

2020

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### Recommended Citation

Childs, Jada C. (2020) "Effect of Stress on the Health of African American Women in Low-Income Neighborhoods," *McNair Scholars Research Journal*: Vol. 13 : Iss. 1 , Article 5.  
Available at: <https://commons.emich.edu/mcnair/vol13/iss1/5>

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# EFFECT OF STRESS ON THE HEALTH OF AFRICAN AMERICAN WOMEN IN LOW-INCOME NEIGHBORHOODS

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## ABSTRACT

Health problems such as obesity are more prevalent in populations of African American women than any other population in the United States. Stress has been found to disproportionately affect the health of African American women when compared to European American women. Factors such as neighborhood environment, socioeconomic status, and familial relationships play a significant role in the stress experienced by these women. This project reviews the current literature on the relationship between various stressors and the health of African American women. The purpose of this research is to increase understanding of the unique stressors that African American women face and how health disparities and psychological stress could be the instrumental factors impacting obesity and mortality rates in this community.

## INTRODUCTION

African American women are one of the most vulnerable populations in America (Hamilton-Mason et al., 2009), experiencing both racism and sexism in their everyday lives. The stress resulting from these interactions can lead to a host of different health issues and disparities. These health disparities may be key factors in the higher mortality rates of African American women when compared to European American women (Williams, 2009). Disparities between women of color and European American women also exist in the incidence of a number of chronic diseases, including breast cancer (Newman & Kaljee, 2017), cardiovascular disease (American Heart Association, 2015), and hypertension (Jones, Veinot et al., 2018), among others.

One health risk of high concern in the population of African American women is obesity. Obesity rates are higher in African American women than non-Hispanic women (Tan et al., 2017), European American women (Lynch & Kane, 2014), and Afro-Caribbean women

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(Barrington, 2018). These statistics are concerning, considering that obesity is one of America's leading causes of death (World Health Organization [WHO], 2009). The disparities in obesity between African American women and other races have been linked to neighborhoods and poverty (Akil & Ahmad, 2011), levels of parental education (Barrington, 2018), and cultural views of body image (Schuler et al., 2008). Research shows that another factor that may play a role in obesity rates is overeating as a coping mechanism (Tan & Chow, 2014). Such coping mechanisms may develop due to the psychological stress that many African Americans experience.

African American women are very vulnerable to psychological stress. They are exposed both to race-related stress (Hill & Hoggard, 2018) and being female in America, thus placing them under the pressure of surviving two different challenging roles (Perry et al., 2013). African American women often internalize their stressors, giving way to behavior that researchers refer to as the "Superwoman Schema" (Woods-Giscombe & Black, 2010) and the "Strong Black Woman Schema" (Liao et al., 2019). African American women often feel they must project strength, courage, and the ability to manage all situations, often to the detriment of their health.

Certain challenges affect both the health and the stress of these women. Finances and personal environments play an instrumental role in the stress they face (Ajrouch et al., 2010). Marriage rates are generally low, and divorce rates are higher in the African American population (Chambers & Kravitz, 2011), leaving many women to serve as the heads of households without help from a partner (Hamilton-Mason et al., 2009). The psychological stress stemming from financial burdens, neighborhood disorganization, and these internalized schemas could be linked to health risks such as heart disease (Wirtz & von Känel, 2017), chronic kidney disease (McClellan et al., 2010), and obesity (Lopez, 2007).

It is clear that factors linking stress and health affect Black women's lives. This paper examines the stressors that exert the highest impact on African American women and their health, in the hope that preventative measures can be implemented to decrease stress and health disparities for African American women in low-income neighborhoods.

## LITERATURE REVIEW

### **Health Disparities in African American Women**

Throughout the years, research studies have consistently revealed

that African American women have a greater overall mortality rate than European American women (Williams, 2009). Higher risk for multiple diseases has contributed to this overall health disparity. Factors that could possibly be influencing these mortality rates are the disparities in cardiovascular disease, diabetes, and obesity rates that are much more pervasive in the African American community (Knox-Kazimierczuk & Shockly-Smith, 2017). For example, according to the American Heart Association (2015), African American women have a higher rate of death due to cardiovascular disease than do European American women. Additionally, African American women also experience higher rates of sexual and reproductive health conditions compared to European Americans (Prather et al., 2016). Research conducted over the past several years has continued to show these same troubling trends concerning the health of Black women.

