial benefits of a well-established 12 week, 20-lesson adapted Argentine Tango intervention (N = 30) to a no-contact control group (N = 10) in middle-aged (45-65 years) AA women who are caregivers of a parent with AD in the metro Atlanta area.
Perceptions to overcoming barriers to prenatal care in African American women	Pregnancy-related deaths affect African American women at a rate four to five times higher than White women. These deaths occur during pregnancy or up to 1 year after childbirth. Inadequate or delayed prenatal care is a factor associated with poor maternal health outcomes in African American women. Identifying factors that pose as facilitators and barriers to prenatal care is essential in developing interventions aimed at improving maternal health outcomes.
Food resources and kitchen skills	BACKGROUND: Midlife hypertension is associated with cognitive decline and

plus aerobic training (FoRKS) for black adults with hypertension: A pilot trial protocol	Alzheimer's disease and related dementia (ADRD), suggesting that blood pressure control may be a therapeutic target for dementia prevention. Given excess hypertension in non-Hispanic Black (NHB) adults, blood pressure control may also reduce ADRD disparities. We describe a pilot randomized controlled trial (RCT) to evaluate the feasibility and preliminary efficacy of a multicomponent lifestyle-based intervention versus enhanced usual care on cognition among middle-aged NHB adults. METHODS AND STUDY DESIGN: The Food Resources and Kitchen Skills plus Aerobic Training (FoRKS) study is a 2-arm, single-blinded trial that compares those receiving the FoRKS program (target N = 64) versus those receiving enhanced usual care (target N = 64) in local federally-qualified health centers. Key eligibility criteria include self-identified NHB adults between ages 35-75 with a mean systolic blood pressure = 130 mm/Hg obtained from 24-h ambulatory blood pressure monitoring. The FoRKS program includes 5 weeks of hypertension self-management courses, 11 weeks of nutrition courses, and 12 weeks of aerobic training in dietitian and health coach-led virtual groups. We will collect data on primary cognitive outcomes, feasibility, hypothesized intervention mediators and moderators, and demographic and health covariates at baseline, near intervention weeks 16-, and 28 (primary outcome assessment), and week 52 follow-up. We will use mixed-effects modeling to examine intervention effects on cognition. DISCUSSION: This pilot RCT will examine the feasibility and preliminary effects of a multicomponent lifestyle intervention on cognitive function in NHB adults, which may have implications for reducing health disparities in ADRD.
Anxiety sensitivity among non-Hispanic Black adults: Relations to mental health and psychosomatic states	The non-Hispanic Black adult population has notable disparities in mental and physical health compared to several other racial/ethnic groups. Yet, there is a lack of scientific knowledge about psychologically based individual difference factors that may be associated with an exacerbation of common mental and physical health symptoms among non-Hispanic Black persons. The present investigation sought to build on the limited knowledge about anxiety sensitivity among non-Hispanic Black adults by exploring whether this construct was uniquely associated with a range of prevalent mental health and psychosomatic symptoms commonly tied to disparities among this population. Participants included non-Hispanic Black adults (N = 205; Mage = 21.67 years; SDage = 5.39; age range: 18-60 years; 82.0% female). Results indicated that anxiety sensitivity was positively related to anxious arousal, general depression, insomnia, fatigue severity, and somatic symptom severity; effects were evident above and beyond the variance explained by a range of covariates, including age, sex, education, subjective social status, and neuroticism. Overall, the present findings uniquely build from past research on anxiety sensitivity and non-Hispanic Black adults by demonstrating that individual differences in this construct are consistently and relatively robustly associated with a wide range of mental health and psychosomatic symptoms. Future research that builds from this work may benefit from consideration of intervention programming targeting anxiety sensitivity reduction to offset mental and physical health impairments among the non-Hispanic Black population.
Does education close the black-white physical activity and obesity gaps?	Objective: The purpose of the study was to investigate physical activity patterns and body mass index (BMI) among black and white women in college to determine if attending college acts as a catalyst for sustaining physical activity and for closing the black-white physical activity and obesity gaps. Participants/Methods: 111 undergraduate women (black N = 42; white N = 69) aged 18-25 volunteered to wear Fitbit ZipTM activity trackers for 7 days. Height and weight measurements were used to compute BMI. Results: White women had higher levels of physical activity, lower weight status, and lower BMIs than black women. Conclusions: Racial disparities were evident; however, both groups had low to moderate levels of physical activity. Required physical education programing that targets women in college could lead to sustained physical activity.
Evidence of reduced peripheral microvascular function in young Black women across the menstrual cycle	Black women (BLW) have a higher prevalence of cardiovascular disease (CVD) morbidity and mortality compared with White women (WHW). A racial disparity in CVD risk has been identified early in life as young adult BLW demonstrate attenuated vascular function compared with WHW. Previous studies comparing vascular function between premenopausal WHW and BLW have been limited to the early follicular (EF) phase of the menstrual cycle, which may not reflect their vascular function during other menstrual phases. Therefore, we evaluated peripheral microvascular function in premenopausal WHW and BLW using passive leg movement (PLM) during three menstrual phases: EF, ovulation (OV), and mid-luteal (ML). We hypothesized that microvascular function would be augmented during the OV and ML phases compared with the EF phase in both groups, but would be attenuated in BLW compared with WHW at all three phases. PLM was performed on 26 apparently healthy premenopausal women not using hormonal contraceptives: 15 WHW (23 ± 3 yr), 11 BLW (24 ± 5 yr). There was a main effect of race on the overall change in leg blood flow (?LBF) (P = 0.01) and leg blood flow area under the curve (LBF AUC) (P = 0.02), such that LBF was lower in BLW. However, there was no effect of phase on ?LBF (P = 0.69) or LBF AUC (P = 0.65), nor an interaction between race and phase on ?LBF (P = 0.37) or LBF AUC (P = 0.75). Despite peripheral microvascular function being unchanged across the

