Mind-Body Interventions to Reduce Risk for Health Disparities Related to Stress and Strength Among African American Women: The Potential of Mindfulness-Based Stress Reduction, Loving-Kindness, and the NTU Therapeutic Framework

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Abstract

In the current article, the authors examine the potential role of mind-body interventions for preventing or reducing health disparities in a specific group—African American women. The authors first discuss how health disparities affect this group, including empirical evidence regarding the influence of biopsychosocial processes (e.g., psychological stress and social context) on disparate health outcomes. They also detail how African American women's unique stress experiences as a result of distinct sociohistorical and cultural experiences related to race and gender potentially widen exposure to stressors and influence stress responses and coping behaviors. Using two independent, but related, frameworks (Superwoman Schema [SWS] and the Strong Black Woman Script [SBW-S]), they discuss how, for African American women, stress is affected by "strength" (vis-à-vis resilience, fortitude, and self-sufficiency) and the emergent health-compromising behaviors related to strength (e.g., emotional suppression, extraordinary caregiving, and self-care postponement). The authors then describe the potential utility of three mind-body interventions—mindfulness-based stress reduction (MBSR), loving-kindness meditation (LKM), and NTU psychotherapy—for specifically

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targeting the stress-, strength-, and contextually related factors that are thought to influence disparate outcomes for African American women. Self-awareness, self-care, inter- and intrapersonal restorative healing and a redefinition of inner strength may manifest through developing a mindfulness practice to decrease stress-related responses; using LKM to cultivate compassion and forgiveness for self and others; and the balance of independence and interdependence as a grounding NTU principle for redefining strength. The authors conclude with a discussion of potential benefits for integrating key aspects of the interventions with recommendations for future research.

Mind-body medicine, a component of complementary and alternative medicine (CAM), has become increasingly popular in scientific arenas and among the general population. Mind-body practices, which include meditation, yoga, acupuncture, breathing exercises, relaxation training, qigong, and tai chi, involve ''interactions among the brain, mind, body, and behavior, with the intent to use the mind to affect physical functioning and promote health'' (National Center for Complementary and Alternative Medicine [NCCAM], 2010, p. 9). The 2007 National Health Interview Survey (NHIS) ranked several mind-body practices among the top 10 CAM interventions used in the United States (Barnes, Bloom, & Nahin, 2008). Systematic reviews and meta-analytic research on mind-body interventions demonstrate the effectiveness of these techniques across a wide range of health outcomes, including headaches, chronic low back pain, insomnia, coronary artery disease, cancer symptomatology, and postsurgical adverse outcomes (Astin, Shapiro, Eisenberg, & Forys, 2003). Recent investigations of mind-body approaches have begun to focus on identifying the critical mechanisms of action to understand better how these interventions work (Carmody, Baer, Lykins, & Olendzki, 2009; Garland et al., 2010; Lutz, Brefczynski-Lewis, Johnstone, & Davidson, 2008; Sears & Kraus, 2009; Shapiro, Carlson, Astin, & Freedman, 2006). The physiological and emotional chain of events that occur as a result of mind-body practices, including relaxation, reduced sympathetic arousal, self-regulated present moment awareness, body awareness, positive reappraisal, and compassion for self and others, can lead to improvements in physical and psychological health and perceived quality of life (Astin et al., 2003; Brower, 2006).

Health Disparities

Despite the growing popularity and evidence for efficacy of these types of interventions, there is noticeably less research on the potential benefits of mind-body health interventions for a serious health care problem in the United States—health disparities. The National Institutes of Health (NIH) defined health disparities as ''differences in the incidence, prevalence, mortality, and burden of diseases and other adverse health conditions that exist among specific population groups in the United States'' (Carter-Pokras & Baquet, 2002, p. 430). The NIH has designated the following populations as health disparity populations: Blacks/African Americans, Hispanics/Latinos, Native Americans, Alaskan Natives, Asian Americans, Native Hawaiians, Pacific Islanders, and the medically underserved (e.g., individuals from the Appalachian region; NIH, 2006). Major explanations for health disparities include inadequate access to health care (financial, transportation, communication, and cultural issues) and substandard quality of care (e.g., patient–provider miscommunication and provider discrimination, prejudice, or stereotyping; National Partnership for Action, 2010).

Even in the context of adequate access to care, health disparities among ethnic groups remain (Smedley, Stith, & Nelson, 2002). A good proportion of research has been focused on describing

the phenomenon of health disparities, providing statistical evidence for disparate outcomes, and examining the potential causes of disparities (Betancourt, 2006). This research is important, because it highlights the significant problem and pervasiveness of health disparities and has resulted in funding initiatives to investigate potential solutions. Nevertheless, more research is needed to identify viable and feasible interventions to prevent and reduce health disparities (Betancourt, 2006). A growing body of research on health disparities highlights the influence of psychosocial and biopsychosocial processes on disparate health outcomes (Dressler, Oths, & Gravlee, 2005). Mind-body interventions specifically target these factors; therefore, it is worthwhile to examine the potential efficacy of mind-body practices as one approach to preventing or reducing health disparities.

