



**Integrating Biopsychosocial Determinants of Health
to Develop and Implement
Culturally-Sensitive Care for Women:
An Example of “Harmony” Research with
African American Women**

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“Of all the forms of inequality, injustice in health is the most shocking and inhumane.”

– Dr. Martin Luther King, Jr., 1966



Call to Action

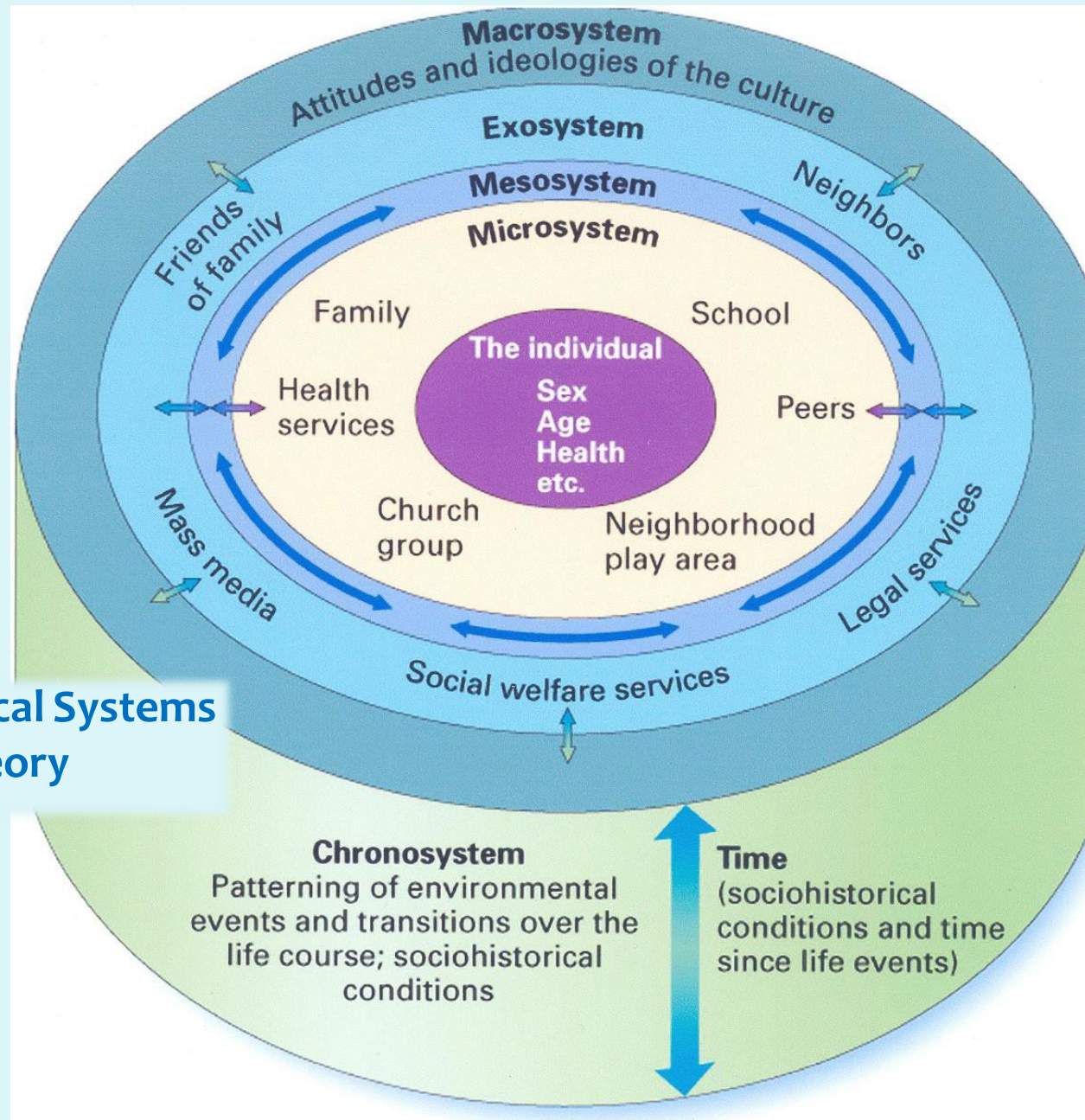


- * **“Of all the forms of inequality, injustice in health is the most shocking and inhuman.” – Dr. Martin Luther King, Jr., 1966**

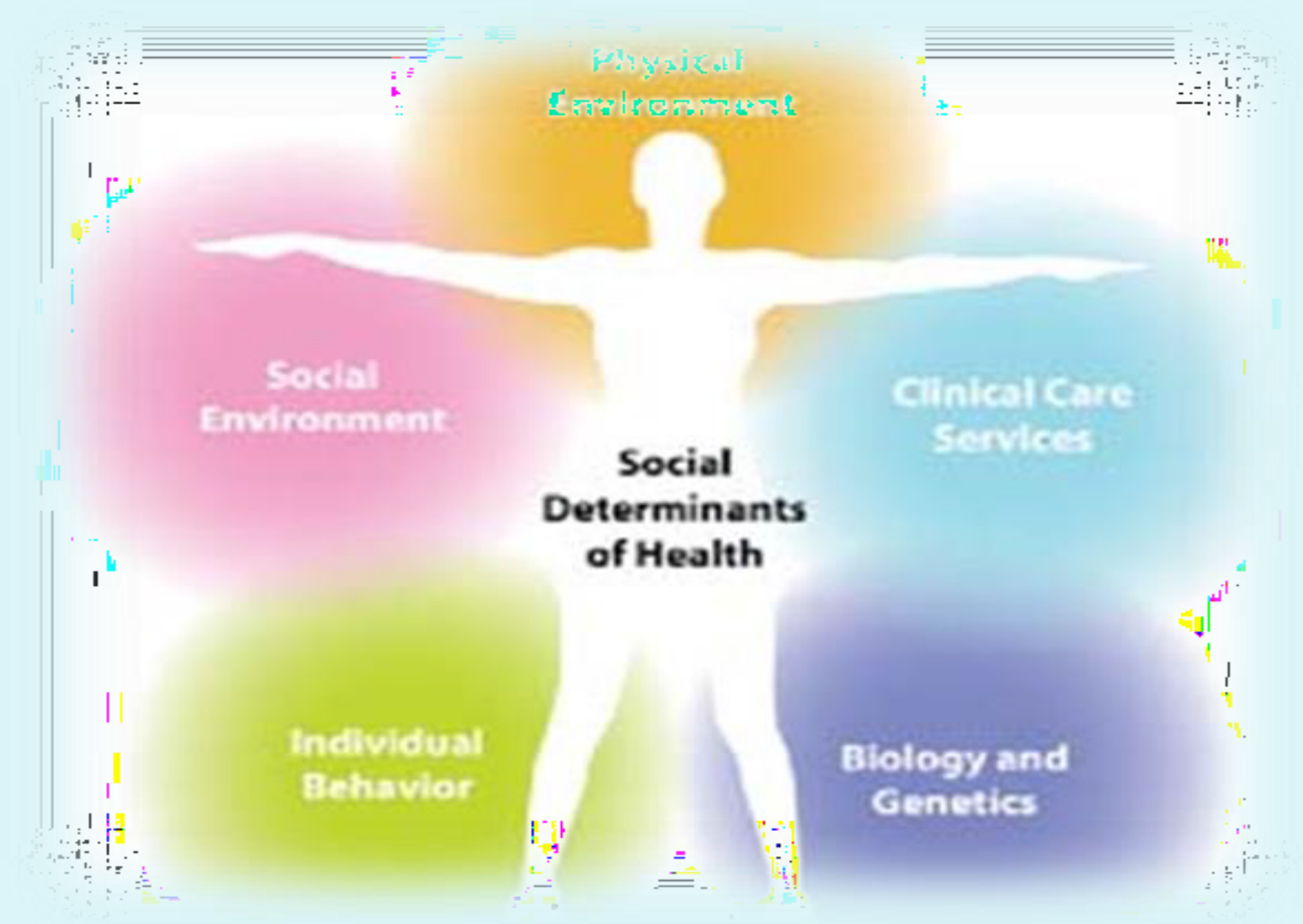


- * **“Without mental health there can be no true physical health” -- Dr Brock Chisholm, first Director-General of the World Health Organization (WHO, 1954)**