	menstrual cycle, a racial disparity was apparent as microvascular function was attenuated in BLW compared with WHW across the menstrual cycle.NEW & NOTEWORTHY This is the first study to compare peripheral microvascular function between young, otherwise healthy Black women and White women at multiple phases of the menstrual cycle. Our novel findings demonstrate a significant effect of race on peripheral microvascular function such that Black women exhibit significant attenuations in microvascular function across the menstrual cycle compared with White women.
Young, non-Hispanic Black men and women exhibit divergent peripheral and cerebral vascular reactivity	NEW FINDINGS: What is the central question of the study? Do peripheral and cerebral vascular function differ between young non-Hispanic Black men and women? What is the main finding and its importance? The non-Hispanic Black women in this study presented greater peripheral conduit artery and cerebrovascular reactivity, yet similar peripheral microvascular function relative to the non-Hispanic Black men. These preliminary findings suggest that young Black women and men possess divergent vascular function, possibly contributing to the unique non-Hispanic Black sex differences in cardiovascular and cerebrovascular diseases. ABSTRACT: In the USA, cardiovascular and cerebrovascular diseases remain more prominent in the non-Hispanic Black (BL) population relative to other racial/ethnic groups. Typically, sex differences emerge in the manifestation of these diseases, though these differences may not fully materialize in the BL population. While numerous mechanisms are implicated, differences in vascular function likely contribute. Research has demonstrated blunted vasodilatation in several vascular regions in BL versus non-Hispanic White individuals, though much of this work did not assess sex differences. Therefore, this study aimed to ascertain if indices of vascular function are different between young BL women (BW) and men (BM). Eleven BW and 15 BM (22 (4) vs. 23 (3) years) participated in this study. Each participant underwent testing for brachial artery flow-mediated dilatation (FMD), post-occlusive reactive hyperaemia and cerebral vasomotor reactivity during rebreathing-induced hypercapnia. BW exhibited greater adjusted FMD than BM (P 0.39 for all) or blood flow reactivity ($P < 0.05$ for all), respectively. Across a range of hypercapnia, BW had greater middle cerebral artery blood velocity and cerebrovascular conductance index than BM ($P < 0.001$ for both). These preliminary data suggest that young BW have greater vascular function relative to young BM, though this was inconsistent across different indices. These findings provide insight into the divergent epidemiological findings between BM and BW. Further research is needed to elucidate possible mechanisms and relate these physiological responses to epidemiological observations.
From sin to sexual self-awareness: Black women's reflection on lifetime masturbation	To date, there has been very little empirical research on Black women's masturbation practices and views on masturbation. This study fills the gap by exploring the messages Black women received about masturbation and self-pleasure and the sources of these messages using valence theory. Data were collected in 2021 from 242 Black women who participated in a survey during phase one of the triphasic Big Sex Study. Thematic analysis was used to analyze this short-form qualitative data. Results indicated a range of responses, with mixed messages reported more than negative, positive, and neutral messages. The three primary sources of messages were religion, family, and friends. There were several themes across the valence of messages including the development of positive messages, sexual self-awareness, masturbation as sin, health benefits and consequences, relationship difficulties, devaluation, and masturbation as dirty and gross. These results provide a basis for sexuality professionals to improve sociocultural knowledge about masturbation beliefs, practices, and message sources among Black women.
Understanding symptom self-monitoring needs among postpartum Black patients: Qualitative interview study	BACKGROUND: Pregnancy-related death is on the rise in the United States, and there are significant disparities in outcomes for Black patients. Most solutions that address pregnancy-related death are hospital based, which rely on patients recognizing symptoms and seeking care from a health system, an area where many Black patients have reported experiencing bias. There is a need for patient-centered solutions that support and encourage postpartum people to seek care for severe symptoms. OBJECTIVE: We aimed to determine the design needs for a mobile health (mHealth) patient-reported outcomes and decision-support system to assist Black patients in assessing when to seek medical care for severe postpartum symptoms. These findings may also support different perinatal populations and minoritized groups in other clinical settings. METHODS: We conducted semistructured interviews with 36 participants-15 (42%) obstetric health professionals, 10 (28%) mental health professionals, and 11 (31%) postpartum Black patients. The interview questions included the following: current practices for symptom monitoring, barriers to and facilitators of effective monitoring, and design requirements for an mHealth system that supports monitoring for severe symptoms. Interviews were audio recorded and transcribed. We analyzed transcripts using directed content analysis and the constant comparative process. We adopted a thematic analysis approach, eliciting themes deductively using conceptual frameworks from health behavior and human information processing, while also allowing new themes to inductively arise from the data. Our team involved multiple coders to promote reliability through a consensus process.