In the current article, we examine the potential role of mind-body interventions for preventing or reducing health disparities in a specific group—African American women. We first discuss how health disparities affect this group. We then discuss empirical evidence regarding the influence of psychological stress and social context on disparate health outcomes among African American women. This discussion includes a description of how African American women's unique stress experiences as a result of distinct sociohistorical and cultural experiences related to race and gender potentially widen exposure to stressors and influence stress responses and coping behaviors. We specifically discuss how, for African American women, stress is affected by ''strength'' (vis-à-vis resilience, fortitude, and self-sufficiency) and how strength endorsement in the face of stress, may have both beneficial and deleterious health-related consequences. After detailing the unique stress experiences of African American women, we examine three mind-body interventions of potential usefulness for this population. Two of these—mindfulness-based stress reduction (MBSR) and loving-kindness meditation (LKM)—focus specifically on the mind-body practice of meditation, and a third, the NTU therapeutic framework, is a culturally derived intervention emphasizing meditation practice as well as several other key elements of holistic well-being. We describe how each of these mind-body therapies may be appropriate for specifically targeting the key psychosocial stress-, strength-, and contextually related factors that are thought to influence disparate outcomes for African American women. We conclude with recommendations for future research.

Health Disparities and African American Women

African American women experience a disproportionate burden of morbidity and mortality in the United States. A brief summary of a few health-outcome statistics highlights the disturbing phenomenon of health disparities. For example, 53% of African American women are obese compared to 32% of European American women (U.S. Department of Health and Human Services [DHHS], 2009a). Between 2003 and 2006, approximately 24% of African American women suffered from high blood pressure compared to 16% of European American women (DHHS, 2009b). African American women are less likely to receive diagnostic testing for breast cancer; however, they are 30% more likely to die of breast cancer compared to their European American counterparts (DHHS, 2005). African American women experience the highest rates of infant mortality, low birth weight, and preterm delivery compared to all other ethnic groups in the United States (Matthews & MacDorman, 2007). One in four African American women over the age of 55 years has type 2 diabetes; they are three times more likely to have lupus and three times more likely to have uterine fibroids compared to their European American counterparts (Office of Women's Health, 2010). Although African American women have lower rates of mental illness than European American women, only one in three receive mental health treatment (Office of Women's Health, 2010).

These statistics demonstrate a need for prevention, treatment, and resources toward solving health disparities (DHHS, 2005). In 2000, the U.S. Congress prioritized solving inequities in health by creating the National Center on Minority Health and Health Disparities [NCMHD], which has recently transitioned to the National Institute on Minority Health and Health Disparities [NIMHD]. The NIH

includes eliminating health disparities as part of their strategic plan by allocating research funding to reach these goals (NIH, 2006).

The Contribution of Stress to Health Disparities Among African American Women

Although the number of reports establishing African American women's disparate health outcomes is increasing, additional evidence is needed to establish how the social and cultural context of African American women's lives contributes to these health experiences. Empirically derived explanatory models of health disparities have described critical ecological and historical factors related to health inequities including social determinants of health (Marmot, 2005; Wilkinson & Marmot, 2003; Williams, Neighbors, & Jackson, 2003; Williams, Mohammed, Leavell, & Collins, 2010), the influence of social capital (or lack thereof) on health status (Kawachi & Berkman, 2001), and specific biopsychosocial processes such as allostatic load (McEwen, 1998). These frameworks provide evidence suggesting that the primary causes of population disparities are social and environmental and critique oversimplified genetic explanations (Marmot & Wilkinson, 2006; Williams et al., 2010); they also provide mechanisms and pathways through which distinct life experiences may contribute to distinct patterns of impairment in health (McEwen, 1998).

   The Commission on Social Determinants of Health [CSDH], established in 2005 by the World Health Organization (WHO), explored and noted in its final report, 10 areas that influence the social gradient in undesirable health outcomes (e.g., individuals with less resources live shorter lives); these include transportation issues, issues related to unemployment or underemployment, lack of social support, social exclusion, and – particularly germane to the subject of this article—psychological stress (CSDH, 2008; Marmot & Wilkinson, 2006). In the last two decades, evidence for the role of psychological stress on the health of African American women, in particular, has grown considerably (e.g., Black, Cook, Murry, & Cutrona, 2005; Giscombé & Lobel, 2005; Kwate, Valdimarsdottir, Guevarra, & Bovbjerg, 2003; Nuru-Jeter et al., 2009; Woods-Giscombé & Lobel, 2008). The behavioral and physiological consequences of stress—for example, neuroendocrine, cardiovascular, metabolic, and inflammatory effects—can influence a variety of health conditions (Glaser & Kiecolt-Glaser, 2005; McEwen, 1998). McEwen's allostatic load framework explicates the pathways through which accumulative psychological stress leads to chronic illness (McEwen, 1998). Clark, Anderson, Clark, and Williams (1999) modeled a biopsychosocial perspective of chronic stress and chronic illness specifically applicable to African Americans that highlights race-related stress as a key factor that specifically compounds African American's vulnerability to stress-related illness and contributes to health disparities among this group (Clark et al., 1999). Geronimus further identified the unique gendered experience of stress among African American women, explicating how societal factors related to both race and gender create ''weathering'' and a heightened stress-related risk for this group (Geronimus, 2001; Geronimus, Hicken, Keene, & Bound, 2006). Geronimus' ''Weathering Framework'' describes how African American women in the United States historically have experienced political, economic, and social exclusion, which has affected access to quality health care and resources to cope with multiple related stressors directly, creating undue mental and physical burdens that manifest in the form of health disparities (Geronimus, 2001; Geronimus et al., 2006). In summary, the intersection of race- and gender-related factors contributes to a double jeopardy for stress-related disparities among African American women.