Bioecological Systems Theory

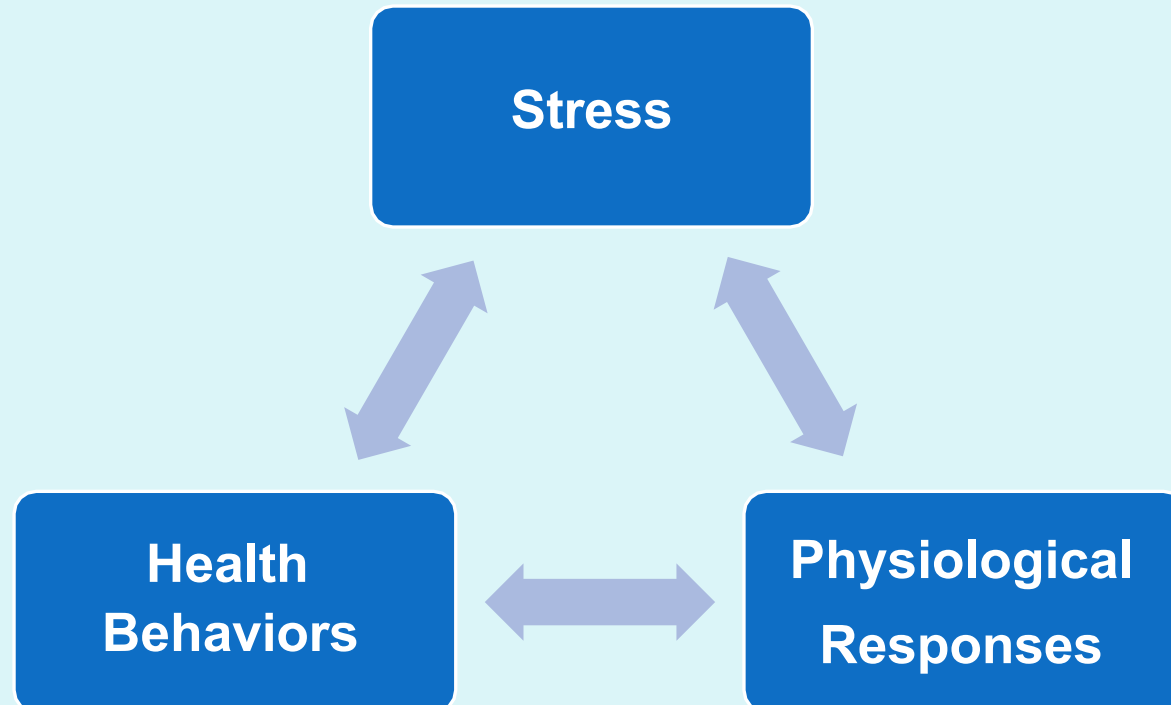


Women and Chronic Health Conditions



Women and Chronic Health Conditions

One of the major **social determinants of health** is psychological stress.



Women and Chronic Health Conditions

According to the US Department of Health and Human Services, women of color, and African American women in particular, experience disproportionately high rates of morbidity and mortality related to various health conditions.

- ❖ **Cardiovascular disease**
- ❖ **Obesity**
- ❖ **Lupus**
- ❖ **Diabetes**
- ❖ **Cancer**
- ❖ **Uterine Fibroids**
- ❖ **Adverse birth outcomes**
- ❖ **Mental illness morbidity**
- ❖ **Mental health service utilization**

Bioecological Model
(Bronfrenbrenner)

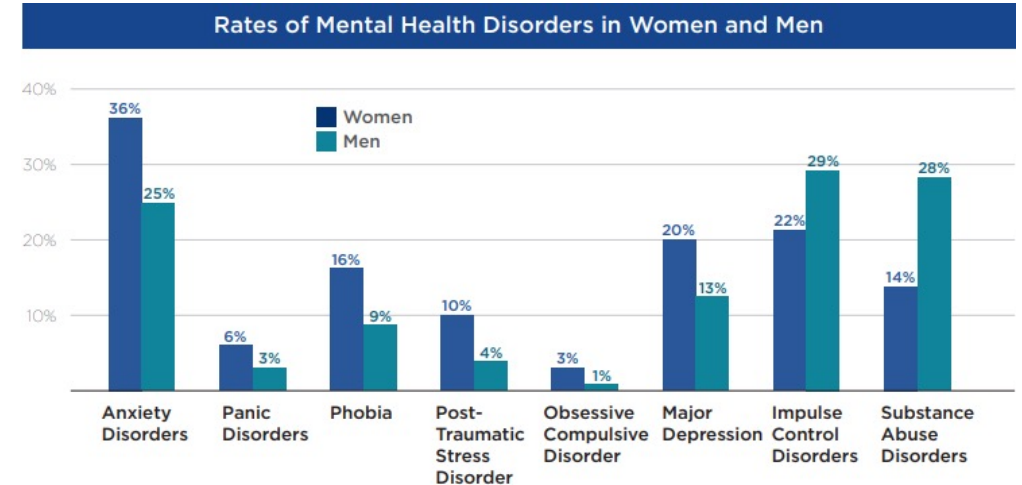
Weathering Hypothesis
(Geronimus)

Allostatic Load
(McEwen)

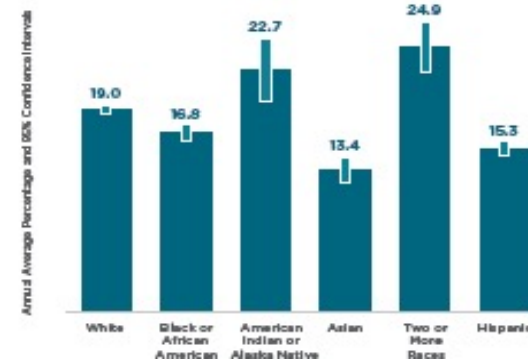
**Environmental Affordances
Model**
(Mezuk/Jackson)

Mental Health Disparities in the US

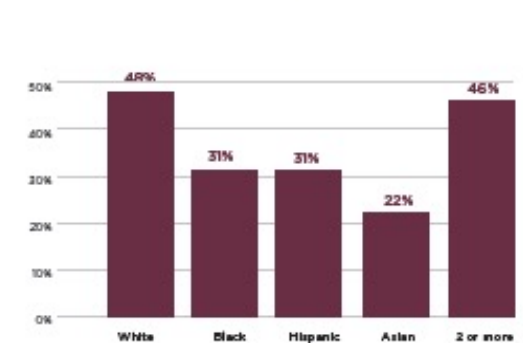
- Annually, approximately 18% of US adults have a diagnosable mental disorder – about 4% of adults have a serious mental illness.
- Mental and behavioral disorders, in the US, are among the leading causes of disability accounting for 13.6% of all years of life lost to disability and premature death.
- Although rates of depression are lower in African American/Blacks (24.6%) and Hispanics (19.6%) than in whites (34.7%) - minority groups are more likely to experience risk factors that can cause mental health disorders and illness is more likely to be persistent.
- People from racial/ethnic minority groups are less likely to receive mental health care.
 - Social mechanisms contributing to mental health services access and utilization disparities for diverse racial/ethnic groups include:
 - Stigma about mental health issues
 - Lack of insurance/financial and logistical barriers
 - Racism, provider bias/cultural microaggressions
 - Language barriers
 - Lack of workforce diversity
 - Geographic access barriers
 - MH system weighted towards White values/norms



Any Mental Illness In the Past Year among Adults, by Race/Ethnicity, 2008-2012



Among People with Any Mental Illness, Percent Receiving Services, 2015



Source: Substance Abuse & Mental Health Services Administration, Racial/Ethnic Differences in Mental Health Service Use Among Adults 2015. Substance Abuse & Mental Health Services Administration, National Survey on Drug Use & Health, 2008-2015. US Census, Quick Facts: Population Estimates 2016.

Inaccessibility of High-Quality Mental Health Services

Health Professional Shortage Areas: Number and Types of Providers Needed for Geographic Areas

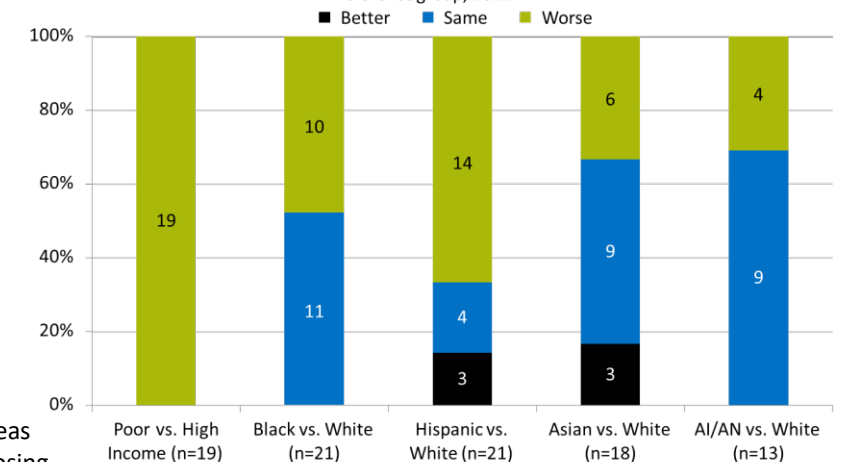
	Number of Designations ⁽¹⁾	Population of Designated HPSAs ⁽²⁾	Percent of Need Met ⁽³⁾	Practitioners Needed to Remove Designations
Primary Medical HPSA Totals	7,447	83,711,000	46.16 %⁽⁴⁾	14,858⁽⁷⁾
Geographic Area	1,372	33,779,317	60.51 %	4,090
Population Group	1,876	48,949,954	37.93 %	10,108
Facility	4,199	981,729	31.72 %	660
Dental HPSA Totals	6,678	61,899,714	30.78 %⁽⁵⁾	10,822⁽⁶⁾
Geographic Area	613	12,278,549	55.12 %	1,249
Population Group	1,941	48,570,593	25.21 %	9,073
Facility	4,124	1,050,572	30.19 %	500
Mental Health HPSA Totals	5,930	129,640,558	28.09 %⁽⁴⁾	6,559⁽⁴⁾
Geographic Area	1,070	86,353,660	31.69 %	3,612
Population Group	588	41,934,927	17.41 %	2,430
Facility	4,272	1,351,971	41.88 %	517

- According to the surgeon general, “despite the existence of effective treatments, disparities lie in the availability, accessibility and quality of mental health services for racial and ethnic minorities.”
- A recent report by the Kaiser Family Foundation indicates that less than 50% of the mental health care needs of residents of most states have been met due to mental health care professional shortages.
- Given, mental and behavioral health is a critical and frequently un-/under-addressed need in racial/ethnic minority communities, closing the gap in care, even in HPSA regions, requires increased collaboration to prioritize adequate provision of culturally and linguistically appropriate services.