RESULTS: Our findings revealed considerations related to relevant symptom inputs for postpartum support, the drivers that may affect symptom processing, and the design needs for symptom self-monitoring and patient decision-support interventions. First, participants viewed both somatic and psychological symptom inputs as important to capture. Second, self-perception; previous experience; sociocultural, financial, environmental, and health systems-level factors were all perceived to impact how patients processed, made decisions about, and acted upon their symptoms. Third, participants provided recommendations for system design that involved allowing for user control and freedom. They also stressed the importance of careful wording of decision-support messages, such that messages that recommend them to seek care convey urgency but do not provoke anxiety. Alternatively, messages that recommend they may not need care should make the patient feel heard and reassured. CONCLUSIONS: Future solutions for postpartum symptom monitoring should include both somatic and psychological symptoms, which may require combining existing measures to elicit symptoms in a nuanced manner. Solutions should allow for varied, safe interactions to suit individual needs. While mHealth or other apps may not be able to address all the social or financial needs of a person, they may at least provide information, so that patients can easily access other supportive resources.

The acute effect of whole-body heat therapy on peripheral and cerebral vascular reactivity in Black and White females

Among females in the U.S., Black females suffer the most from cardiovascular disease and stroke. While the reasons for this disparity are multifactorial, vascular dysfunction likely contributes. Chronic whole-body heat therapy (WBHT) improves vascular function, but few studies have examined its acute effect on peripheral or cerebral vascular function, which may help elucidate chronic adaptative mechanisms. Furthermore, no studies have investigated this effect in Black females. We hypothesized that Black females would have lower peripheral and cerebral vascular function relative to White females and that one session of WBHT would mitigate these differences. Eighteen young, healthy Black (n = 9; 21 ± 3 yr; BMI: 24.7 ± 4.5 kg/m2) and White (n = 9; 27 ± 3 yr; BMI: 24.8 ± 4.1 kg/m2) females underwent one 60 min session of WBHT (49 °C water via a tube-lined suit). Pre- and 45 min post-testing measures included post-occlusive forearm reactive hyperemia (peripheral microvascular function, RH), brachial artery flow-mediated dilation (peripheral macrovascular function, FMD), and cerebrovascular reactivity (CVR) to hypercapnia. Prior to WBHT, there were no differences in RH, FMD, or CVR ($p > 0.05$ for all). WBHT improved peak RH in both groups (main effect of WBHT: 79.6 ± 20.1 cm/s to 95.9 ± 30.0 cm/s; $p = 0.004$, $g = 0.787$) but not ? blood velocity ($p > 0.05$ for both groups). WBHT improved FMD in both groups (6.2 ± 3.4 % to 8.8 ± 3.7 %; $p = 0.016$, $g = 0.618$) but had no effect on CVR in either group ($p = 0.077$). These data indicate that one session of WBHT acutely improves peripheral micro- and macrovascular but not cerebral vascular function in Black and White females.

Patterns and correlates of cervical cancer prevention among Black immigrant and African American women in the USA: The role of ethnicity and culture

Cervical cancer prevention disparities between Black and White women have been researched extensively, but less is known about disparities among Black subpopulations, despite increased risk, distinct cultures, and rapidly increasing numbers of Black immigrant women to the USA. A 74-item survey was used to conduct a cross-sectional descriptive study. Independent sample t tests, logistic multiple regressions, and chi-square tests were used to carry out all comparative analyses. The survey was administered via Psychdata from January 2020 to February 2020. The final sample included 450 eligible participants (African American women [AAW] = 335; Black immigrant women [BIW] from either West, Central, East Africa, or the Caribbean = 115). Compared to AAW, BIW demonstrated much lower knowledge of cervical cancer, AAW were more likely to visit a gynecologist, and to have had a well-woman exam every 3 years or less. A greater percentage of BIW reported not getting Pap smear test because they had no symptoms or because they feared bad results while AAW reported not receiving a Pap smear because it was not convenient, they did not trust any doctor/gynecologist, and lacked access to a gynecologist. Doctor and family advising had a much larger effect on cervical screening among BIW compared to AAW. This study provides evidence of crucial differences in CC knowledge, attitudes, and screening behaviors among BIW and AAW. Funding agencies, program planners and evaluators, and health policymakers are encouraged to require disaggregation of Black women in healthcare research to tease out specific ways interventions can be most effective.