Stress, Coping, and Health Disparities among African American Women: The Role of Strength

Issues related to race and gender create a unique stress experience for African American women, leading to unique coping patterns and strategies (Black, Murry, Cutrona, & Chen, 2009; Black & Peacock,

in press; Jackson, Phillips, Hogue, & Curry-Owens, 2001; Nuru-Jeter et al., 2009; Vines, Ta, Esserman, & Baird, 2009; Woods-Giscombé, 2010; Woods-Giscombé & Lobel, 2008). An emerging body of literature on stress, coping, and health among African American women identifies strength as an intriguing factor that may exacerbate the influence of stress on health outcomes in this population (e.g., Beauboeuf-Lafontant, 2007, 2009; Black & Peacock, in press; Mullings, 2006; Woods-Giscombé, 2010). Two independent but related frameworks, Superwoman Schema (SWS; Woods-Giscombé, 2010) and Strong Black Woman Script (SBW-S; Black & Peacock, in press; Black & Giscombé, 2009), describe this phenomenon and demonstrate that although strength can be a positive attribute, behaviors related to strength (e.g., emotional suppression, extraordinary caregiving, and self-care postponement) may jeopardize health. Before describing the potential role of mind-body interventions on stress- and strength-related health disparities, we present key elements of SWS and SBW-S to conceptualize the potential impact of stress and strength on the health status of African American women and to identify how mind-body interventions could be targeted.

Frameworks

The SWS Conceptual Framework

The SWS Conceptual Framework was developed as a result of two research studies with demographically diverse samples of African American women (Giscombé, 2005; Woods-Giscombé, 2010; Woods-Giscombé & Lobel, 2008) and explicates characteristics, antecedents, and outcomes of "strength" (vis-à-vis resilience, fortitude, and self-sufficiency) (Woods-Giscombé, 2010). According to the SWS framework, historical and sociocultural events in the United States related to gender and race have resulted in the development of characteristics among African American women that manifest as a superwoman role. More specifically, this framework explicates that factors such as a historical legacy of racial or gender stereotyping or oppression, lessons from foremothers about how to manage these experiences, a past history of disappointment or abuse, and spiritual values all contribute to the development of the SWS and role manifestation. Characteristics of this superwoman role are (a) an obligation to manifest an image of strength; (b) an obligation to suppress emotions; (c) resistance to being vulnerable or dependent; (d) determination to succeed, even in the face of limited resources; and (e) an obligation to help others. Among African American women who endorse the existence of this SWS role, there is a perception that this role is both beneficial and detrimental. The SWS characteristics help women in regard to preservation of self, family, and community. Otherwise stated, SWS is a survival tactic. However, African American women have acknowledged that the detrimental aspects of SWS may outweigh the good. A schema of strength in the quest for survival also may lead to conflict in interpersonal relationships, delayed self-care, emotional eating, inadequate sleep, and stress embodiment, including psychological distress, anxiety, depression, and impaired physical health such as undesirable maternal health outcomes (Woods-Giscombé, 2010).

The SBW-S

A similar but independently developed conceptual framework, the SBW-S, addresses the intersection of "strength performances," daily life management, and African American women's health. Research on the SBW-S and its influence on Black women's health is grounded in two seminal studies. The first study established the basic and complex pathways through which two daily life management behaviors, coping, and role management, influenced the linkages between stressors and African American women's mental and physical health (Black et al., 2009). The second study linked characteristics of the SBW, a behavioral script of "strength" (e.g., *self-reliance*, *self-sacrifice*, and *self-silence*) adopted for survival in racist and sexist contexts, to African American women's daily life management behaviors (e.g., coping, role management, and self-care) and health outcomes

(Black & Peacock, 2008; Black & Peacock, in press). These findings revealed that effective coping and role responsibilities can reduce the effects of stress on the mental and physical health of African American women (Black et al., 2009) while, conversely, ''strength performances'' for daily life management, particularly hypervigilant role management, emotional suppression, and limited self-care, can compromise African American women's mental health and wellness (Black & Peacock, in press).