There is an increased risk of breast cancer and breast cancer mortality in African American women in comparison to European American women (Newman & Kaljee, 2017). One study found that type 2 diabetes increased the chance of African American women being diagnosed with breast cancer by 40% (Holt, 2018). Type 2 diabetes also contributes to cardiovascular disease and higher rates of mortality (Stojek et al., 2019). Despite medical advances, African Americans still tend to have higher rates of diabetes than European Americans. Diabetes affects about 7% of the White population and about 13% of the Black population (Cooke & O'Lawrence, 2017).

Hypertension is another of the health concerns that is more prevalent in African American women than any other group. These women are diagnosed with hypertension at a younger age and have higher blood pressure readings, which can lead to stroke, end-stage renal disease, and death (Jones, Veinot et al., 2018). African Americans are three times more likely to develop kidney failure when compared to the general population (Panico & Thompson, 2018).

The cause of these health disparities is often attributed to inadequate healthcare access and lower standards of care. However, even when adequate healthcare is received, the disparities between groups remain (Woods-Giscombé & Black, 2010). Differences in obesity rates may be especially important; obesity rates are much higher in the African American community and could also be an important contributor to other health issues in this population (Knox-Kazimierczuk & Shockly-Smith, 2017).

**Obesity in African American women.** Obesity results from an energy imbalance between what is consumed and what is burned off

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through metabolism and physical activity (Akil & Ahmad, 2011). Obesity is a global health concern, but the highest rates are found in the United States. Obesity is related to diseases such as hypertension, type 2 diabetes, coronary heart disease, stroke, infertility, certain cancers, and more (Hruby et al., 2016). There are disparities dependent upon gender, race, and socioeconomic status (Arroyo-Johnson & Mincey, 2016). Obesity is more prevalent in African American women than African American men (Tan et al., 2017). Statistics show that 82% of African American women are overweight, 56.9% of African American women are obese, and it is estimated that more than 50% of new cases of hypertension in African Americans are due to excess weight (Pickett & McCoy, 2017). Many studies have shown that obesity is more prevalent in African American women than European American women (Lynch & Kane, 2014). Obesity is also 34% more prevalent in African American women than Afro-Caribbean women (Barrington, 2018). Almost two-thirds of African American women within the United States are considered obese (Agyemang & Powell-Wiley, 2013). This is concerning because obesity is an underlying factor in the leading cause of death in the United States: heart disease (Heron, 2013).

Many factors may contribute to higher rates of obesity among African American women. Studies show a strong relationship between obesity and poverty, food insecurity, unemployment, and general income level (Akil & Ahmad, 2011). Social determinants in the contexts of one's environment contribute to obesity risk; for example, access to environments that promote physical activity are important for maintaining a healthy weight (Saelens et al., 2012). Physical characteristics of an environment that promote physical activity are green spaces, parks and recreational buildings, sidewalks, and bike lanes. Social determinants of obesity include socioeconomic conditions, residential segregation and access to healthcare services, transportation, resource availability, and social support (Arroyo-Johnson & Mincey, 2016).

African American women are less likely to have access to some of these crucial determinants. Many women in lower socioeconomic communities may be less likely to walk for exercise in their neighborhoods. Research shows that walking has a positive effect on moderate to vigorous physical activity, but crime limits this activity in some areas (Richardson et al., 2017). Feeling unsafe increases the likelihood that women will refrain from outdoor exercise (Zenk et al., 2011), and they often do not have access to, or money for, gym memberships.

Many women of color from lower socioeconomic communities lack access to healthy food options. A study by Lopez (2007) showed that

perceived neighborhood safety, economic deprivation, and the access to healthy food options were coupled with a higher incidence of fast food restaurants and increasing obesity rates. There is a statistically significant association between socioeconomic status, sedentary activity, and fruit and vegetable intake (Knox-Kazimierczuk & Shockly-Smith, 2017). Supermarkets offering healthier food options were less likely to be found in lower-income, non-white neighborhoods, creating “food deserts” (Lopez, 2007).

