

# Racial Discrimination and Hypertension in African Americans: A Systematic Review and Meta-Analysis

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**Research Question:** What is the relationship between racial discrimination and high blood pressure in African Americans?

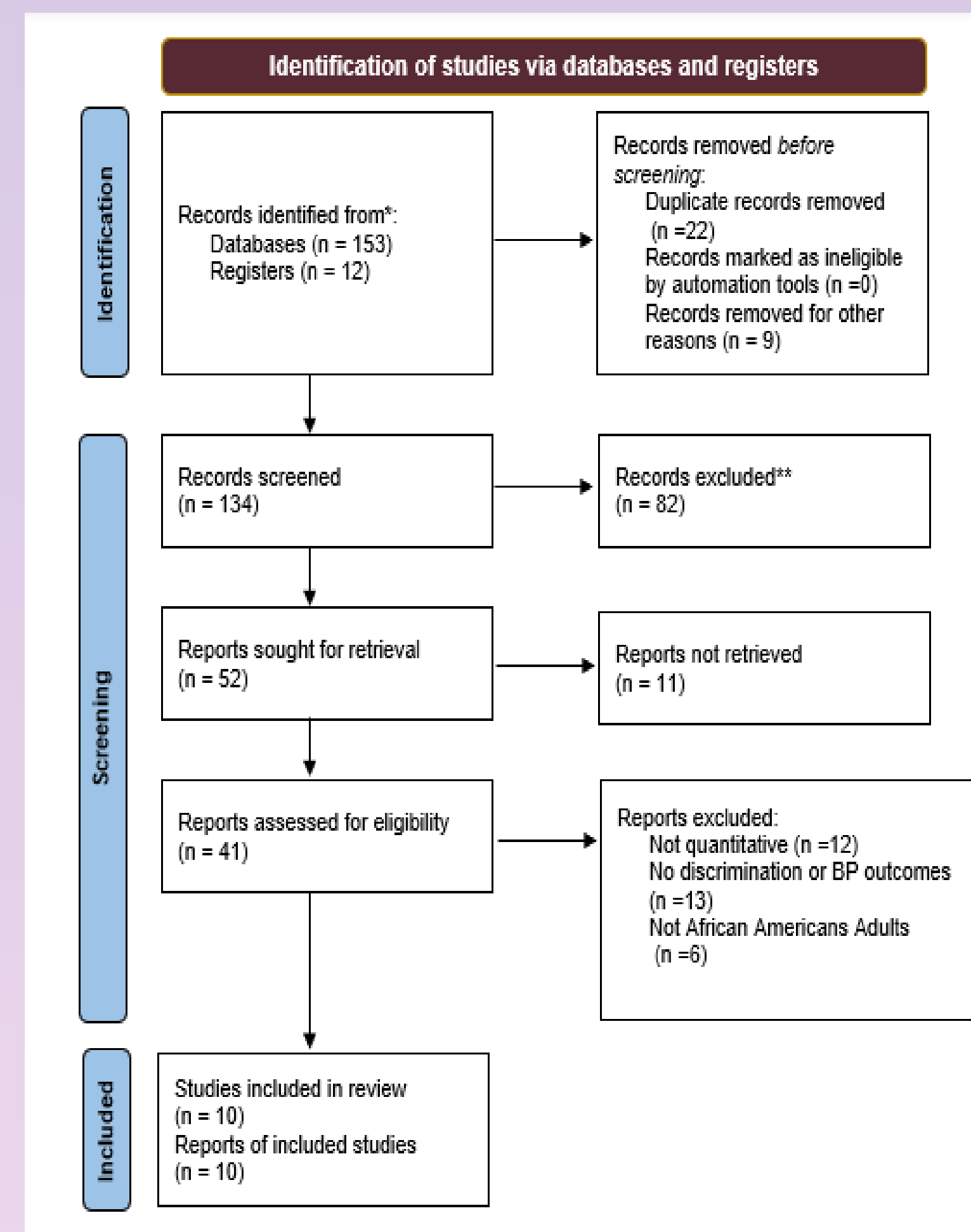
## Abstract

Systemic discrimination continues to influence cardiovascular health in African American adults. Previous studies have focused on the physiological mechanisms that could be influencing the high rates of uncontrolled blood pressure. However, this study examines the relationship between racial discrimination and the ubiquity of hypertension in African Americans. Systematic review and meta-analysis are conducted to synthesize data from landmark cohorts, such as the Jackson Heart Study, to establish a definitive baseline for how discrimination-induced stress correlates with 24-hour ambulatory blood pressure (ABPM). The Everyday Discrimination Scale (EDS) and Experiences of Discrimination (EOD) are utilized to validate data. Blood pressure outcomes are determined by collated office blood pressure, home monitoring, and 24-hour ambulatory (ABPM) data, with moderators and covariates including John Henryism, age, gender, and socioeconomic status. The research indicates a positive relationship between lifetime discrimination and burden of discrimination with a greater prevalence of hypertension. Examining the high-effort coping, known as John Henryism as a moderator and the racial disparities within clinical settings provides the potential to bridge the gap between mental health and cardiovascular health.