These two frameworks, SWS and SBW-S, explicate the intersection of stress and strength with health among African American women and are related closely to the concept of John Henryism (sociohistorically influenced high effort coping among African Americans that results in poor health; James, Hartnett, & Kalsbeek, 1983). However, rather than adapting John Henryism to reflect a ''*Jane Henryism*'' mode of coping for African American women, SWS and SBW-S are gender-specific frameworks that emphasize unique gender-normed nuances of stress experiences and strength obligations of African American women: caregiving obligations, difficulty saying no, an obligation to suppress emotions, and postponement of self-care (Black & Peacock, in press; Woods-Giscombé, 2010). The antecedents and contributing factors of a gender-critical model of high-effort coping as it relates to African American women might include surviving despite challenges associated with single motherhood, protecting the well-being of African American children, personal experiences with mistreatment or abuse, and interpersonal and gendered challenges related to pursuing advanced education or professional goals (Black & Peacock, in press; Woods-Giscombé, 2010).

The Need for Solution-Oriented Research

The Potential Usefulness of Mind-Body Interventions

The need for intervention is apparent for the phenomenon of stress, strength, and health among African American women. Characteristics of an appropriate intervention include addressing stress and its influence on health by incorporating stress management techniques as well as techniques to encourage health promotion and self-care through the development of self-awareness and self-compassion (Woods-Giscombé & Black, 2010). Such stress management interventions could provide tools and practices to facilitate interruption or prevention of physiologic and behavioral responses to stress that have the potential to result in undesirable acute or chronic health conditions. In addition, appropriate interventions would address psychosocial dynamics related to stress, including interpersonal strain related to emotional responses to life experiences in the past (e.g., disappointment, resentment, and guilt). Useful interventions would facilitate the resolution of potentially health impairing emotional states and the cultivation of compassion for others.

Mind-body interventions incorporate practices that address biopsychosocial elements of health and could be appropriate particularly for addressing key issues with relevance for African American women facing disproportionate stress-related morbidity and mortality. Just as the stress experiences of African American women are unique and complex, mind-body interventions have unique and complex effects on physical, emotional, cognitive, and psychosocial processes (Astin et al., 2003). There are only limited examples of research focused specifically on investigating the potential efficacy of mind-body interventions for African Americans. A handful of studies have examined mind-body practices such as progressive muscle relaxation and yoga for health conditions such as pregnancy, breast cancer, HIV, and hypertension in African Americans (Andrade & Anderson, 2008; Jallo, Bourguignon, Taylor, & Utz, 2008; Moadel et al., 2007; Pullen et al., 2009). A research program based at the University of Iowa has demonstrated the benefits of transcendental meditation, which involves focusing on a mantra (or purposeful and silent word or phrase) to quiet the mind and promote relaxation, for improving blood pressure management (reduced blood pressure and reduced need for blood pressure medication) among African Americans with hypertension (Schneider et al., 2005). These researchers have investigated the potential of mind-body interventions to reduce stress

but have not examined specific psychosocial, cultural, and interpersonal aspects of stress that are posited to influence current disparities in health.

In the following sections, we will examine three mind-body interventions that have the potential to address these factors specifically; first we will examine two distinct types of meditation practice (MBSR and LKM). Then we will explore a less well-known, culturally derived intervention that includes meditation as a critical component (the NTU therapeutic framework). We will provide an overview of each mind-body intervention and discuss the potential contextual relevance of each for stress- and strength-related health outcomes among African American women.

MBSR

One particular type of mind-body intervention, mindfulness meditation, has been studied extensively to understand its effects on health promotion and symptom management across a variety of health conditions (Arias, Steinberg, Banga, & Trestman, 2006). According to NCCAM, meditation is a ''conscious mental process using certain techniques—such as focusing attention or maintaining a specific posture—to suspend the stream of thoughts and relax the body and mind to increase calmness and relaxation, improve psychological balance, cope with illness, or enhance overall health and well-being'' (NCCAM, 2010, p. 9). Mindfulness is a meditative practice that involves purposeful, nonjudgmental attention to the present moment with focus on the breath, thoughts, emotions, sensory perceptions, and physical sensations in the body (Bishop, 2002; Kabat-Zinn, 1994). Mindfulness practice helps individuals improve their lives by learning to relate directly to current life experiences. Instead of pushing away or denying feelings that are considered negative such as stress, pain, illness, or other life challenges or demands, mindfulness practice encourages conscious and systematic awareness of these experiences as a pathway to restoring health and well-being while engaging purposeful cognitive, behavioral, and physiological reactivity (Bishop, 2002; Garland, Gaylord, & Park, 2009; Kabat-Zinn, 1994).

One of the most popular clinical applications of mindfulness is MBSR (Kabat-Zinn, 2005); it was developed as a nonreligious, clinical intervention by Jon Kabat-Zinn at the University of Massachusetts Medical School in 1979. The traditional MBSR program involves 8 weekly 2.5-hour classes with training in meditation (seated, walking, and eating), gentle stretching, mindful yoga, body scan, group discussions, and daily homework. In-class and home practices are guided by an experienced instructor and assisted by an MBSR manual and practice CDs. The MBSR classes facilitate the cultivation of seven foundational attitudes including (a) nonjudgment, or becoming an impartial witness to one's own experiences; (b) patience, or allowing experiences to unfold in their own time; (c) beginner's mind, a willingness to see everything as it is for the first time; (d) trust, in one's intuition an authority and being oneself; (e) nonstriving, having no goal other than meditation itself; (f) acceptance of things as they actually are in the present moment; and (g) not censoring one's thoughts and allowing them to come and go (Kabat-Zinn, 2005).