“The federal government has a critical role to play in addressing the issue of racial and ethnic disparities in mental health status and mental health care.”

~ American Psychological Association

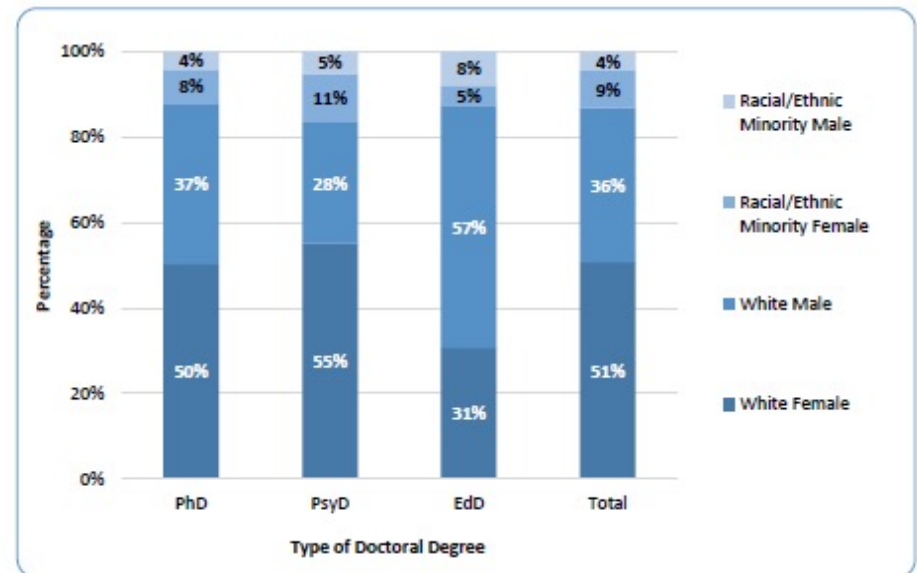
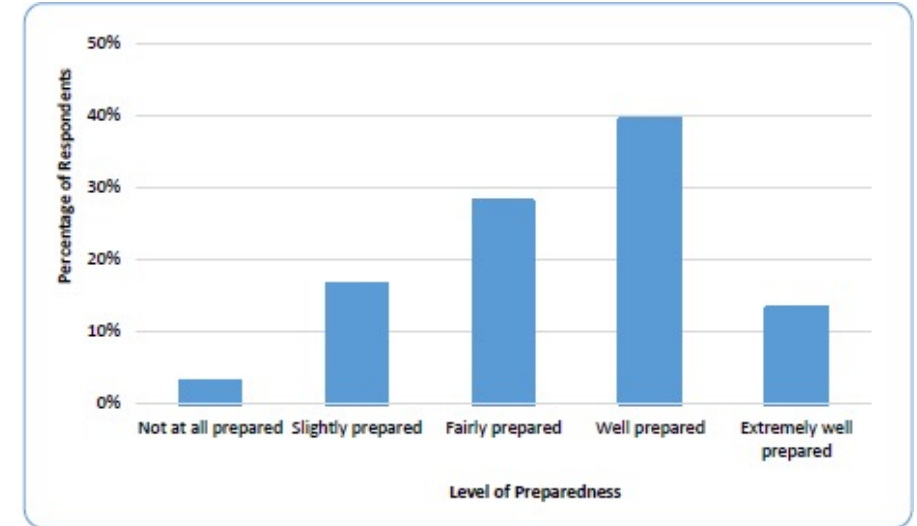
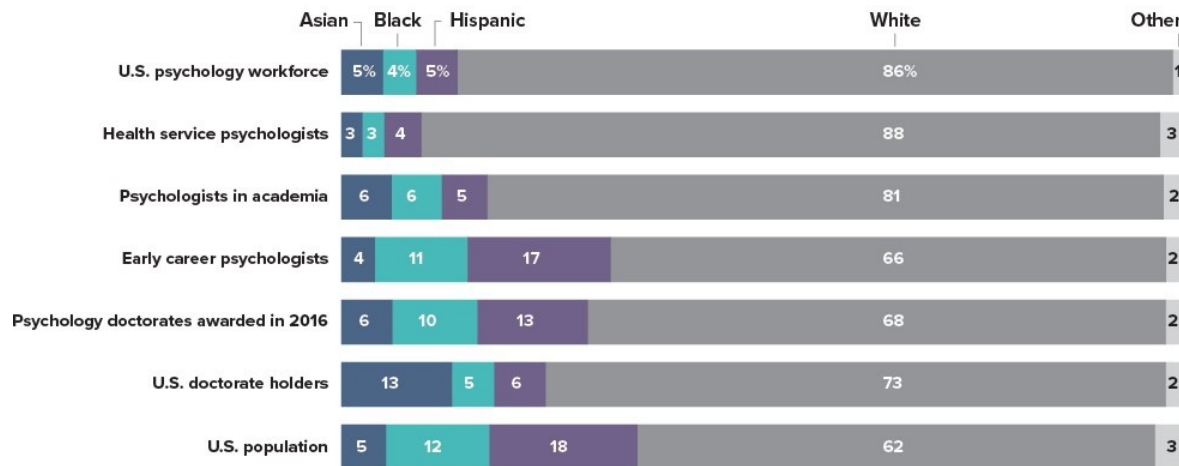
Access disparities observed where groups experienced better, same, or worse access to care compared with reference group, 2012



Source: Bureau of Health Workforce, Health Resources and Services Administration (HRSA), Designated Health Professional Shortage Areas Statistics: Designated HPSA Quarterly Summary, as of September 30, 2020. Goebert 2014, Cultural Disparities in Mental Health Care: Closing the Gap. Agency for Healthcare Research and Quality (AHRQ), National Healthcare Quality and Disparities Report (QDR), 2012.

Data on Workforce Diversity Issues in Mental/Behavioral Healthcare

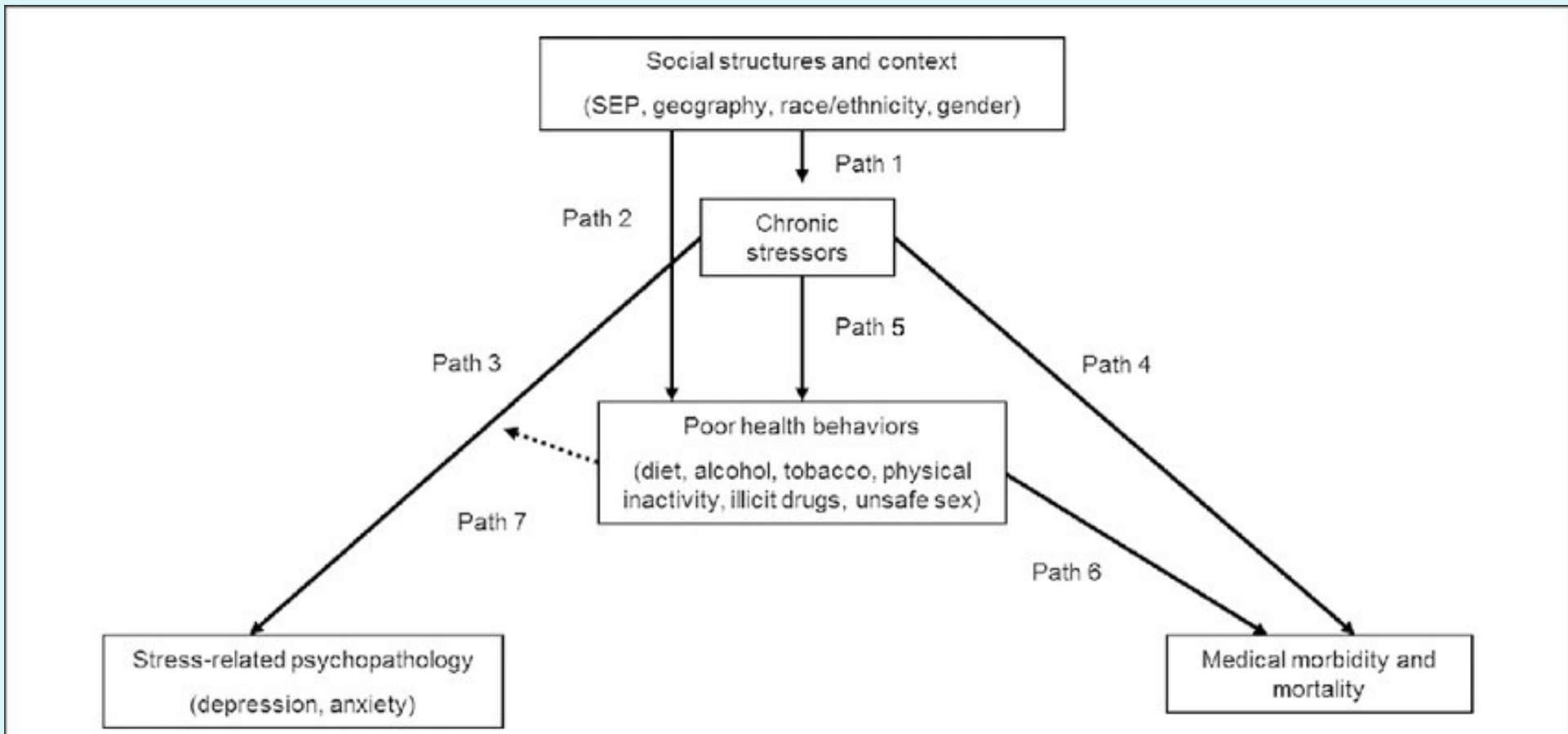
- According to the American Psychological Association's Workforce Studies, the US psychology workforce is not as diverse as the general population – in 2015, 86% of psychologists were white, 5% were Asian, 5% percent were Hispanic, and 4% percent were Black/African-American.
- Psychologists frequently or very frequently provided services to White/Caucasian (96 percent), heterosexual (96 percent), and adult (83 percent) populations.