Obstetric experiences of young black mothers: An intersectional perspective

BACKGROUND: In Chicago, maternal morbidity and mortality is six times more likely among Black birthing people than white, despite policy initiatives to promote maternal health equity. Disparities in maternal morbidity and mortality reflect experiences of structural inequities - including limited quality obstetric care, implicit bias, and racism resulting patient mistrust in the health care system, inadequate social support, and financial insecurity. Although there is published literature on Black women's experiences with obstetric care, including experiences with individual and structural racism, little is known about the intersection of age and race and experiences with health care. The purpose of this study was to explore the maternal health and pregnancy experiences of young Black women utilizing an intersectional theoretical lens. METHODS: In this study, we conducted two focus groups in a sample of 11 young

	Black pregnant people. We conducted a thematic analysis to identify codes, themes, and subthemes of the data. RESULTS: We developed two overarching themes: obstetric racism and obstetric resistance. To elucidate how obstetric racism framed our participants' healthcare experiences, we identified sub-themes: intersectional identities as young Black women, medical mistrust, and pregnancy trauma. The second major theme describes ways in which participants protected themselves against obstetric racism to engender positive health experiences. These methods of resistance included identifying advocates and relying on trusted providers. CONCLUSIONS: The current standard of obstetric care in the US is suboptimal due to individual and structural racism. This study provides unique data on the experiences with health care for young, Black pregnant individuals and delivers valuable insight into how individual and structural racism impacts obstetric care for young Black women.
Testing a somatization hypothesis to explain the Black-White depression paradox	PURPOSE: Epidemiologic studies document a lower prevalence of major depression in Blacks than Whites in the United States. This is paradoxical from the perspective of social stress theory. A long-standing claim in the (clinical) literature is that Blacks express depression more somatically than Whites. If true, the diagnostic algorithm may undercount depression in Blacks, since the screening symptoms privilege the psychological rather than somatic dimensions of depression. We test hypotheses that (1) Blacks express depression more somatically than Whites which (2) reduces their likelihood of endorsing screening symptoms, thereby undercounting Blacks' depression and explaining the Black-White depression paradox. METHODS: We use cross-sectional data collected in 1991-92 from the National Longitudinal Alcohol Epidemiologic Survey (n = 42,862) among Blacks and Whites endorsing at least one past-12-month depression symptom. We compare groups on depression somatization and test whether greater somatization in Blacks leads to lower endorsement of psychological screening symptoms, and therefore under-diagnosis. RESULTS: Blacks have higher mean depression somatization scores than Whites (0.28, SE 0.04 vs. 0.15, SE 0.02), t(122) = - 2.15, p = 0.03. This difference is small and driven by Blacks' higher endorsement of 1 somatic symptom (weight/appetite change) and Whites' greater propensity to endorse psychological symptoms. However, Blacks have the same odds as Whites of endorsing screening symptoms, before and after adjusting for somatization. CONCLUSIONS: We find minimal evidence that Blacks express depression more somatically than Whites. Furthermore, this small difference does not appear to inhibit endorsement of diagnostic depression screening symptoms among Blacks, and therefore does not resolve the Black-White depression paradox.
Somatic mutations of esophageal adenocarcinoma: a comparison between Black and White patients	Esophageal adenocarcinoma is the most common histological subtype of esophageal cancer in Western countries and shows poor prognosis with rapid growth. EAC is characterized by a strong male predominance and racial disparity. EAC is up to fivefold more common among Whites than Blacks, yet Black patients with EAC have poorer survival rates. The racial disparity remains largely unknown, and there is limited knowledge of mutations in EAC regarding racial disparities. We used whole-exome sequencing to show somatic mutation profiles derived from tumor samples from 18 EAC male patients. We identified three molecular subgroups based on the pre-defined esophageal cancer-specific mutational signatures. Group 1 is associated with age and NTHL1 deficiency-related signatures. Group 2 occurs primarily in Black patients and is associated with signatures related to DNA damage from oxidative stress and NTHL1 deficiency-related signatures. Group 3 is associated with defective homologous recombination-based DNA often caused by BRCA mutation in White patients. We observed significantly mutated race related genes (LCE2B in Black, SDR39U1 in White) were (q-value < 0.1). Our findings underscore the possibility of distinct molecular mutation patterns in EAC among different races. Further studies are needed to validate our findings, which could contribute to precision medicine in EAC.
The influence of pornography on heterosexual black men and women's genital self-image & grooming	Pornography consumption may negatively impact Black men's and women's genital self-image. Poor genital self-image is linked to negative mental health outcomes and sexual dysfunction. Despite this, little work has examined genital self-image among Black men and women, a group whose genital self-image may be informed by racist-gendered stereotypes and perceived expectations for genital grooming. The purpose of this multigenerational qualitative study is to examine how pornography impacts genital self-image and grooming for Black heterosexual men and women. Semi-structured qualitative interviews were conducted with participants (n = 20) across four generational cohorts. An inductive content analysis resulted in three categories and four subcategories. All participants reported pornography consumption at some point in their lifetime. The degree of influence on their genital self-image and grooming was categorized in four ways: no influence, perceived influence, and direct influence, and resisting influence. There were four subcategories within the perceived and direct influence categories: pubic hair grooming & preferences, designer vaginas, penis size, and partnered expectations. Black men and women differed in their reported influence of porn on genital self-image and grooming. Implications of findings for pornography creators, sex educators, and sex partners are discussed.
Comparison of dietary micronutrient intakes by body weight status	Raw bioelectrical impedance measurements are often used as a prognosticator of health status because of their association with disease states and malnutrition.