The NIH and other agencies have provided funding support to investigate the health benefits of MBSR. Accumulating research evidence supports the efficacy of mindfulness for a multitude of physical health conditions including cancer, chronic low back pain, rheumatoid arthritis, type 2 diabetes, and coronary artery disease (Carmody & Baer, 2008; Grossman, Niemann, Schmidt, & Walach, 2004), and irritable bowel syndrome (Gaylord et al., 2009). A growing body of research also demonstrates the effectiveness of MBSR for mental health conditions including anxiety, disordered eating, psychological stress, sleep disturbance, attention deficit hyperactivity disorder, recurrent depression, substance abuse, intrusive thoughts, family well-being, maternal prenatal stress, and relationship strain (Carmody & Baer, 2008; Grossman et al., 2004; Winbush, Gross, & Kreitzer, 2007).

Despite this growing evidence of the health benefits of MBSR, more randomized-controlled studies are needed, as well as studies to determine the mechanism of action of the components of

MBSR in regard to specific physiological, behavioral, and cognitive pathways that influence health outcomes (Astin et al., 2003; Carmody et al., 2009; Garland & Gaylord, 2009; Greeson, 2009; Shapiro et al., 2006). Furthermore, more research is needed with individuals from diverse ethnic and socioeconomic backgrounds to determine feasibility, cultural relevance, and acceptability of MBSR training.

Specific value for reducing stress-and strength-related risk among African American Women. Several elements or key characteristics of mindfulness in the MBSR tradition would be useful for reducing risk for health disparities among African American women related to stress and strength. First and foremost, MBSR is an empirically supported, stress management intervention that can be used directly to reduce stress. As previously described, the unique stress experiences of many African American women are influenced by institutionalized psychosocial factors that are often chronic and pervasive (e.g., race- and gender-related stress, multiple family and community responsibilities due to sociohistorical and cultural dynamics, and economic strain). Mindfulness can target normal, but potentially debilitating, emotional reactions to systemic psychosocial stressors. It has been argued that system-wide health policy changes are needed to solve the social determinants of health and that focusing on person-centered interventions places unfair burden on individuals to change despite obvious structural odds (King et al., 2008; Satcher, 2010). Unlike health-policy-related interventions that seek to change the underlying social causes of health disparities, mindfulness is person-centered and helps individuals examine and adapt emotional reactivity that might influence physiologic and behavioral responses and produce undesirable health outcomes.

Both types of interventions, policy and person-centered, are needed. However, without person-centered approaches, individuals could be left floundering and without adequate support or resources to manage multiple sources of stress while waiting for system-wide social and structural changes to be executed. Enduring and exhibiting strength to survive during the relatively long process of social change can contribute to the disproportionate rates of morbidity and mortality that currently exist. The questions are: What can be done now? and What can buffer the potentially negative impact of stress and strength?

African American women may recognize the benefits of strength endorsement but may be less aware of the ways that stress and strength affect their health. The practice of mindfulness can enhance awareness of habitual patterns of responding to stress (e.g., worry, catastrophizing, rumination, and guilt) and can result in the interruption of psychophysiological processes that result from chronic stress, as well as health behaviors that are used to cope (e.g., sedentary behavior as a means of resting from overexertion and tobacco or other substance use to numb undesirable emotions). Exercises in MBSR, such as sitting meditation and the body scan, can give African American women (who are often consumed by caring for the needs of others) a restorative and imperative time-out to quiet the mind and restore balance.

As posited by the SWS and SBW-S frameworks, undesirable emotions may be suppressed because of perceived obligation to present an image of strength. Instead of inhibiting emotions, which can have unintended effects on cardiovascular and immune health (Krieger, 1990; Steffen, McNeilly, Anderson, & Sherwood, 2003), the nonjudgmental awareness of emotions and thoughts emphasized in mindfulness practice can lead to an unbiased, nonjudgmental self-acceptance. The resulting cultivation of inner peace and personal fortification can lead to the embodiment of strength in ways that have more health promoting, rather than health deprecating, effects. For example, developing a practice of mindful eating may reduce the potential use of food as an emotional response to stress (Kristeller & Hallett, 1999; Mathieu, 2009). Practices such as mindful walking and mindful yoga can enhance tranquility, as well as promote physical activity, thus promoting a sense of well-being and reducing risk for weight-related outcomes.