Source: APA. (2016). 2015 Survey of Psychology Health Service Providers.

Includes status-based stressors, coping, and mental and physical health.

Mezuk, Abdou, Hudson...Jackson (2013)



“Crucial advances have been made in our knowledge of the social determinants of health and health behaviors. Existing research on health disparities, however, generally fails to address a known paradox in the literature: While blacks have higher risk of medical morbidity relative to non-Hispanic whites, blacks have lower rates of common stress-related forms of psychopathology such as major depression and anxiety disorders. The Environmental Affordances Model is an integrative framework for research to address the origins of both physical and mental health disparities that considers self-regulatory health behaviors and stress coping... Transdisciplinary approaches, such as the EAM are needed to understand the origins of group-based disparities to

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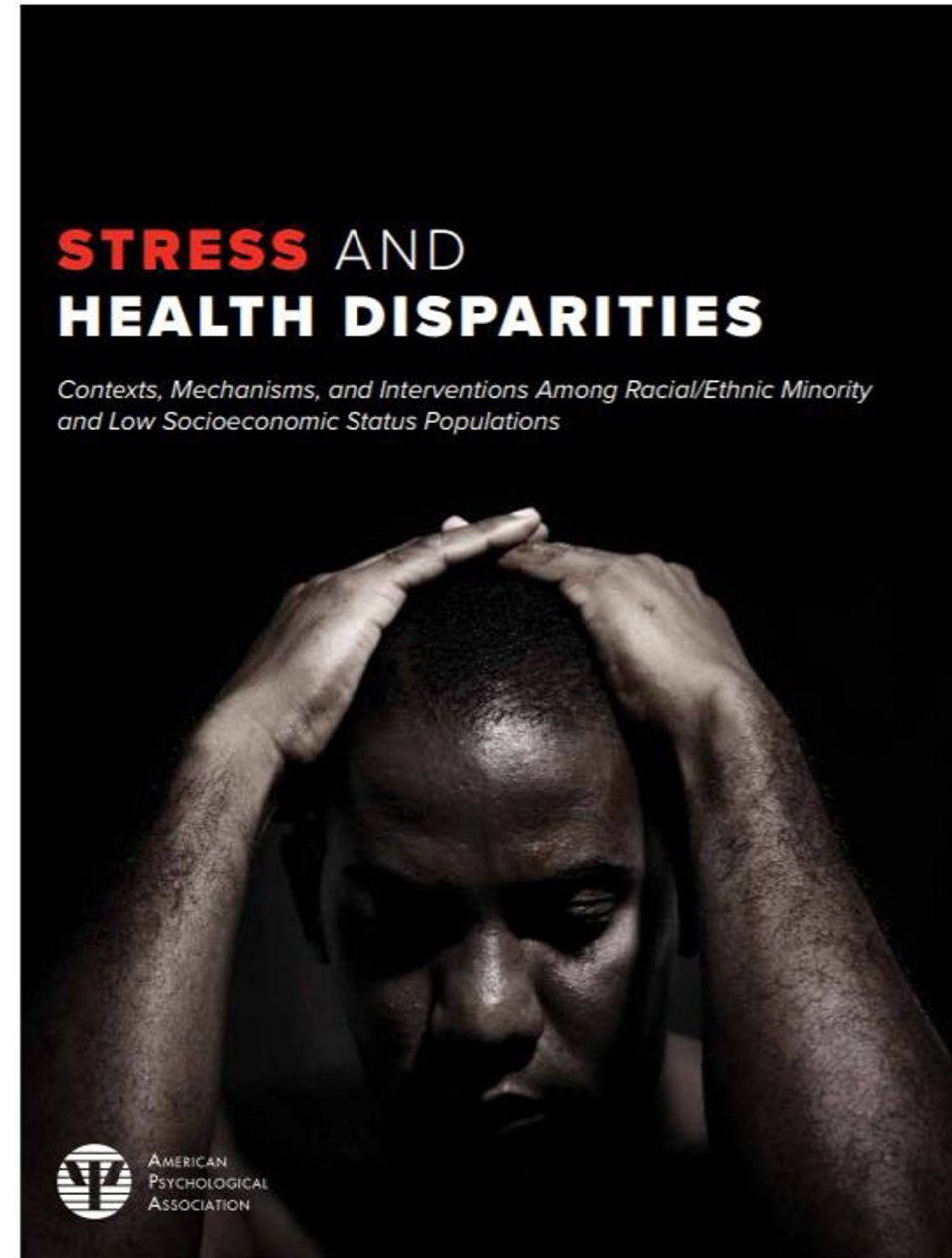
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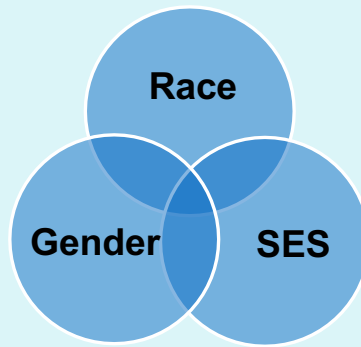
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APA CEO

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Women and Chronic Health Conditions

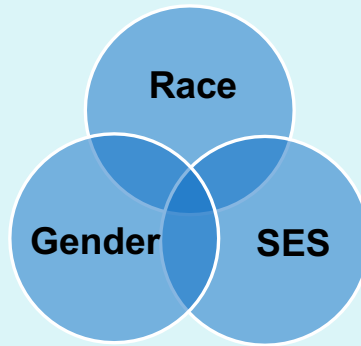


STRESS

Stress-related disparities in chronic illness

- overweight
- obesity
- chronic illness

Women of Color and Health Disparities



Stress-related disparities (African American Women)

- 80% are overweight
- 50% are obese
- 25% > 55 have diabetes

1 **Nervous system.** The heart may beat faster, and blood pressure rises to ready the body to fight the perceived threat.

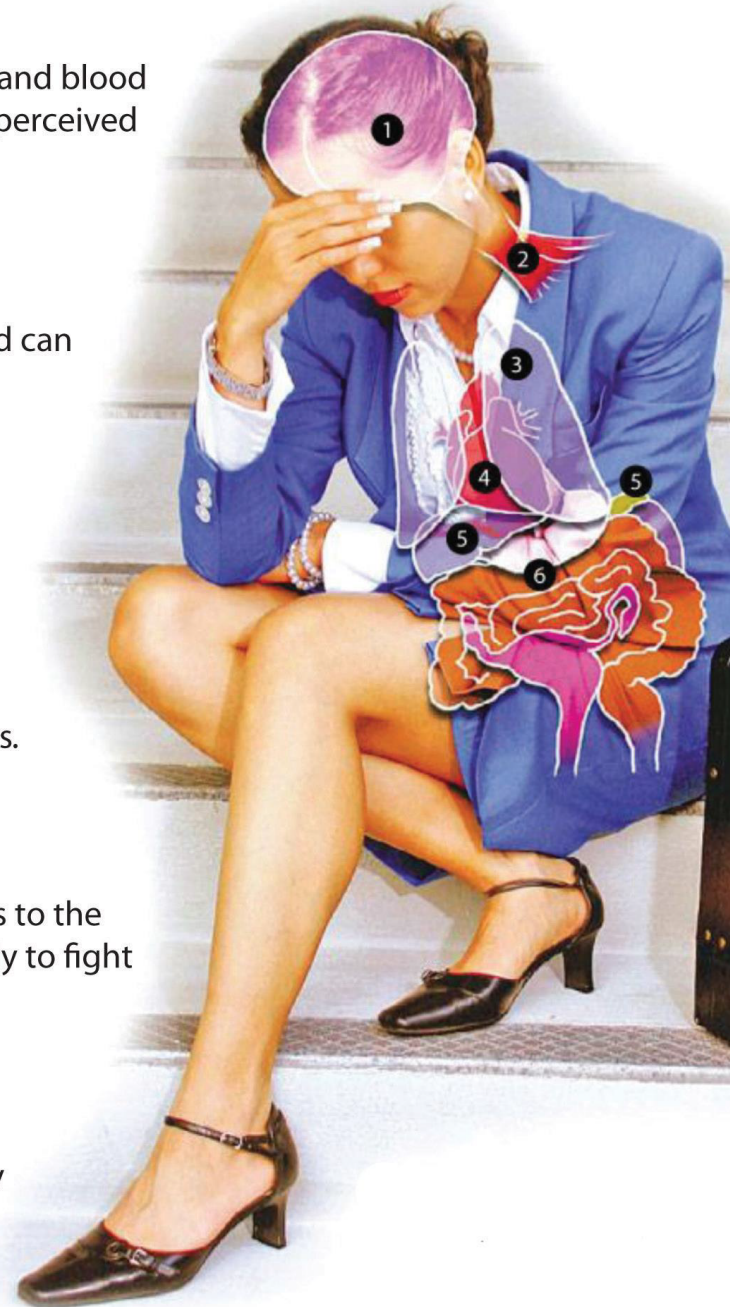
2 **Musculoskeletal system.** Muscles tense and can trigger tension headaches.

3 **Respiratory system.** Breathing quickens.