## Introduction

The persistent disparity in cardiovascular outcomes among African Americans remains one of the most significant challenges in modern clinical medicine. While hypertension is the primary driver of this mortality gap, traditional biomedical models often fail to account for the pathophysiological divergence observed in this population. Emerging evidence suggests that perceived racial discrimination acts as a chronic psychosocial stressor that triggers a cascade of neuroendocrine and autonomic dysregulation, specifically through the chronic activation of the hypothalamic-pituitary-adrenal (HPA) axis and the sympathetic nervous system (SNS) (Chae et al., 2021). Understanding this link is scientifically critical because it challenges the "one-size-fits-all" approach to pharmacotherapy. Chronic stress-induced hypertension often manifests with unique phenotypes, such as non-dipping blood pressure patterns and increased systemic vascular resistance, which may render standard first-line antihypertensives less effective if the underlying sympathetic drive is not addressed (Jackson et al., 2020). By quantifying the impact of discrimination-related stress, this research intends to refine the mechanistic understanding of HTN as a disease state that is as much a product of environmental "weathering" as it is of genetics. Enhancing the effectiveness of pharmaceuticals in this population requires a shift toward integrative care; specifically, identifying how psychological interventions can lower the physiological "noise" of chronic stress, thereby allowing pharmacological agents to reach their intended therapeutic targets with greater precision.

## Methodology



• Total participants across all studies (n=13,762)