among Mexican-American and non-Hispanic Black women aged 19-39 years: An analysis of NHANES 2003-2014	Although studies consistently show the effect of physical characteristics on bioelectrical impedance, few investigations describe the effect of race, particularly for Black adults, and many bioelectrical impedance standards were produced from primarily White adults almost 2 decades ago. Therefore, this study sought to evaluate the racial differences in bioelectrical impedance measurements using bioimpedance spectroscopy between non-Hispanic White and non-Hispanic Black adults matched for age, sex, and body mass index. We hypothesized that Black adults would have a lower phase angle from higher resistance and lower reactance compared with White adults. One hundred non-Hispanic White (n = 50) and non-Hispanic Black (n = 50) males (n = 34) and females (n = 66) matched for sex, age, and body mass index completed this cross-sectional study. Participants underwent several anthropometric assessments, including height, weight, waist circumference, hip circumference, bioimpedance spectroscopy, and dual-energy X-ray absorptiometry. Bioelectrical impedance measures of resistance, reactance, phase angle, and impedance were all collected at frequencies of 5, 50, and 250 kHz and bioelectrical impedance vector analysis was performed using 50-kHz data. There were no significant differences for any anthropometric variable between Black and White participants in the total sample or by sex groups. In addition, there were no significant racial differences for any bioelectrical impedance assessment, including bioelectrical impedance vector analysis. Differences in bioelectrical impedance are likely not a function of race between Black and White adults and concerns regarding its utility should not be based on this characteristic.
Anthocyanin-rich extract from black rice (Oryza sativa L. Japonica) ameliorates diabetic osteoporosis in rats	Diabetic osteoporosis (DOP) is a systemic endocrine-metabolic osteopathy which has the characteristics of bone mineral density (BMD) reduction and bone microstructural destruction. Although anthocyanin-rich extract from black rice (AEBR) was reported to have a beneficial effect on diabetic rats, no studies have been performed on whether black rice anthocyanins are beneficial for diabetic osteoporosis. Therefore, in this study, a streptozotocin-induced diabetic rat model was established to investigate the protective effect of AEBR on diabetes-induced osteoporosis and its possible mechanism. AEBR at three doses (0.5, 1.0, and 2.0 g kg-1 d-1) were administered by oral gavage to diabetic rats for 8 weeks. The blood glucose, BMD, bone histomorphometry parameters, serum bone turnover biomarkers, bone marrow adipocyte numbers, as well as osteoprotegerin (OPG), runt-related transcription factor 2 (RUNX 2), and receptor activator of nuclear factor-? B ligand (RANKL) protein expression in bone and serum were detected. The results indicated that AEBR dose-dependently decreased the blood glucose, increased the BMD, and decreased the serum bone turnover markers. The bone microstructure and osteoclast numbers in bone tissues returned to normal in the high AEBR dosage group; at the same time, the AEBR dose-dependently suppressed bone marrow adipogenesis. The RUNX 2 as well as the OPG/RANKL ratio in diabetic rats' bone tissues increased significantly in the AEBR treatment group. Our results indicate that AEBR administration can ameliorate bone loss caused by diabetes; this is mainly attributed to its inhibition of bone turnover, suppression of bone marrow adipogenesis, and up-regulation of RUNX 2 and the OPG/RANKL expression ratio.
Concentrations of antimicrobial components in milk of Japanese Black cows and their differences from dairy cows	The components of milk from beef cows remain to be elucidated. This study examined the differences in the antimicrobial components of milk between dairy and beef cows. Quarter milk was collected from both Japanese Black (beef type) and Holstein (dairy type) cows to compare the concentrations of antimicrobial components. The concentration of lingual antimicrobial peptide (LAP) was higher, whereas that of the other antimicrobial components (lactoferrin, S100A7, and S100A8) was lower in beef cows than in dairy cows. Overall, these results indicate that the differences in antimicrobial components between beef and dairy cows may be associated with the difference in the prevalence of mastitis between them.
Variance heterogeneity and genotype by environment interactions in native Black and White dual-purpose cattle for different herd allocation schemes	Black and White dual-purpose cattle (DSN) are kept in diverse production systems, but the same set of genetic parameters is used for official national genetic evaluations, neglecting the herd or production system characteristics. The aim of the present study was to infer genetic (co)variance components within and across defined herd descriptor groups or clusters, considering only herds keeping the local and endangered DSN breed. The study considered 3659 DSN and 2324 Holstein Friesian (HF) cows from parities one to three. The 46 herds always kept DSN cows, but in most cases, herds were 'mixed' herds (Mixed), including both genetic lines HF and DSN. In order to study environmental sensitivity, we had a focus on the naturally occurring negative energy balance in the early lactation period. In consequence, traits were records from the 1st official test-day after calving for milk yield (Milk-kg), somatic cell score (SCS) and fat-to-protein ratio (FPR). Genetic parameters were estimated in bivariate runs (separate runs for the three genetic lines Mixed, HF and DSN), defining the same trait from different herd groups or clusters as different traits. Additive-genetic variances and heritabilities were larger in herd groups that indicated superior herd management, implying that cow records from these herds allow a better genetic differentiation. Superior herd management included larger herds, low calving age, high herd production levels and low intra-herd somatic cell count. Herd descriptor group differences in additive-genetic