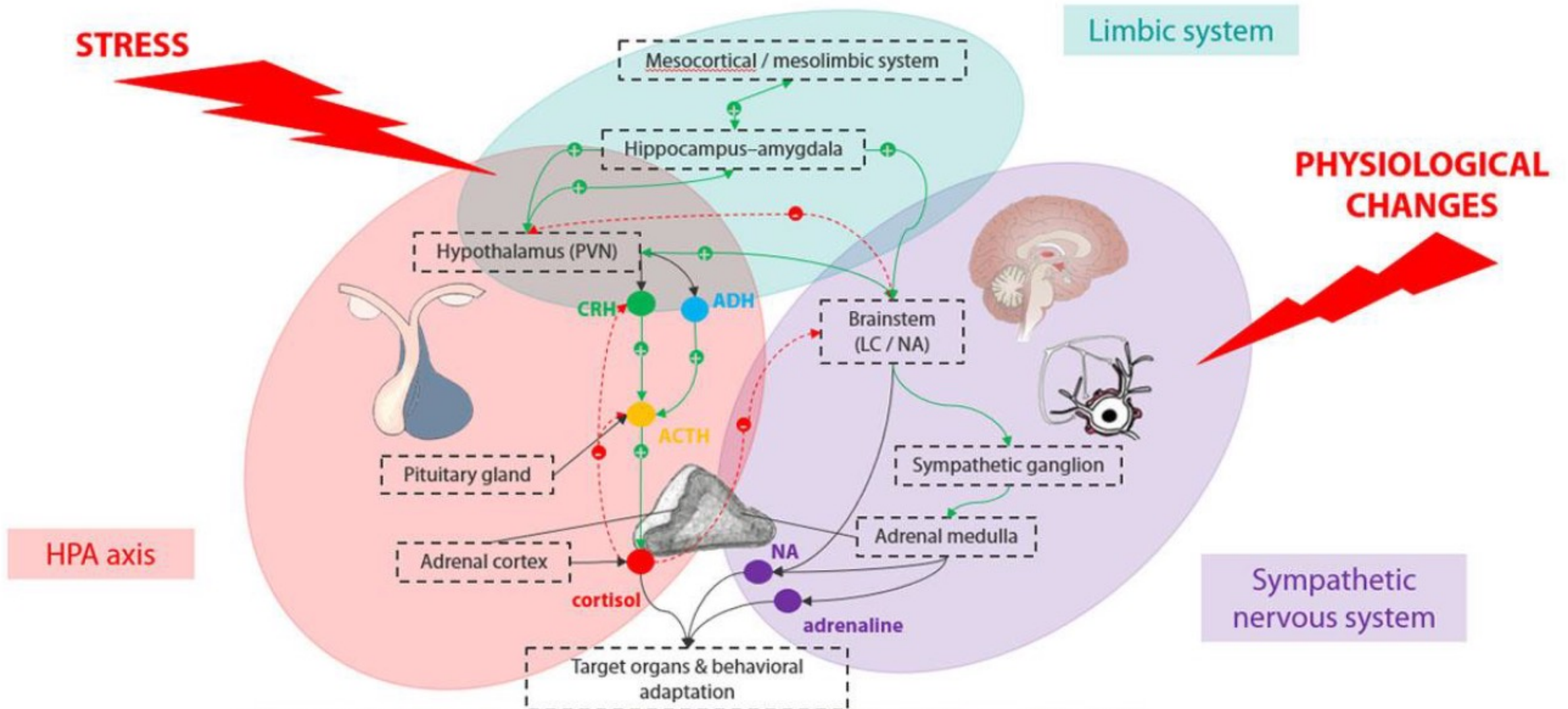
4 **Cardiovascular system.** Heart rate increases.

5 **Endocrine system.** Signals sent from glands to the body cause a release of cortisol into the body to fight the perceived threat.

6 **Gastrointestinal system.** Eating habits may change, and the feeling of “butterflies” in your stomach may occur.