LKM

LKM is a quiet, contemplative, mind-training practice used to cultivate positive emotions, including friendliness, warmth, caring, joy, equanimity, and compassion (Salzberg, 1995). Through this practice, feelings of anger, resentment, and anxiety can be released. Practitioners of LKM are first taught to generate feelings of warmth and compassion by getting in touch with positive emotions that they feel toward a particular loved one or situation. Purposeful attention is placed on directing the generated loving acceptance and positive emotions toward specific types of individuals including (a) oneself; (b) a respected, beloved person (such as a spiritual teacher); (c) a dearly beloved person (such as a family member or friend); (d) a neutral acquaintance (e.g., someone you know but do not have particularly special feelings for like a cashier at the grocery store); (e) a stranger; (f) a hostile person (e.g., someone with whom a person has had or currently has difficulty); and (g) the entire universe. Various techniques are used to arouse feelings of loving-kindness, including visualizing oneself or the person smiling or being joyous, reflecting on the positive qualities of the person, and using brief mental phrases, or mantras, to cultivate positive emotions (Salzberg, 1995).

Randomized clinical research has demonstrated that the practice of LKM has significant and desirable effects, such as decreased chronic low back pain, reduced psychological distress, reduced anger, and increased social connectedness (Carson et al., 2005; Hutcherson, Seppala, & Gross, 2008). There is also evidence that through the cultivation of positive emotions with LKM practice, individuals experience decreased illness symptoms as well as an increase in a broader range of personal resources such as social support, purpose in life, and increased mindfulness (Fredrickson, Cohn, Coffey, Pek, & Finkel, 2008), which predicted greater life satisfaction and reduced symptoms of depression.

Specific value for reducing stress- and strength-related risk among African American women. LKM may have specific value for reducing stress- and strength-related health risk among African American women, particularly risk factors influenced by strained interpersonal relationships with others and by disconnected relationship with oneself as a result of habitual other-referent care. In regard to relationships with others, the focus group research conducted to develop the SWS framework revealed how impaired relationships both influenced and resulted from stress. Women discussed past histories of being disappointed, let down, or even mistreated or abused by persons who were supposed to love or support them. Women described impaired relationships with parents, significant others, and even teachers or so-called mentors who instilled fear, self-doubt, or mistrust. These less-than-desirable relationship experiences left some women with feelings of resentment, anger, and guilt that transferred into potentially debilitating self-reliance, self-shielding from future experiences of vulnerability, and isolation resulting from fear of getting hurt or disappointed by the broken promises or mistreatment of others (Woods-Giscombé, 2010).

In regard to relationships with self, both the SWS and the SBW-S research revealed that as a result of women's caregiving activities and ambitious, goal-oriented striving, they were neglecting themselves (Black & Peacock, in press; Woods-Giscombé, 2010). Women voiced that they had lost touch with their own needs, wants, and desires (Black & Peacock, in press; Woods-Giscombé, 2010). Women recognized that negative emotions resulting from past experiences, combined with the habitual practice of forsaking their own personal needs, were limiting their potential for creating and sustaining healthy relationships, self-care practices, and overall health functioning in the future. They also realized that they were not being nurtured, either by others or by themselves, in ways that promoted health. LKM could play a critical role in helping African American women with releasing potentially debilitating emotions and moving beyond past feelings of hurt, through contemplative practice and cultivation of compassion and forgiveness for those who caused them harm as well as self-compassion and self-forgiveness. This practice could help women put down the heavy load of emotions that limit their potential for optimal happiness and peace. The practice could also

reconnect women with their own needs and facilitate the freeing up of energy for self-care and the freeing up of space for more healthy relationships. LKM can help women to examine the possibilities of peace, health, safety, trust, fulfillment, and harmony.

NTU Intervention

It is well accepted that the ideal approach for delivering psychosocial health interventions to diverse groups should include an emphasis on culturally sensitive as well as culturally relevant intervention components for the population to whom it is being delivered (e.g., Betancourt, 2006; Longshore, Grills, & Annon, 1999; Myers, 1992; Myers & Speight, 2010). Despite the universal potential of mindfulness and LKM interventions, it may be promising to explore mind-body, psychosocial interventions for stress and strength-related risk factors that are culturally centered or culturally derived to address the specific contextual issues of the target population—in this case, African American women.

One such culturally derived mind-body intervention is called NTU Psychotherapy. NTU (pronounced "in too") is a concept that originates from the Bantu people of Central Africa. The term NTU refers to the universal and unifying vital life force and spiritual essence at the core of all physical existence (Phillips, 1990, 1998). The concept of NTU is similar to the concepts of *qi* or *prana*. According to the NTU philosophy, the uniting force of NTU connects all living beings to one another and with all other forms of existence, linking the immaterial (intrinsic) with the material and social (extrinsic) factors. These factors influence the manner in which human beings respond to challenges of daily living (Phillips, 1990). NTU emphasizes the unity of mind, body, and spirit (Davis & Clarke, 2010). The four major principles of NTU are harmony, balance, interconnectedness, and authenticity (Phillips, 1990). According to the NTU philosophical system, mental health and wellness are defined by intrapersonal and interpersonal (including environmental) harmony. In addition, the balance of conflicting forces, also referred to as the "centering of the spirit and energy" (Gregory & Harper, 2001, p. 14), is an essential component of health. In NTU, the principle of interconnectedness emphasizes the high value of interpersonal and spiritual relationships and sensitivity to the environment, which promotes an awareness of interdependence. According to the NTU philosophy, the authenticity of individuals promotes the success of interpersonal relationships. Authenticity is based fundamentally on self-knowledge and includes cultural awareness as an important first step (Phillips, 1990).