	variances for Milk-kg were stronger in HF than in DSN, indicating environmental sensitivity for DSN. Similar variance components and heritabilities across groups, clusters and genetic lines were found for data stratification according to geographical descriptors altitude and latitude. Considering 72 bivariate herd group runs, 29 genetic correlations were very close to 1 (mostly for Milk-kg). Somatic cell score was the trait showing the smallest genetic correlations, especially in the DSN analyses, and when stratifying herds according to genetic line compositions (rg=0.11), or according to the percentage of natural service sires (rg=0.08). For estimations based on the results of a cluster analysis considering several herd descriptors simultaneously, indications for genotype × environment interactions could be found for SCS, but genetic correlations were larger than 0.80 for Milk-kg and FPR. In conclusion, we suggest multiple-trait animal model applications in genetic evaluations, in order to select the best sires for specific herd environments or herd clusters.
Somatic mutations of triple-negative breast cancer: a comparison between Black and White women	PURPOSE: Understanding the contribution of tumor genome biology to racial disparities of triple-negative breast cancer (TNBC) is important for narrowing the cancer mortality gap between Black and White women. METHODS: We evaluated tumor somatic mutations using targeted sequencing of a customized panel of 151 genes and 15 copy number variations (CNVs) within a population of 133 TNBC patients, including 71 Black and 62 White women. RESULTS: The overall mutational burden between Black and White women with TNBC was not significantly different, with a median of 5 somatic changes per patient (point mutations and CNVs combined) for the customized panel (range 1-31 for Blacks vs. 1-26 for Whites; p = 0.76). Of the 151 genes examined, none were mutated at a significantly higher frequency in Black than in White cases, whereas two genes were mutated at a higher frequency in White cases-PIK3CA and NCOR1. No significant difference in the frequency of CNVs was observed between Black and White women with TNBC in our study population. CONCLUSION: Of gene mutations and CNVs in TNBC tumors from Black and White women, only PIK3CA and NCOR1 had significantly different, although slight, frequencies by race. These results indicate that overall differences observed in the mutation spectra between Black and White women with breast cancer are likely due to the differential distributions of breast cancer subtypes by race.
Interpersonal discrimination and depressive symptoms among older Black and African American adults	To examine the association between recent experiences of discrimination and depressive symptom presentation and severity among a U.S. sample of older Black and African American adults. A cross-sectional survey of 124 Black and African American adults aged 50 and older in the United States was conducted assessing interpersonal discrimination and depressive symptoms. The Perceived Ethnic Discrimination Questionnaire assessed four forms of interpersonal discrimination. A measure of heightened vigilance to bias assessed anticipatory coping with discrimination experiences. Past-month affective and somatic symptoms of depression were assessed using the Depressive and Somatic Symptoms Scale. All forms of interpersonal racial discrimination were positively associated with greater affective symptom severity. Being avoided, devalued, and threatened or actively physically harmed were associated with greater somatic symptom severity. Vigilant coping was positively associated with affective symptom severity but not somatic symptom severity. Racial discrimination is linked to depression severity among older Black and African American and varies by symptom. This study helps inform work on processes linking discrimination with poorer psychological outcomes and will allow for more effective interventions and prevention efforts that are tailored to older minority populations.
Somatic symptoms, psychological distress and trauma after disasters: lessons from the 2014 Hazelwood mine fire and 2019-20 Black Summer bushfires	BACKGROUND: Wildfires cause significant physical and mental ill-health. How physical and mental symptoms interact following wildfire smoke exposure is unclear, particularly in the context of repeated exposures. In this cross-sectional study we investigated how posttraumatic stress and general psychological distress associated with somatic symptoms in a community exposed to multiple smoke events. METHODS: A random weighted sample of 709 adults exposed to smoke during the 2014 Hazelwood coal mine fire in south-eastern Australia completed a survey in 2020. The survey coincided with the Black Summer wildfires that caused a similar period of smoke haze in the region. Participants self-reported somatic symptoms (PHQ-15) and mine fire-related posttraumatic stress (IES-R) experienced over the previous week, general psychological distress (K10) experienced over the previous four weeks, lifetime health diagnoses and demographic information. Associations between posttraumatic stress, general psychological distress, and each PHQ-15 somatic symptom were analysed using ordinal logistic regression models. RESULTS: Overall, 36.2% of participants reported moderate- or high-level somatic symptomology. The most frequent somatic symptoms were fatigue, limb pain, trouble sleeping, back pain, headaches, and shortness of breath. After controlling for confounding factors, general psychological distress and posttraumatic stress were independently associated with all somatic symptoms (except menstrual problems in females for posttraumatic stress). CONCLUSIONS: Results highlight the high prevalence of somatic symptoms and their association with general psychological distress and posttraumatic stress within a community in the midst of a second large-scale smoke event. It is essential that healthcare providers and public health authorities consider the interconnections of these conditions when supporting