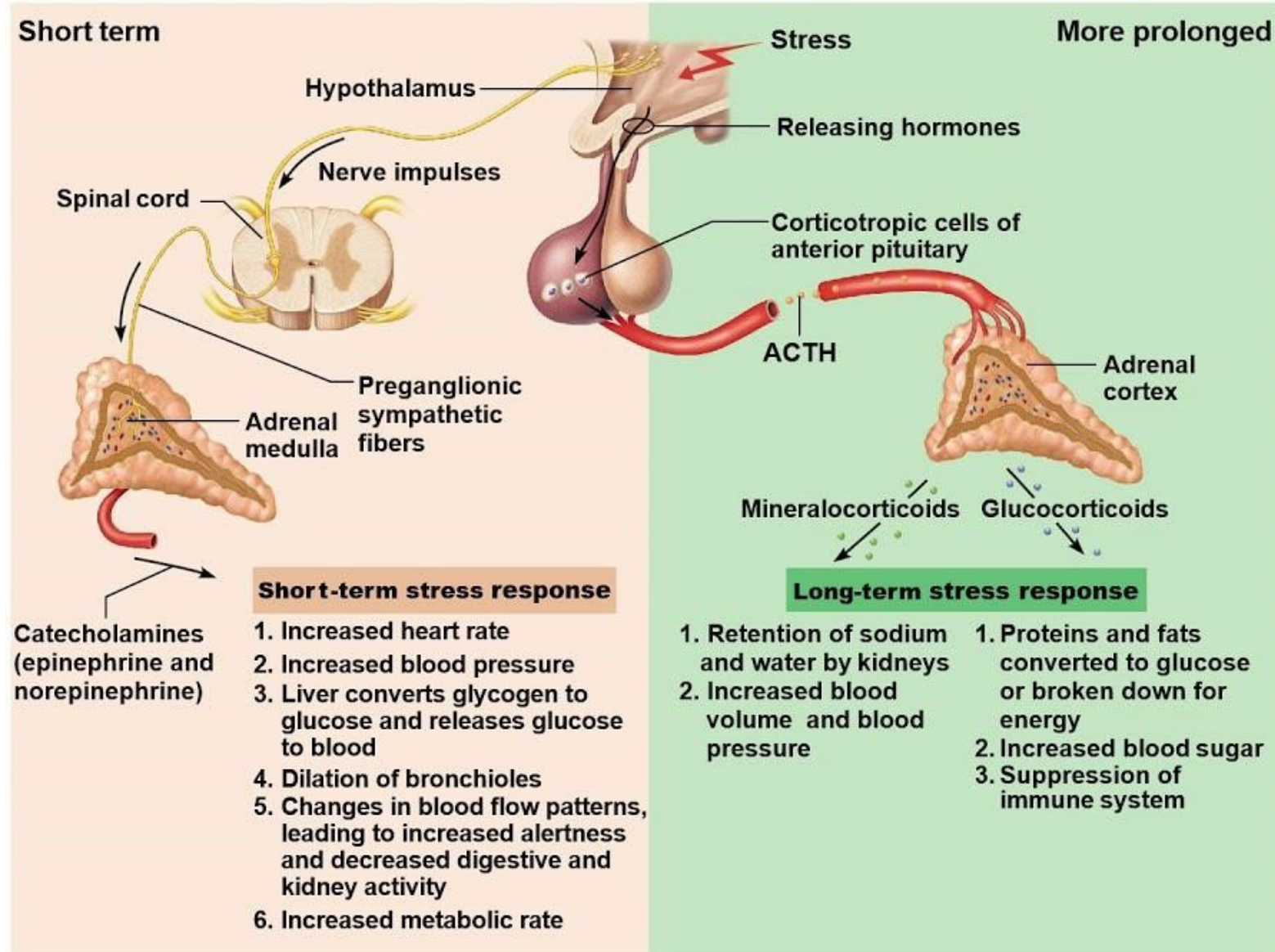
Stress response physiology



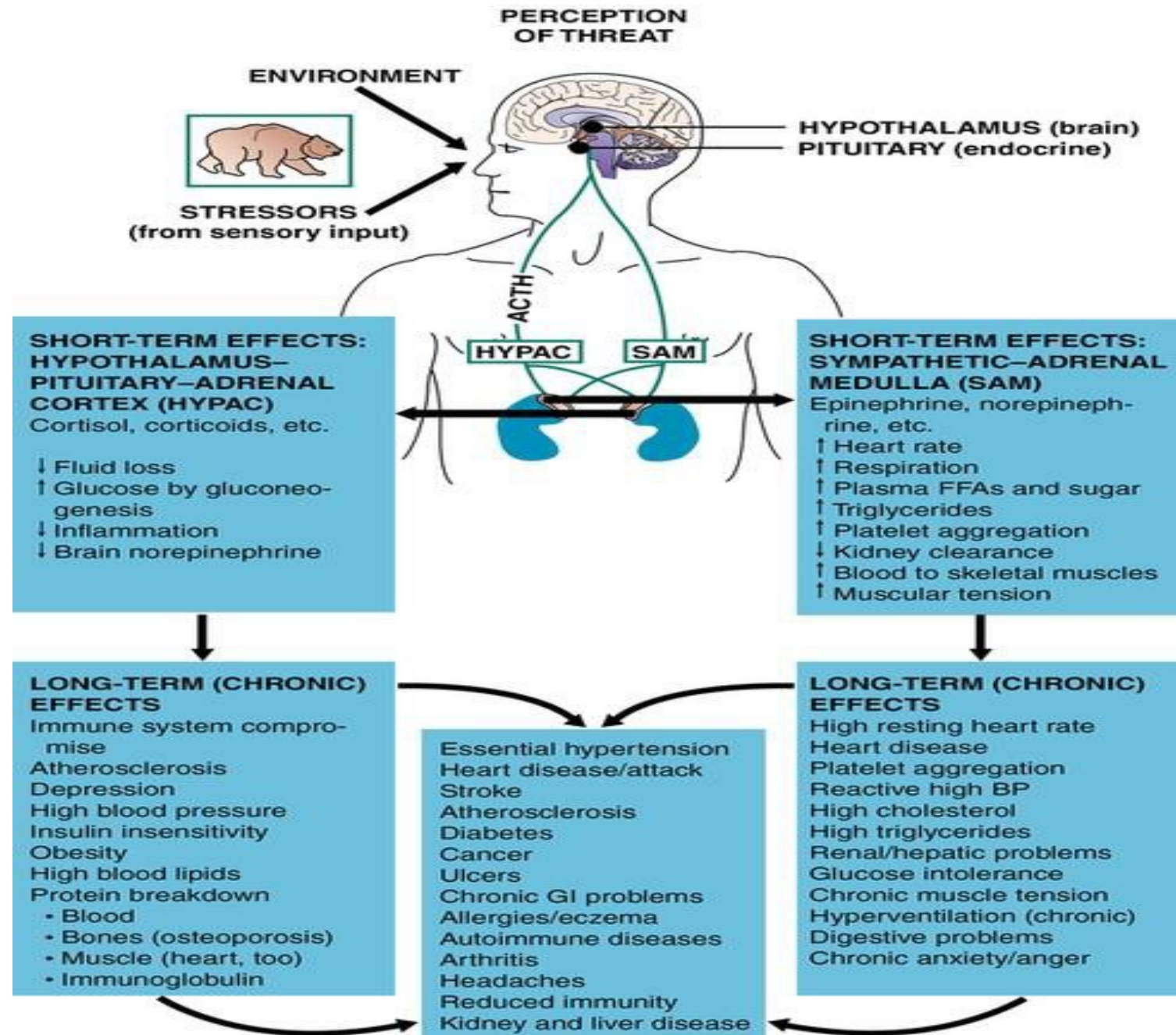
ACTH, adrenocorticotrophic hormone; ADH - antidiuretic hormone (vasopressin); CRH, corticotropin-releasing hormone; HPA, hypothalamic-pituitary-adrenal; LC, locus coeruleus; NA, noradrenaline; PVN, paraventricular nucleus.

Adapted from: 1. Tsigos C, Kyrou I, Kassi E, et al. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK278995/>; 2. Tonhaizerova I, Mestanik M. New Perspectives in the Model of Stress Response. *Physiol Res*. 2017;66 (Suppl.:S173-S185. www.biomed.cas.cz/physiolres.

Figure 9.10 Roles of the hypothalamus, adrenal medulla, and adrenal cortex in the stress response.



THE STRESS RESPONSE



Women and Chronic Health Conditions

In order to *effectively* study and understand the influence of stress on health in women, we must use culturally- and gender-relevant definitions and operationalizations of stress.

(Jackson et al., 2005; Clark et al., 1999; Nuru-Jeter, et al, 2011; Woods- Giscombé & Lobel, 2008).



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Race and Gender Matter: A Multidimensional Approach to Conceptualizing and Measuring Stress in African American Women

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Abstract

Based on prior research and theory, the authors constructed a multidimensional model of stress in African American women comprised of race-related, gender-related, and generic stress. Exposure to and appraisal of these three types of stress were combined into a higher-order global stress factor. Using structural equation modeling, the fit of this stress factor and its ability to predict distress symptoms were examined in 189 socioeconomically diverse African American women aged 21 to 78. Results support the multidimensional conceptualization and operationalization of stress. Race-related, gender-related, and generic stress contributed equally to the global stress factor, and global stress predicted a significant amount of variance in distress symptoms and intensity. This model

Schemas

Social cognition—the mental structures and processes involved in perceiving, understanding, and responding to the social world—is shaped by the individual and the social context (Fiske & Taylor, 2013). Every day, individuals meet demands, gather resources, and manage stress. As they do, they learn about themselves—about their own motivations, capabilities, and limitations. In their daily interactions (e.g., at home, in public, at work or school, at the doctor's office), individuals form ideas and develop expectations about other people and relationships, and the world at large. These different expectations are modified through subtle and direct feedback from all the people with whom they interact—family, friends, coworkers, neighbors, and even strangers. An individual's understanding of social norms and aspirations for the future is further shaped by the media and by formal and informal educational experiences.

These internal representations of the self, others, and the world—and the expectations that derive from these representations—are called *schemas*. Schemas are not simply ideas or cognitions. They are composed of a network of interconnected thoughts, feelings, attitudes, images, and sensations that may be instantiated through neural networks in the brain (Ghosh & Gilboa, 2014; Landau, Meier, & Keefer, 2010). The depth and breadth of these connections may permit schemas to have a wide influence over behavior and psychophysiological

interactions . . . individuals form ideas and develop expectations about other people and relationships, and the world at large

(vs. rejection or hostility); and schemas about the world that reflect experiences of safety (vs. threat) and fair treatment (vs. injustice; Baldwin, 1992; Beck, 1987; Miranda, Andersen, & Edwards, 2013). Racial or ethnic stereotypes can be considered schemas about the characteristics associated with membership in a racial or ethnic group (Maris, Claes, Van Damme, & Hoorens, 2016).

There are clear SES differences in the types of schemas individuals develop. For example, low SES has been associated with a range of negative schemas about the self, including low self-esteem (Twenge & Campbell, 2002) and reduced perceptions of personal control and autonomy (Haushofer, 2013; Kraus et al., 2012). Lower SES is also associated with negative schemas about others, including less trust and higher levels of hostile attributions about other people's inten-

tions that life is meaningful (Ewart, Ewart, & Smyth, 2014; Haushofer, 2013).

Data on race differences in schemas about the self, others, and the world at large are more limited, and the findings highlight the ways in which influences from the larger social context shape individual-level schemas. For example, meta-analyses indicate that Black individuals have higher levels of overall self-esteem in comparison to White individuals, whereas Hispanic and Asian individuals have lower levels of self-esteem. However, the Black advantage in self-esteem did not emerge until the 1980s, after a period of tremendous social change and increase in civil rights (Twenge & Campbell, 2002).

The development of negative schemas is likely to be a function, at least in part, of the specific stressors that more commonly face low-SES individuals and members of racial and ethnic minority groups (M. B. Spencer, 2006). The effects begin early in the lifespan, as children develop schemas reflecting the contexts in which they develop. For example, childhood maltreatment can generate negative self-schemas reflecting themes of worthlessness and unacceptability. These early stressors may also generate negative schemas about other people, reflecting experiences and expectations of interpersonal harshness (Halvorsen, Wang, Eisemann, & Waterloo, 2010; Lumley & Harkness, 2007). Witnessing violence appears to generate anticipation of social constraint, schemas reflecting the notion that others will not validate or support one's perceptions or feelings

Women of Color and Health Disparities

- ❖ Sociocultural and historical phenomenon
- ❖ Strength obligation
- ❖ Emotional suppression
- ❖ Resistance of support or vulnerability
- ❖ Motivation to succeed despite limited resources
- ❖ Disproportionate caregiving
- ❖ Assets: Survival – self and community
- ❖ Limitations: Neglected self-care
- ❖ May exacerbate stress and stress-related disparities



Superwoman Schema (Woods-Giscombe, 2010):

Related Concepts

Network Stress

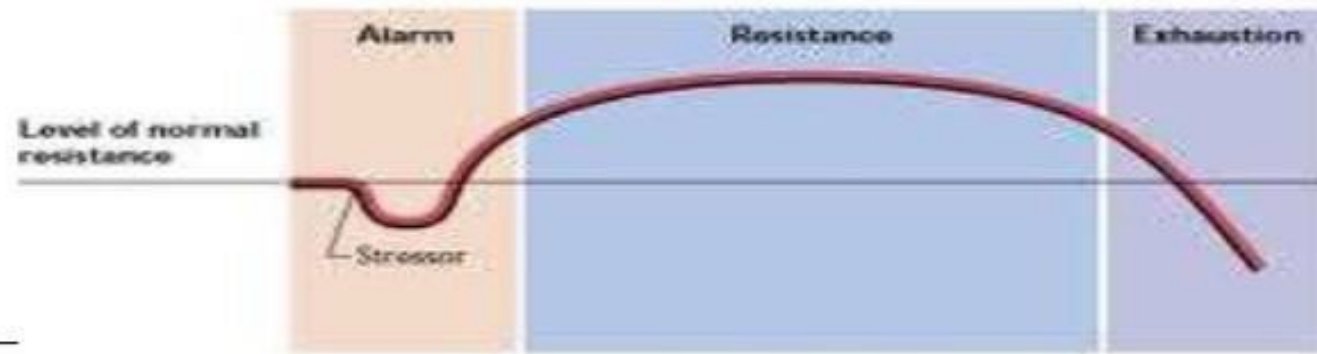
(See Dohrenwend, 1977; Kessler & McLeod, 1984; Lobel et al., 2000; Thoits, 1991; Woods- Giscombe et al., 2015)