The therapeutic elements of NTU are grounded in the Nguzo Saba, the seven principles of Kwanzaa (Karenga, 1977). Wynn and West-Olatunji (2008) provide an excellent and concise description of how the Nguzo Saba principles are incorporated in the NTU framework to promote harmony, authenticity, interconnectedness, and balance.

1. Umoja, or unity, promotes the examination of personal barriers to closeness.
2. Kujichagulia, or self-determination, promotes empowerment, cultural awareness, and awareness of one's own potential.
3. Ujima, or collective work and responsibility, emphasizes the important balance between self and others in regard to accomplishing goals.
4. Ujamaa, or cooperative economics, emphasizes awareness of team work to achieve economic success and resilience.
5. Nia, or purpose, emphasizes the importance of direction, meaning of life, and following one's intuition or internal voice.
6. Kuumba, or creativity, emphasizes the importance of balancing feeling and sensing with thinking in order to contribute positively to our communities.
7. Imani, or faith, emphasizes an awareness of mind, body, spirit, and interpersonal interconnectedness and harmony.

The NTU model has been used to guide successful, innovative, and sustainable psychotherapeutic programming that has spanned across three decades (Gregory & Harper, 2001). This cultural and spiritual framework has been used to guide clinical behavioral health care, substance abuse treatment, parent training, adolescent development programs, family counseling, and foster care programming (e.g., Cherry et al., 1998; Garrett & Jackson, 2010; Gregory, 1997; Gregory & Harper, 2001; Wynn & West-Olatunji, 2009). While the foundation of NTU is grounded in African or African American traditions and principles, NTU has applicability to individuals from diverse backgrounds. This is similar to the universality of MBSR or LKM, which have grounding in Eastern spiritual principles. The NTU therapeutic approach can be used to address characteristics of SWS and SBW-S. Like mindfulness, LKM, and NTU place a great deal of emphasis on the importance of meditation for developing harmony and well-being.

Specific value for reducing stress- and strength-related risk among African American women. Several elements or key characteristics of NTU are potentially useful for reducing risks for health disparities related to stress and strength among African American women. Key therapeutic tasks of NTU include becoming more aware of the following: psychological barriers, self-barriers for closeness, the importance of positive regard for self, balancing the *I* and *we*, sharing resources to promote balance, and the importance of cultivating relaxation and calmness. These therapeutic tasks are achieved through techniques such as meditation, prayer, nature study, role playing, reframing, guided imagery, and the use of family drawings and genograms (Phillips, 1990). This comprehensive therapeutic system can be used to target the key elements of SWS and SBW-S, including a woman's perceived obligation to be self-sufficient, suppress emotions, resist vulnerability, and neglect self-care.

NTU can enhance awareness of these behaviors and schemas that may, to borrow terms from MBSR, be a result of women living in the mode of *automatic pilot* (Kabat-Zinn, 2005). Women may not know how their actions are having unintended effects on their emotional well-being and overall health. If they are aware, they may feel unsure about how to stop the auto-pilot cycle, because the schema of strength and experiences of stress have become ingrained in their existence (Black & Peacock, in press; Woods-Giscombé, 2010). NTU's emphasis on enhancing awareness of family and cultural patterns can target the antecedents of SWS and SBW-S. Furthermore, the NTU therapeutic tasks of increasing awareness of self-barriers to closeness, reframing interconnectedness, and exploring the role of cooperation among individuals may help women to work through past undesirable interpersonal experiences that resulted in excessive self-reliance. With NTU, the concept of strength can be reframed and not discarded. Instead of strength being manifested through workaholism, self-silencing, self-sacrifice, interpersonal isolation, or excessive caregiving to the point of self-neglect and illness, NTU promotes an awareness and cultivation of inner strength that is grounded in wellness, wholeness, harmony, and self-defined authenticity. The emphasis on self-care is not intended to suggest that independence should eclipse family and community engagement or interdependence. The NTU framework includes therapeutic tasks that nurture and honor the importance of both.

Directions for Future Research

The MBSR, LKM, and NTU interventions have clear theoretical relevance for stress- and strength-related health disparity risk among African American women. By far, of the three mind-body approaches to health and mindfulness, MBSR has received the most empirical support. More research is needed to demonstrate the general efficacy of LKM and NTU, and more empirical evidence is needed to determine the specific efficacy of all three interventions for African American women at risk for stress- and strength-related health outcomes. Even though the elements of each

intervention seem to be a good match for ameliorating the individual factors associated with stress-related health disparities, researchers will need to examine if these interventions are acceptable among the target population (Betancourt, 2006).