**Design:** Systematic review and meta-analysis following PRISMA 2020 guidelines.

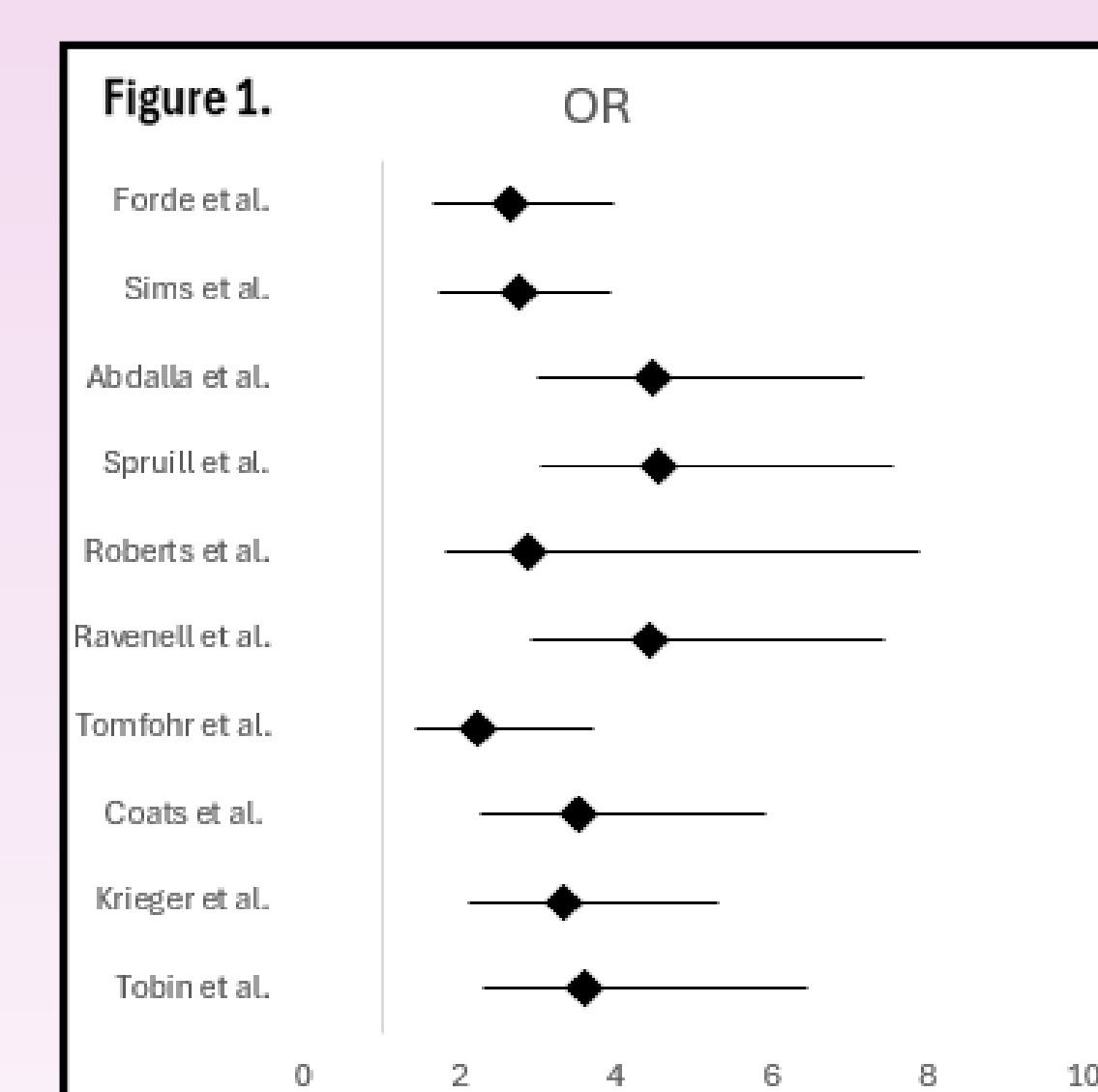
**Search Strategy:** Databases searched: PubMed, Web of Science, CINAHL, Google Scholar. Included studies published through 2026.

**Inclusion Criteria:** Quantitative studies (cross-sectional or longitudinal) reporting perceived racial discrimination and hypertension (HTN) outcomes in African American adults.

**Key Variables for Data Extraction:**

- Discrimination Metrics: Validated tools (e.g., Everyday Discrimination Scale [EDS], Experiences of Discrimination [EOD]).
- Blood Pressure Outcomes: Office BP, home monitoring, and 24-hour ABPM where available.
- Moderators & Covariates: Coping styles (active vs. passive), John Henryism, age, gender, socioeconomic

## Results



**Table 1: Summary of Evidence:**

90% of the studies included in the analysis adjusted for age, gender, and socioeconomic status as covariates (note: statistical significance was not found after adjustments) but they were also examined the most frequently as moderators followed by coping behaviors (50%) and fitness.

Higher discrimination scores were correlated with increased hypertension risk -High versus low levels of lifetime discrimination were associated with greater rates of hypertension compared to medium versus low levels of lifetime discrimination (Forde, 2021)

Experiences of Discrimination (EOD) reflected psychological distress and tended to be associated with cigarette smoking within the African American participants (Krieger, 2005)