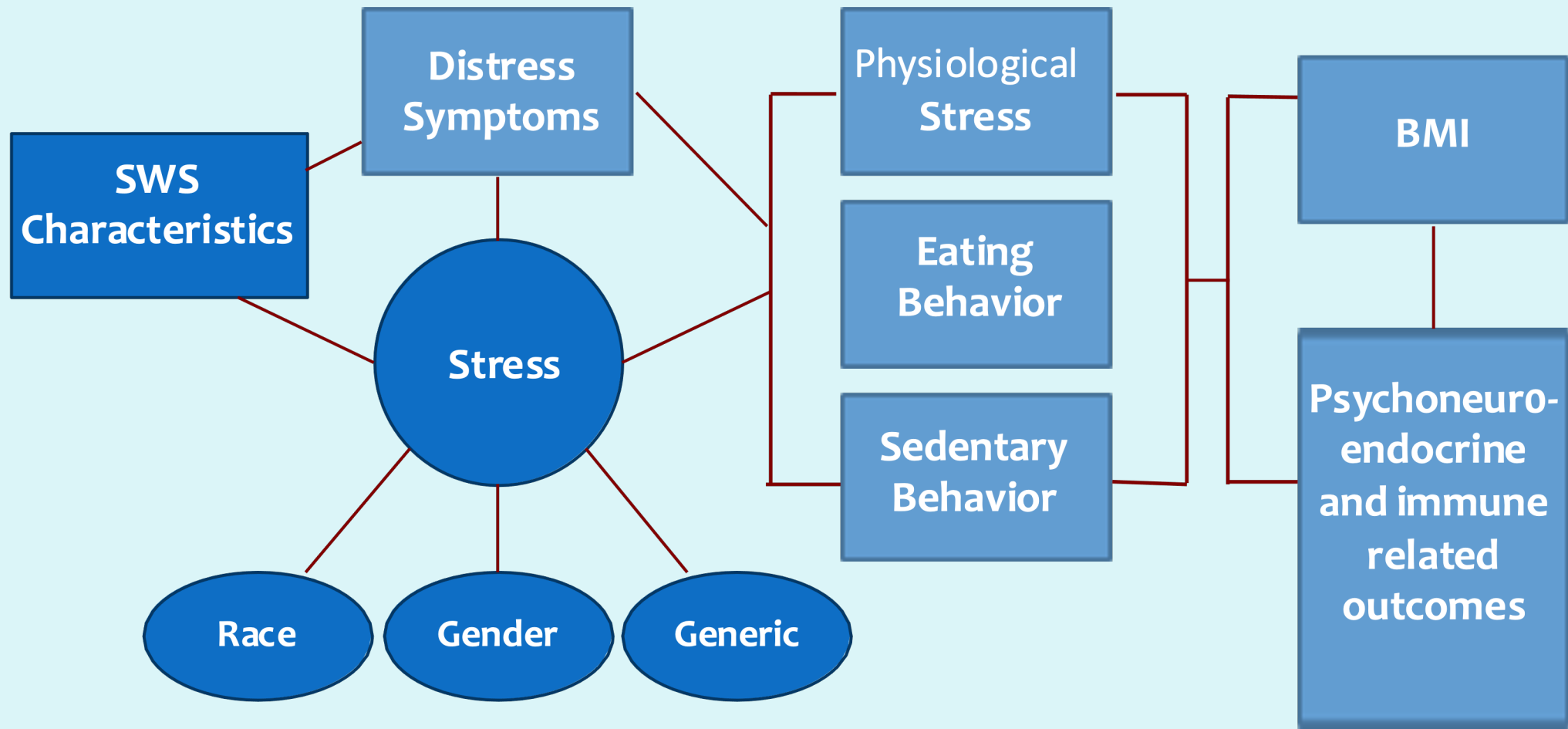


Stages of the Stress Response

General Adaptation Syndrome of Hans Selye (1907-1982)

- **Alarm**—when one feels threatened
 - Activation of the fight or flight reaction
- **Resistance**—mobilization of resources to solve the problem
 - Continued stress causes adaptation
- **Exhaustion**
 - Adaptation fails and level of function decreases



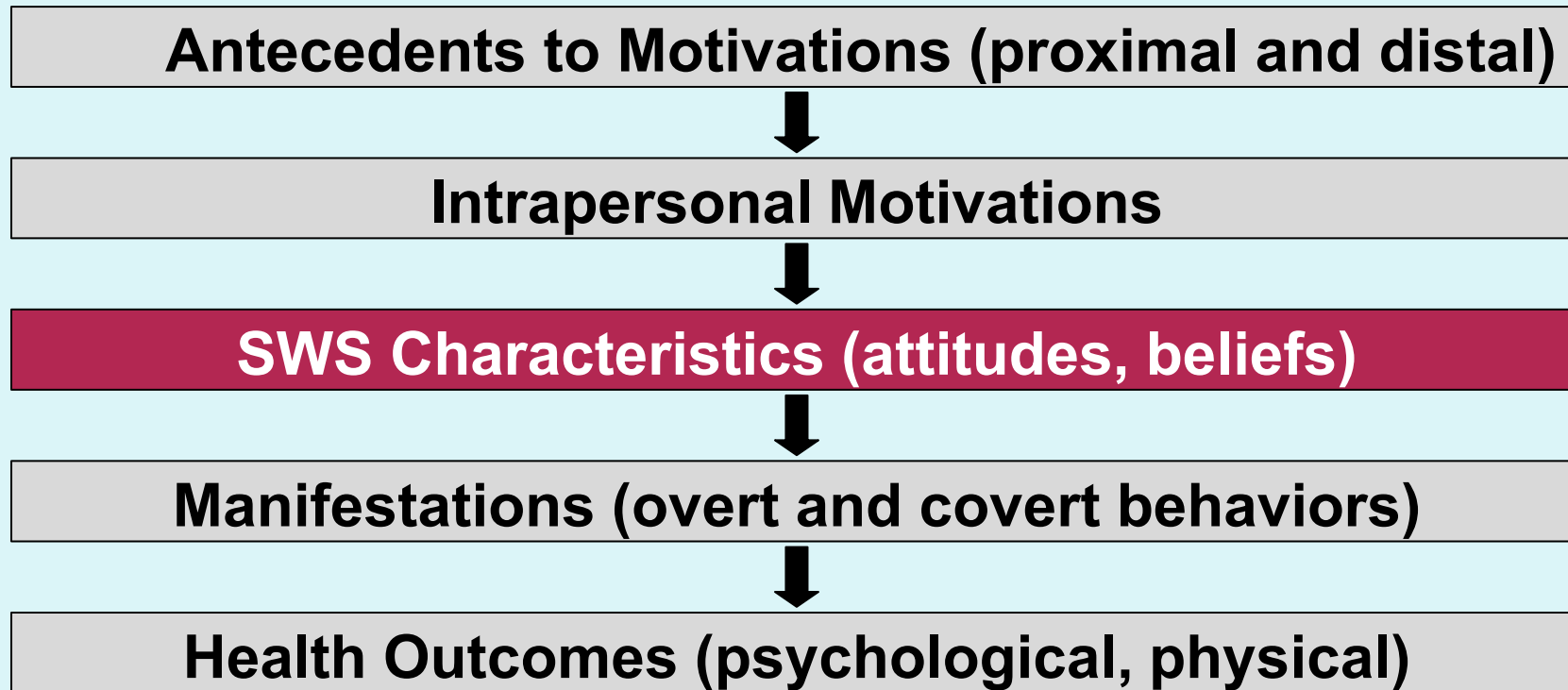


❖ Preliminary evidence supports components of the model (e.g., Woods-Giscombé & Lobel, 2008; Woods-Giscombé, 2010; Woods-Giscombé, Lobel, & Zimmer, under review)

❖ A **program of research** is needed to confirm the model and inform future culturally- relevant, community-based interventions to ameliorate cardiometabolic health disparities

Superwoman Schema Conceptual Framework

Woods-Giscombe, 2010



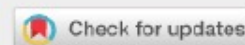
The Giscombe Superwoman Schema Questionnaire: Psychometric Properties and Associations with Mental Health and Health Behaviors in African American Women

Cheryl L. Woods-Giscombe , PhD, Amani M. Allen , PhD, Angela R. Black , PhD, Teneka C. Steed , PhD, Yin Li , PhD & Charity Lackey

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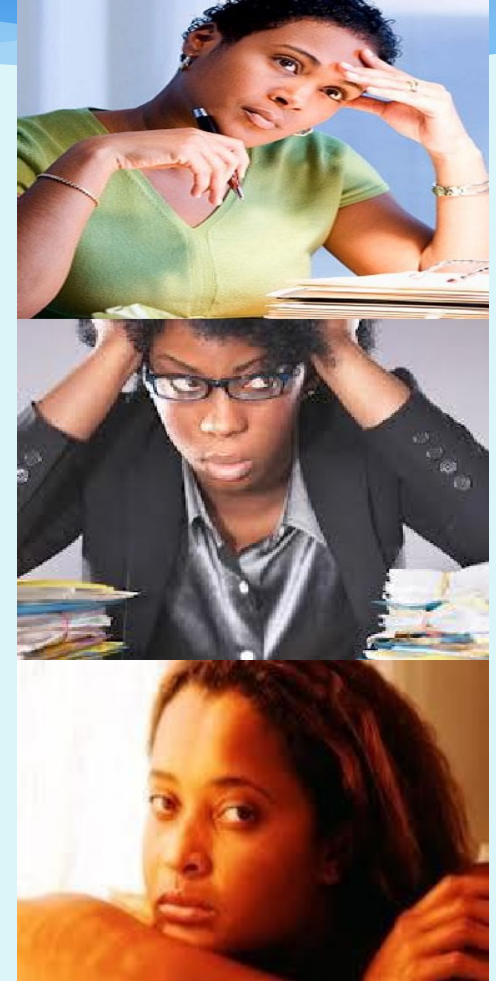
Abstract

The purpose of this research was to examine the psychometric properties of the Giscombe Superwoman Schema Questionnaire. Three separate studies conducted with 739 African American women provided preliminary evidence that the Questionnaire's factor structure aligns with the Superwoman Schema Conceptual Framework and has good reliability. In addition, it is positively