Social upbringing and health education also lead to health disparities. A study comparing Afro-Caribbean women to African Americans showed that childhood social factors are key components in the higher rates of obesity in African American women (Barrington, 2018). There could be a number of economic, mental, and even cultural explanations for this. Some studies suggest that the difference in obesity rates between European Americans and African Americans may be due to differences of perception of women’s body image. Research shows that African American women may be less concerned about their weight, and may therefore consume more calories (Schuler et al., 2008). Using body mass index as a measure of obesity, this study found that African Americans tend to underestimate their actual weight, also contributing to the high rates of obesity seen in their population. Inappropriate coping skills in response to environmental stress may also lead to overeating (Tan & Chow, 2014).

### **Psychological Stress in African American Women**

Psychological stress is defined as the moment in which a person “perceives that environmental demands tax or exceed his or her adaptive capacity” (Weiderhold et al., 2010, p. 28). A “stressor” is considered to be “stress reactivity evoking external and internal stimuli,” and the response that is elicited is known as the “stress reaction” (Wirtz & von Känel, 2017, p. 2). Individuals can experience stress in a number of ways. Some stressors can be considered significant traumas (Gillespie et al., 2009), while others may occur as part of the normal, everyday world (Ajrouch et al., 2010).

Hill & Hoggard (2018) have shown that African Americans are exposed to “race-related stress” stemming from situations including low-quality healthcare, adverse environmental factors, and racial discrimination. Studies have shown a positive correlation between discrimination and distress (Williams & Mohammed, 2009). Research indicates that African American women are affected by racism compounded with sexism (Perry et al., 2013). Keith et al. (2010) noted: “African American women are disproportionately challenged by a host of social conditions

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that are linked to higher risk for poor mental health” (p. 291). Woods-Giscombé & Black (2010) conducted a study showing that African American women may also be burdened with a complex known as the “Superwoman Schema,” defined by a perceived obligation to demonstrate strength, suppress emotions, resist vulnerability and dependability, achieve success, and to help others. In the study, African American women reported that the Superwoman Schema has both positive and negative elements: while these women place a high value on preservation of self, family, and community, they also experience relationship strain, stress-related health challenges, and stress embodiment.

A similar study focused on how African American women were forced to take on the role of the “Strong Black Woman” (Evans et al., 2017), or to be seen as a pillar of strength, a caretaker, and a person capable of taking on multiple roles. Internalizing these schemas can be taxing to the mental health of African American women. Results of the study found that many women experience depression, anxiety, and loneliness, resulting in their experiencing increased mental health issues and feelings of isolation.

The “Strong Black Woman’s” desire to “take on the world” as a leader, a nurturer, and a caregiver has many health consequences. Some feel they must “pass for normal” (Evans et al., 2017) and make others believe that they are well, even if they are struggling with limited resources, role-functioning, relationship conflicts, health problems, loss of a person or job, racism, and work (Hamilton-Mason et al., 2009). When exposed to trauma, the cost of treatment and finding therapeutic services can be a burden (Dutton et al., 2013). The mundane task of paying bills can be a source of anxiety and stress for some women, who must rely on financial support from network members (Ajrouch et al., 2010). Additionally, African Americans have the lowest rates of marriage and highest rates of divorce of any racial or ethnic group in the United States (Chambers & Kravitz, 2011). Forty-three percent of Black households are headed by single women (Hamilton-Mason et al., 2009), a figure impacted by the high incarceration rates of African American males. While Black men constitute 6% of the American population, they make up 50% of the prison population (Perry & Bright, 2012).

Relationship conflict is also tied to stress; studies show that bi-directional intimate partner violence is higher in African American couples than any other racial group (Langhinrichsen-Rohling et al., 2012). Intimate partner violence can consist of threats or behaviors that are physically, emotionally, psychologically, or sexually detrimental. Married

African American women are 2.36 times more likely to experience severe partner violence than married European American women (Al'Uqdah et al., 2016). The importance of family and community are central elements of the African American woman's internalized Superwoman complex (Woods-Giscombé & Black, 2010), thus perceived threats to herself, her family, or her community may have negative effects on her mental or physical health.

A study conducted on low-income African American women and children found that maternal PTSD was a predictor of parental distress (Cross et al., 2018). Cassells and Evans (2017) defined the theoretical framework of the effect of poverty on parenting as the Family Stress Model. Three factors that have been shown to affect the Family Stress Model are depression, family structure, and neighborhood environment. The relationship between socioeconomic status and stress load could be attributed to situations concerning poverty and these women's responses to chronic stressors and hindrances (Tan et al., 2017).