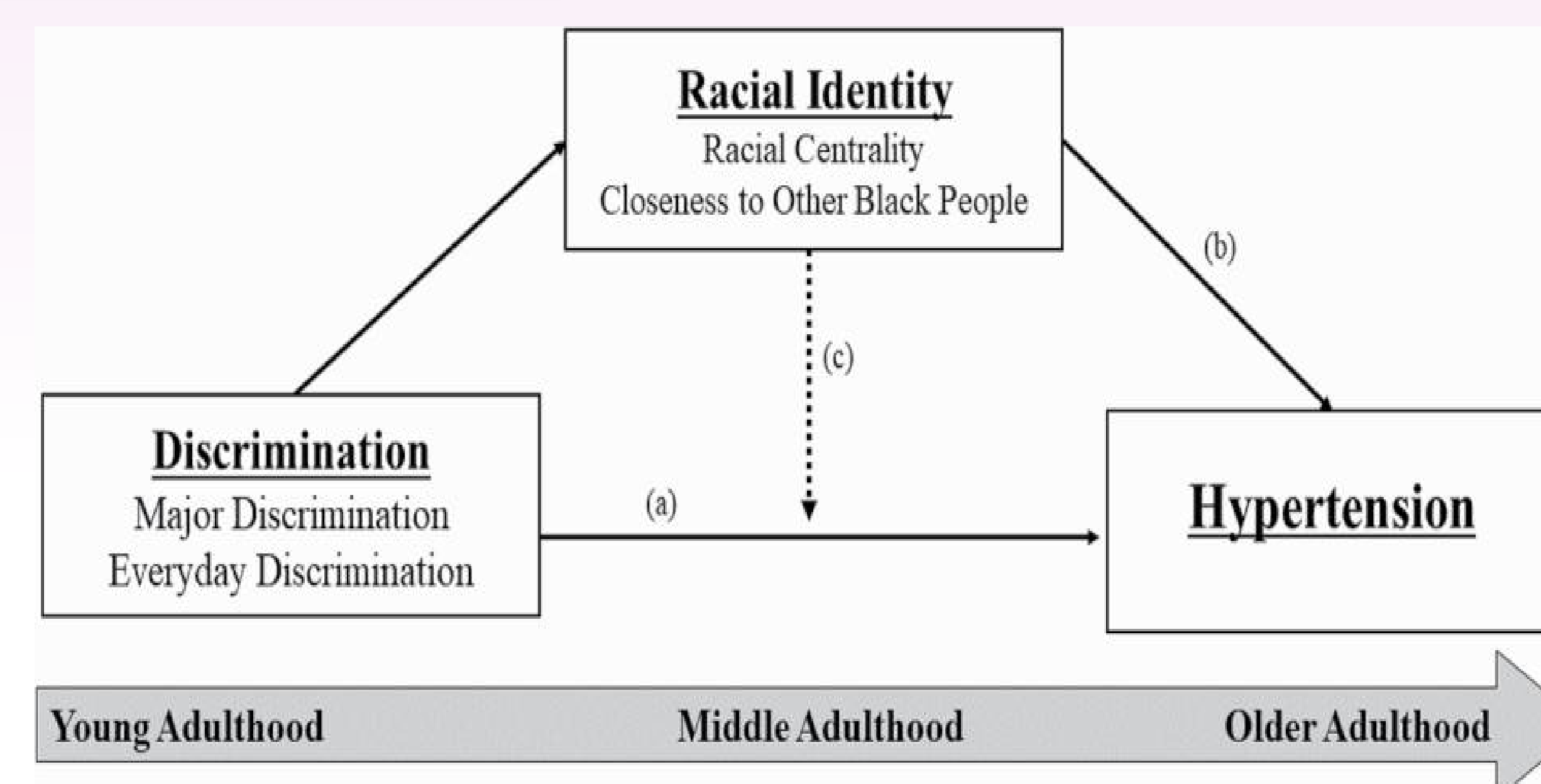
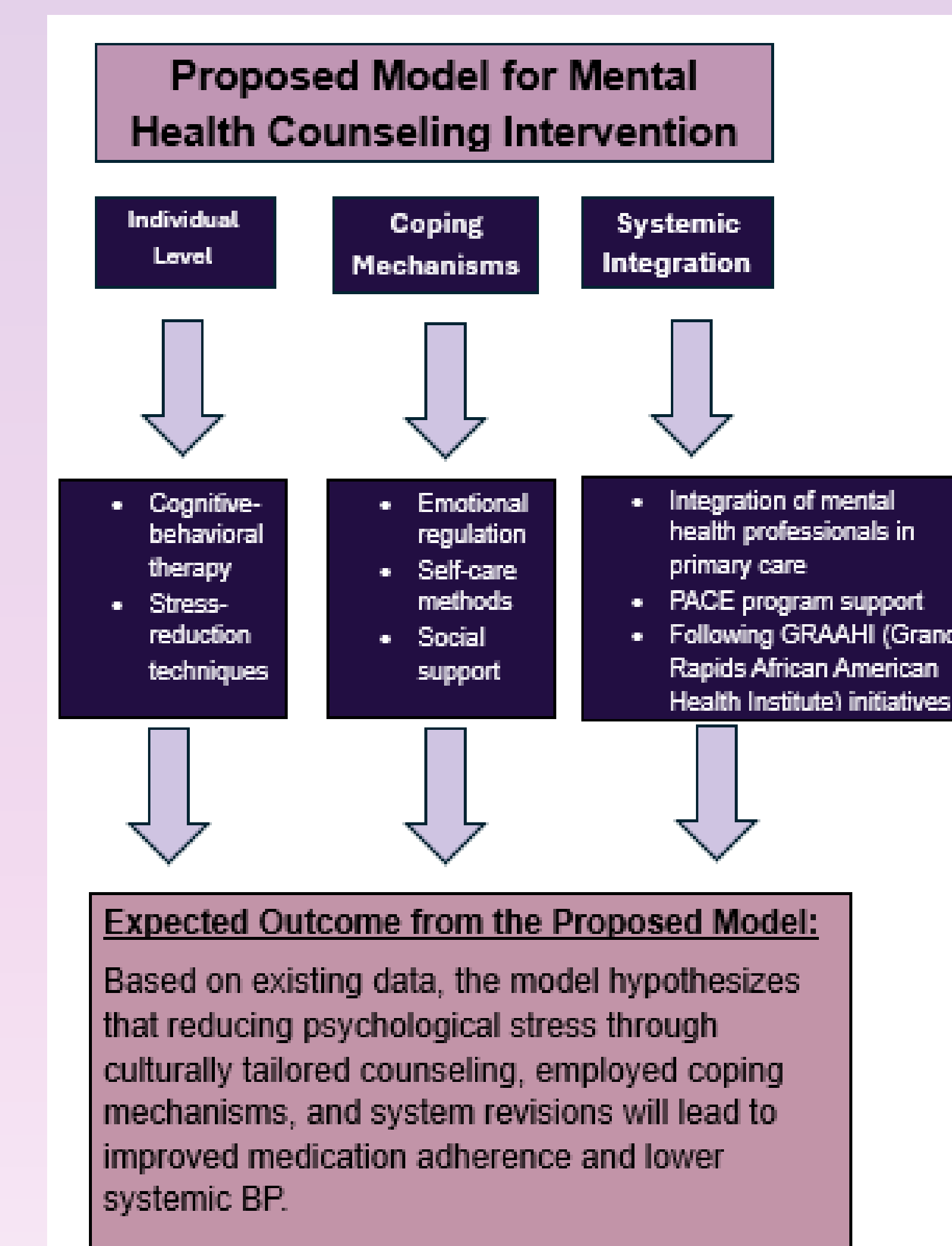


Figure 2. Conceptual model of the pathways linking discrimination, racial identity, and hypertension among Black Americans across adulthood (Adapted from C. Tobin 2022)

## Conclusion and Future Research

- The average effect of discrimination found from the chosen studies was 1.40, indicating the effects of discrimination as a significant factor in health outcomes. After examining the 13,672 patients across several studies a positive correlation was discovered between higher rates of discrimination and higher 24-hour ambulatory blood pressure (ABPM).
- Implementing the proposed model for mental health counseling intervention has the potential to act as a foundational step into bridging the gap between mental health and physical health, specifically cardiovascular health through means of improved medication adherence and reduced hypertension.



This meta-analysis concludes that the direction of future research should venture into the effects that the psychological distress endured by African Americans experiencing discrimination has on hypertension rather than the continuous pharmaceutical approach.

## References