Superwoman Schema - Sample Items

- Obligation to suppress emotions
 - “My tears are a sign of weakness”
- Obligation to help others
 - “I feel obligated to take care of others”
- Intense motivation to succeed
 - “No matter how hard I work, I feel like I should do more”
- Resistance to being vulnerable
 - “It’s hard for me to accept help from others”
- Obligation to help others
 - “I neglect the things that bring me joy”

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Study 3: Giscombe Superwoman Schema Questionnaire

Associations among SWS and:

- ❖ Depressive Symptoms (CESD)
- ❖ Perceived Stress (PSS)
- ❖ Sleep Quality (PSQI)
- ❖ Stress-Related Eating (UFC)
- ❖ Physical Inactivity (M-IPAQ)



Research Incorporating the Superwoman Schema Questionnaire

- Systemic Lupus Erythematosus (Lewis – Emory University)
- Systemic Lupus Erythematosus (Chae/Varner – Tulane University)
- Cardiometabolic Risk (Allen – Berkeley University)
- Telomere Activity (Allen et al. – Berkeley University/San Francisco State)
- Perinatal Anxiety and Depression (Sheffield – UNC Chapel Hill)
- Heart Rate Variability (Bronlow – The Ohio State University)
- Depressive Symptoms (Nelson – Brown University)
- African American Women's Health Engagement (Packenham – NIEHS)
- African American Women College Students (Wade – NC A&T State Univ.)
- African American Women College Students (Watson-Singleton – Spelman)
- Resilience and Cardiometabolic Health in AAW (Williams – Ohio State)

Racial discrimination, the superwoman schema, and allostatic load: exploring an integrative stress-coping model among African American women

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Racial discrimination has been linked to allostatic load among African American women. Coping is a central component of the stress response process. However, limited attention has been given to the role of coping in studies examining racial discrimination as a social determinant of health. We examined whether the superwoman schema (SWS), a multidimensional culture-specific form of coping, modifies the association between racial discrimination

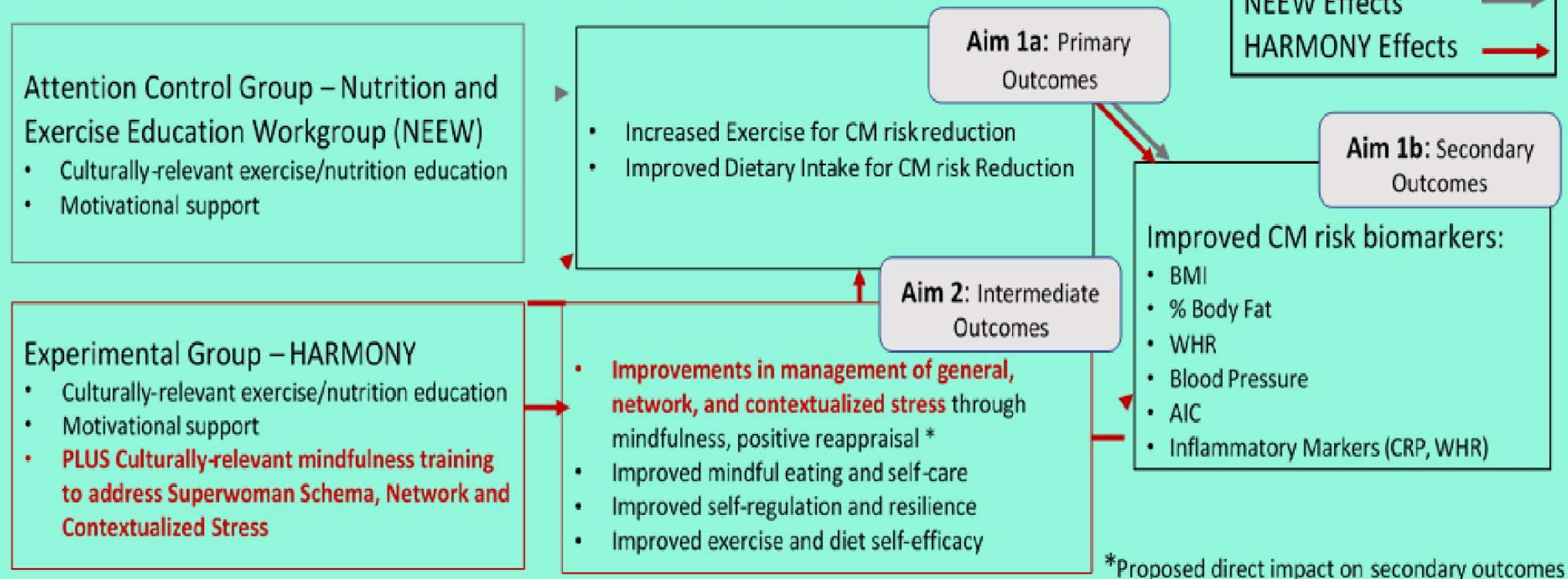
Mindfulness-Based Stress Management Interventions to Reduce Chronic Condition Risk in African American Women

Community-Engaged and Multidisciplinary/Multi-Method Funding Support (Development and Execution):

1. NIH R01 (NIMHD) ~ \$3.1 million (HARMONY Study)
2. Macy Faculty Scholars Program (2015-2017)/Thorp Faculty Engaged Scholars Program (2014-2016)
3. Josiah Charles Trent Memorial Foundation Endowment Fund (Duke University; PI: Wilson, 2016)
4. Robert Wood Johnson Foundation Nurse Faculty Scholars Program (2012-2015)
5. TraCs 2K Grant (Cultural Relevance of Mindfulness for African Americans, 2013)
6. NCCAM 1R21 AT004276-01 (4-year feasibility RCT – 2009-2013)
7. Substance Abuse and Mental Health Services Administration at the American Nurses Association Minority Fellowship Program (SAMHSA-MFP; 2007-2009)
8. UNC Center on Innovation in Health Disparity Research (CIHDR; NINR/NCMHD Grant P20NR8369, 2006-2008)
9. NINR T32NR007091 (UNC School of Nursing, 2005-2007)
10. American Psychological Association, Division 38 (African American Women's Well-Being Study, 2005)
11. W.B. Burghardt Dissertation Fellowship (Stony Brook University, 2004-2005)

HARMONY RCT: Conceptual Framework

Figure 1. Conceptual Framework - Proposed Targets of the NEEW and HARMONY Interventions





You are the HEART of your family.

The Harmony Study is a research study to learn more about reducing risk of diabetes, heart disease and stroke. We'll do this by testing two exercise and nutrition programs designed specifically for African American and Black women.

If you are African American or Black, 18 or over, and have a BMI between 25-39, you may be able to participate!



- Participation lasts 1 year.
- Participants will receive a FitBit and \$260 at the end of the study.

Contact Us:

The Harmony Team
919-918-1876
HarmonyStudy@unc.edu

This study has been reviewed by the IRB at UNC-Chapel Hill (IRB# 20-2193). The Principal Investigator is Cheryl Gisco. You may contact the IRB at 919-966-3113 or by email to IRB_subjects@unc.edu.



Study Characteristics/Components

- COVID web-based adapted, biobehavioral
- 8 intervention cohorts
- 12-month intervention
- 0, 4, 8, 12-month assessments
- Self-report measures
 - Stress
 - Mindfulness
 - Positive Reappraisal
 - Self-Regulation
 - Self-Efficacy
- Objective measures
 - Actigraphy,
 - FitBit® - Fitabase Technology,
 - Veggie Meter,
 - Inflammatory markers (CRP, IL-6
 - A1C
 - Body composition
- Readiness for change assessment
- Motivational support/buddy system
- NIH Behavior Change Consortium model of treatment fidelity (*Training, Delivery, Receipt of Treatment, Enactment of Skills*)
- Plan for ancillary biomarker and qualitative studies.

Women and Chronic Health Conditions

Summary:

1. Disproportionately high rates of chronic conditions in women continue to be shocking and inhuman(e).
2. Contextual and biopsychosocial process influence these conditions and require attention to understand, prevent, and ameliorate these conditions in women.
3. Biopsychosocial and psycho-neuroimmune and psychoneuroendocrine stress- related processes are somewhat known, but under-investigated, mechanisms influencing chronic conditions in women.
4. Culturally-sensitive and gender-specific care will integrate these complex, multidimensional factors that influence both physical and mental health.
5. Biopsychosocial conditions require biopsychosocial solutions for health and well-being among women.

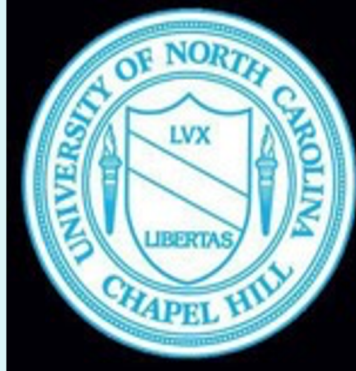
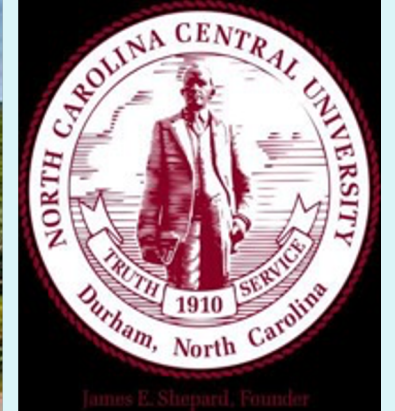
Gratitude for Research Funding Sources



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THANK YOU!