**Impact of poverty and environment on African American women's stress.** African Americans are more likely to live in poverty than other Americans (Firebaugh & Acciai, 2016), and are nearly four times more likely to live in a neighborhood where the poverty rate is 40% or higher (Santiago et al., 2011). Poverty rates are particularly high for African American women. Women in general are 35% more likely to live in poverty, and 23.1% of African American women live in poverty. These rates are higher than those of Native American women (22.7%), Hispanic women (20.9%), and Asian women (11.7%) (Tucker & Lowell, 2016). Santiago et al. (2011) found that environmental factors such as income, socioeconomic status (SES), neighborhood disadvantage, and poverty-related stress were related to symptoms of anxiety and depression, among other issues.

Chang et al. (2016) compared stress in urban and non-urban areas and found that the most environmentally-natural setting yielded a significantly lower stress response. Crime, poverty, and disorganization have the opposite effect. Weisburd & White (2019) showed that communities with higher crime rates experienced weakened social connections, problems in adolescent development, substance abuse, chronic diseases, and higher mortality rates. Their data showed that residents of "hot spots," or streets with high crime rates, experienced poorer mental and physical health, and that roughly 75% of such residents were smokers as compared to 47.9% of others.

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Women living in poverty in the United States are at risk for depression, anxiety disorders, and post-traumatic stress disorder (PTSD) (Golin et al., 2016). Gillespie et al. (2009) examined environmental risk factors for PTSD within a low-income, primarily Black population. They used surveys and interviews to collect self-reported accounts of different forms of trauma and found that 87.8% of the sample reported having experienced a significant trauma. The most common forms of traumatic experiences were accidents, violence, and sexual assault. Their data revealed that PTSD and depression were highly prevalent conditions within this group.

Gaffey et al. (2018) found that trauma contributed to chronic stress and other similar disorders in women, while their environment shaped the way they responded to stress. African Americans who lived in urban areas were possibly exposed to high levels of trauma, even at a young age (Gillespie et al., 2009). Childhood trauma may include exposure to community and domestic violence. A study conducted by Algren et al. (2018), using residents of similar sociodemographic and socioeconomic characteristics to compare stress in deprived neighborhoods versus non-deprived neighborhoods, found that those in deprived neighborhoods had higher rates of perceived stress. The study found associations between economic deprivation, disposable income, and perceived stress. These factors include limited access to healthy eating choices, increased psychological stress, and limited access to healthcare (Chauvet-Gelinier & Bonin, 2017).

### **The Stress and Health Relationship**

High stress rates have been linked to many different health risks and psychological disorders, including depression, anxiety, insomnia, autoimmune disorders, skin conditions, and even neurodegenerative diseases. Cardiovascular disease is one of the most predominantly discussed diseases associated with stress. Epidemiologic studies and smaller research projects alike have shown that cardiovascular disease is linked to psychological stress and PTSD (Cohen et al., 2015). Even slight exposure to a naturalistic stressor, such as taking a test, is associated with increased markers of inflammation, which in turn predict risk for cardiovascular disease (Marsland et al., 2017).

When stressors are measured, it is evident that they have detrimental effects on mental and physical health (Thoits, 2010). A study using public speaking as a type of stressor showed that a person who shows greater physiological reactions to acute stressors and a long recovery pe-

riod is at a greater risk for coronary heart disease (Wirtz & von Känel, 2017). If the act of taking a test or speaking in public can produce such extreme consequences, it is not difficult to imagine how prolonged exposure to multiple stressors can affect the body. Stress not only affects health directly, but it also affects health indirectly. Groesz et al. (2012) found that stress increases the rate of food intake, a phenomenon linked to stress eating. Research shows that even people who demonstrate dietary restraint (consciously limiting food intake to maintain or lose weight) eat more during times of stress (Roberts et al., 2012). Racial discrimination has been shown to predict problems with substance abuse and physical health problems (Gibbons et al., 2014).

Health disparities within the African American community include negative birth outcomes, lupus, and untreated depression. Some studies have inferred that these health disparities in African American women can be attributed to stress and coping (Woods-Giscombé & Black, 2010). Eating unhealthy foods is just one of the inadequate methods that people use for coping with stress. Other insufficient coping methods include smoking cigarettes and substance abuse. These mechanisms, compiled with the lack of motivation or the inability to engage in physical activity, support unhealthy habits (Algren et al., 2018). Coping mechanisms, along with psychological stress appraisal, biology, and chronically stressful environments, can all be linked to increased cardiometabolic risks, type 2 diabetes, and cardiovascular disease (Robins & Kliewer, 2019; Chauvet-Gelinier & Bonin, 2017). Additionally, household poverty rates have been shown to affect somatic health issues, including chronic kidney disease (McClellan et al., 2010).