	communities affected by climate-related disasters.
An interpretative phenomenological analysis of Black women's meaning and experiences of sexual anxiety	Sexual anxiety can activate the stress response cycle during sex, compromising a woman's ability to experience sexual pleasure. Black women face additional cultural and contextual factors, such as hypersexualization, partner scarcity, and higher rates of sexual trauma that may increase the magnitude, frequency, and odds of experiencing sexual anxiety. However, limited research has explored this phenomenon among Black women. Thus, we sought to qualitatively explore how N = 25 premenopausal Black women living in the southern United States make meaning of experiences with sexual anxiety. We analyzed the interview data using an interpretive phenomenological approach. Three components of the phenomenon of sexual anxiety were gleaned: 1) causes of sexual anxiety, 2) characteristics of sexual anxiety, and 3) coping strategies. Each component included three to six elements of meaning making. For these Black women, causes of sexual anxiety included fears of sexual pain, partner unfamiliarity, previous traumas, mental health concerns, and intersecting socio-structural factors. Characteristics of sexual anxiety included mental, somatic, and emotional elements. Coping strategies included having a reassuring and supportive sex partner, supporting themselves with affirmations and mindfulness, attending therapy, and using substances. Through reflection about their perceived causes of, experienced characteristics of, and intentional coping with sexual anxiety, meanings were co-constructed through an intersectional frame. Implications for intersectionality-informed interventions and suggestions for mental health professionals and partners are discussed.
"as long as I got a breath in my body": Risk and resistance in black maternal embodiment	"Mothering while black" in Cleveland, Ohio is a radical act. This highly segregated, highly unequal urban environment is replete with the chronic stressors that degrade well-being and diminish survival for Black mothers and their infants; specifically, a maternal mortality rate two and a half times that of their white counterparts and an infant mortality rate nearly three times that of infants born to white mothers. In the midst of such tragedy and disadvantage, Black mothers strive to love and care for their children in ways that mitigate the toxicity of structural racism. The seventeen pregnant and postpartum Black women in this ethnographic study describe transformational experiences with what we label "betterment:" whereby they center their children's perspective and needs, reconsider their social networks, and focus on the future with an unflinching understanding of the constraints of structural racism. Locating betterment alongside other examples of maternal embodiment and through the rich theoretical lens of Black feminist scholars these participant narratives suggest that the toxic effects of racism and the means to resist them are embodied by Black mothers. A nuanced understanding of Black motherhood disrupts public discourses of blame and responsibility that obscure our collective duty to dismantle structural racism.
Comparison of dietary micronutrient intakes by body weight status among Mexican-American and non-Hispanic Black women aged 19-39 years: An analysis of NHANES 2003-2014	The objective of the current study was to examine micronutrient intake from foods in women of childbearing age and to better understand potential nutritional problems varied by body weight status in minority women. A sample of women aged 19-39 years from the National Health and Nutrition Examination Surveys (NHANES) 2003-2014 was analyzed. Dietary intakes of 13 micronutrients were estimated using the National Cancer Institute method. Mexican-American and non-Hispanic Black women were categorized into normal/under-weight, overweight, or obese groups according to their body mass index (BMI). Mexican-American and non-Hispanic Black women had lower dietary intakes for vitamins A, B2, B6, B12, and D, folate, calcium, and magnesium than non-Hispanic Whites. Among Mexican-Americans, obese women had the lowest dietary intake of vitamins A, B2, C and D. Obese non-Hispanic Black women had significantly lower dietary intakes of iron and zinc than their normal/under-weight counterparts. Comparable percentages (>30%) of Mexican-American and non-Hispanic Black women had dietary intake less than the Estimated Average Requirements (EARs) for several key nutrients including vitamin A, C and D, folate, calcium and magnesium, and the percentages varied by body weight status. These results indicate micronutrient inadequacies persist among and within racial/ethnic and body weight groups.
Anxiety sensitivity and distress tolerance in relation to smoking abstinence expectancies among Black individuals who smoke	OBJECTIVE: Black individuals who smoke in the United States experience significant tobacco-related disparities. Although prior work has established that smoking abstinence expectancies play an important role in smoking-related outcomes, few studies have examined potential individual difference factors that may be relevant to smoking abstinence expectancies among Black individuals who smoke. The present study investigated anxiety sensitivity and distress tolerance in relation to smoking abstinence expectancies among a sample of Black individuals who smoke. METHOD: Participants were 86 Black adults who smoke cigarettes daily (M age = 46.07 years, SD = 10.37; 26.7% female). Four separate linear regression analyses were conducted to evaluate the relation between anxiety sensitivity, distress tolerance, and their interaction with each of the four smoking abstinence expectancies (i.e., somatic symptoms, positive consequences, harmful consequences, and negative mood). RESULTS: Results indicated that higher anxiety sensitivity was related to higher somatic symptoms, harmful consequences, and negative mood abstinence expectancies, whereas distress tolerance was related to higher positive consequences. Further, anxiety sensitivity and distress tolerance interacted to confer greater expectancies for