An initial inclination may be to compare each intervention to determine which works best at promoting well-being among African American women. However, it is reasonable to consider how training in all three types of mind-body interventions might have beneficial effects, specifically since each intervention has unique strategies and practices to enhance well-being that are complementary to the other. MBSR could be used to help cultivate a meditation practice, develop non-judgmental awareness of thoughts, feelings, and behaviors, and develop sacred space and time for quietness without distraction from excessive worry, to-do list tasks, and self-defeating thought processes. LKM could be used to nurture compassionate relationships with others, cultivate virtues such as forgiveness for past painful life experiences, and generate emotions that result in self-love and self-care. The NTU therapeutic framework could be used to help individuals process and work through cultural, historical, familial, psychosocial, and individual factors that could either impede or promote holistic well-being. In sum, MBSR, LKM, and NTU could potentially represent an integrative and culturally responsive intervention that promotes mind-body awareness, equanimity, inter- and intrapersonal harmony, and comprehensive wellness among African American women embodying the role of strength.

Conclusion

This is an exciting time in the realm of empirical research because of the emphasis on biopsychosocial approaches to health and health care, the focus on reducing and eliminating health disparities through investigating contextual antecedents and culturally relevant interventions, and the growing acceptance and research support for mind-body interventions and holistic pathways to health. Research approaches, such as community-based participatory research, also show promise in developing acceptable, feasible, and sustainable strategies that will reduce disparities and help individuals live healthier lives. These initiatives and research foci provide an excellent opportunity to examine a social determinant of health that is at the same time simple and complex: stress. For African American women, stress is multifaceted, influenced by race and gender, and complicated through intrinsic, extrinsic, and sociohistorically derived messages that encourage strength, emotional suppression, self-reliance, and self-sacrifice. Despite the complex nature of stress for this population, mind-body approaches, specifically MBSR, LKM, and NTU, exhibit clear promise in promoting health and well-being.

Declaration of Conflicting Interests

The author(s) declared no conflicts of interest with respect to the authorship and/or publication of this article.

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Bios

Cheryl L. Woods-Giscombé, PhD, RN, is an Assistant Professor at the School of Nursing, The University of North Carolina at Chapel Hill, and a psychotherapist at CAARE, Inc., a non-profit, community health center in Durham, NC. She completed her PhD in Social and Health Psychology at Stony Brook University in 2005. Her program of research focuses on understanding and reducing stress-related health disparities. Her research incorporates sociohistorical and biopsychosocial perspectives to investigate how stress and coping strategies contribute to psychological and physical health outcomes. She has particular interests in conceptualizing stress and coping to measure their impact on health disparities and in the potential of holistic approaches to mental and physical health interventions. She is currently a principal investigator on an NIH-funded research study on mindfulness meditation and diabetes prevention. Her theoretical framework, Superwoman Schema, examines the associations between stress, "strength" (fortitude, resilience, and self-sufficiency), self-care, and health among African American women. She is dually trained in psychology and mental health nursing. She completed a BA in psychology from North Carolina Central University and a BSN from Stony Brook University in New York. She earned MA and PhD degrees in social and health psychology from Stony Brook University and a MSN from the psychiatric mental health nurse practitioner/clinical nurse specialist program at the University of North Carolina at Chapel Hill. She is a board certified psychiatric-mental health nurse practitioner, and she is certified in holistic health from the Institute of Integrative Nutrition in Manhattan, New York. In addition, she completed postdoctoral training at UNC Chapel Hill funded by the National Institutes of Health (National Institute of Nursing Research and the National Center on Minority Health and Health Disparities) and the Substance Abuse and Mental Health Services Administration Minority Fellowship Program in collaboration with the American Nurses Association). She was selected as a "Leader in the Field" by the American Psychological Association when she was awarded the Carolyn Payton Early Career Award.

Angela R. Black, PhD, is an Assistant Professor in the Department of Kinesiology and Community Health at the University of Illinois at Urbana-Champaign. She has completed her PhD in Child and Family Development at the University of Georgia in 2006. Her program of research includes exploring linkages between stress and health in African American women, social determinants of mental and physical health disparities among African American women, deconstructing stigma surrounding mental health illness in the African American community, and cultural competence skills and awareness of health practitioners. She was recently awarded the Mentored Research Scientist Development Program award (K12), an initiative of the Building Interdisciplinary Careers in Women's Health (BIRCWH) program through the National Institute of Health. She will explore linkages among gender norms and expectations and African American women's preventive health care decision-making processes. Specifically, she is interested in learning how African American women's gendered experiences, particularly the gender performance of strong Black womanhood, is linked to their strategies for daily life management, and, ultimately, their decisions to engage in preventive screenings, medical adherence, follow-up appointments, and basic self-care. These findings will further inform her developing model of the "strong black woman" script that positions traits such as self-reliance, self-sacrifice, and self-silence as a survival modality for living in discriminatory environments. She is trained as a gender-critical health disparities scientist with a special emphasis on the health and wellness of African American women in the context of the family. She completed a BS in psychology from Tulane University, and a MS and PhD in Child and Family Development at the University of Georgia. In addition, she completed postdoctoral training in public health at the University of Illinois at Chicago (funded by the Centers for Disease Control).