For years, studies have identified a relationship between the risk of obesity and urban sprawl (Lopez, 2007; Singh, 2010). Lopez (2007) described urban sprawl as characterized by decentralization, low-density land uses, and automobile-focused transportation systems. Singh (2010) showed a 20% to 60% increase in obesity among children living in unsafe neighborhoods. Similar results were found in another study (Saelens et al., 2012) that compared four different types of neighborhoods, those perceived to have: (1) high physical activity environments and low nutritional environments; (2) low physical activity environments and high nutritional environments; (3) low on both measures, and (4) those that were high on both measures. The results showed that children residing in high physical activity and nutritional environments were less likely to be obese and overweight than children from neighborhoods that were low on both levels. Parents in neighborhoods high on both measures were also less

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likely to be obese. Statistics show that 54% of women considered to be low-income are also overweight or obese before pregnancy (Chang et al., 2016), leading to low birth weight in their children (Holland et al., 2009).

Due to the many instances of individual and institutionalized racism experienced by African Americans, it is of vital importance to study the sociocultural factors that surround African Americans when examining stress and health. Racism and other forms of oppression adversely impact childbirth, parenting, and economic and health disparities (Smith & Landor, 2018). Discriminatory stress adds disproportionate stressors that lower status for disadvantaged groups. Experiences of discrimination have been reported to show significant associations with self-rated poor health, chronic health conditions, disabilities, high blood pressure, psychological distress, anxiety disorder, and major depressive disorder (Thoits, 2010).

Studies have shown that psychological stress may play a role in why African Americans are at a much greater risk of death from cardiovascular diseases than are Whites (Schneider et al., 2012). This could be partially attributed to the lack of healthy eating behaviors demonstrated among African Americans during times of stress. Studies show that foods consumed as coping strategies are almost always high in fat (Pickett & McCoy, 2017). The way that people cope with stress is dependent upon the way in which stress is conceptualized (Jones, Sternberg et al., 2018). Assari et al. (2016) showed that neighborhood-related stress does in fact lead to obesity in later life. Their data showed that fear of neighborhood violence as a teenager predicted BMI changes from ages 21 to 32 among African American women. With such high rates of stress and trauma in African American women, it is no surprise that obesity is more prevalent in this population than in any other race (Agyemang & Powell-Wiley, 2013).

## CONCLUSION

Research shows that family, the desire to nurture and lead, and neighborhood and community well-being are central aspects in the life of many African American women. Unfortunately, these same concerns may contribute to an increased risk for their negative health outcomes. Family relations are impacted by divorce and Black male incarceration rates; the desire to protect their loved ones can lead Black women to psychological stress, burnout, and feelings of isolation and depression; socioeconomic disparities may cause their stress, due to a lack of resources. Additionally, racism and sexism may lead to stressors especially relevant for Black women.

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African American women disproportionately experience obesity, and studies have shown that obesity contributes to many other health factors, such as cardiovascular disease, type 2 diabetes, and hypertension. Based on the literature, we can infer that the stress of living in a low-income neighborhood contributes to the obesity rate, which is a significant factor impacting the mortality of African American women.

There are several implications to be drawn from the literature. To reduce health disparities among African American women, we must consider the stressors and challenges facing this population. Promoting resources for this community is important. For example, businesses that support financial literacy, provide mental healthcare, and endorse physical activities and healthy eating should be established in low-income neighborhoods. Financial assistance agencies to help with money management, investment, and planning could alleviate some financial burdens experienced by African American women. Financial support for mothers with an incarcerated spouse, and reentry programs for previously incarcerated men could help families negatively impacted by the criminal justice system. Mental health practices could be a source of assistance in restoring relationships and preventing intimate partner violence. Childcare services could reduce stress for single-parent women. Additionally, grocery stores, gyms, and fitness studios could aid in obesity prevention and possibly create more job opportunities and recreational practices, which could, in turn, lower crime rates. The focus on the unique stressors contributing to health disparities offers insight into many areas where intervention could vastly improve the lives and health of African American women.

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