	the positive consequences of quitting. CONCLUSIONS: The current findings are among the first to document that anxiety sensitivity and distress tolerance are clinically relevant factors to consider when tailoring smoking cessation treatments for Black individuals who smoke. Future research is needed to examine distress tolerance and anxiety sensitivity as longitudinal predictors of smoking abstinence expectancies among Black individuals who smoke.
Regional differences in energy allocation of black sea bass (Centropristis striata) along the U.S. Northeast Shelf (36°N to 42°N) and throughout the spawning season	Fish reproduction is energetically costly, leading to a suite of energy allocation strategies for maximizing lifetime reproductive potential. Assessing energetic allocation for species that inhabit a wide distributional range can provide insight into different strategies found across individuals and populations. The Northern stock of black sea bass (Centropristis striata) inhabits the U.S. Northeast continental shelf from Cape Hatteras, NC, to the Gulf of Maine, and spawns inshore throughout this distribution from April to October. To assess energy allocation towards spawning, C. striata were collected in four regions across this distribution and throughout their spawning season. By assessing energetic allocation (lipid, energy density and total energy) in muscle, liver and gonad tissues, C. striata were identified as mixed breeders because while they mobilized somatic energy stores towards reproductive development, they also used energy acquired from their diet to sustain reproductive output throughout the spawning season. Unlike male fish, female fish both invested more energy into liver and gonad tissues and exhibited regional differences in energetic values. For both sexes, C. striata in the northern portion of the distribution had lower energetic values both in the somatic stores and towards gonadal development than the fish in the southern portion of the distribution, possibly because of longer migration distance. Overall, the authors found significant spatial variation in energetic constraints that may affect reproductive output and success (recruitment), a relevant result as C. striata are a popular recreational and commercial species throughout this distribution.
Increasing accessibility to biomechanics for Black students with early exposure through NBD	From the perspective of a Black woman in the biomechanics field, it is my observation that many Black biomechanists are exposed to the field of biomechanics late into their academic careers. STEM (science, technology, and mathematics) is such a broad/encompassing field, yet students are only typically given a narrow introduction to biology and chemistry prior to college. These basic science courses are not enough to continue recruiting and building a pathway for future scientists to pursue STEM careers in the interdisciplinary field of biomechanics. Outreach programs, like National Biomechanics Day (NBD), can expose students to biomechanics earlier than the usual undergraduate exposure for those majoring in health/exercise science, kinesiology, or biomedical/mechanical engineering. NBD has increased accessibility to biomechanics, which has led to increases in diversity, equity, and inclusion in the biomechanics community, particularly for young Black students. Outreach programs like NBD are crucial to reaching, engaging, and recruiting future young Black biomechanists, and others from underrepresented communities, within the US and beyond.
Primary aldosteronism caused by a pI157S somatic KCNJ5 mutation in a black adolescent female with aldosterone-producing adenoma	Aldosterone-producing adenoma is a rare cause of hypertension in children. Only a limited number of cases of aldosterone-producing adenomas with somatic KCNJ5 gene mutations have been described in children. Blacks are particularly more susceptible to developing long-standing cardiovascular effects of aldosterone-induced severe hypertension. Somatic CACNA1D gene mutations are particularly more prevalent in black males whereas KCNJ5 gene mutations are most frequently present in black females. We present here a novel somatic KCNJ5 p.I157S mutation in an aldosterone-producing adenoma from a 16-year-old black female whose severe drug-resistant hypertension significantly improved following unilateral adrenalectomy. Prompt diagnosis of aldosterone-producing adenoma and early identification of gene mutation would enable appropriate therapy and significantly reduce cardiovascular sequelae.

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