

Analyzing the Relationship Between Depression, Hypertension, and Discrimination



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Introduction

- Prior research suggests the relationship between the mind and body is interdependent
- Hypertension is detailed as abnormally high arterial blood pressure and is diagnosed when either systolic blood pressure is above 140 mmHg or diastolic blood pressure is above 90 mmHg on two different occasions (Abdisa et al. 2022)
- Depression is one of the most commonly known mood disorders. Notable symptoms include changes in hormone and neurotransmitter levels, sleep, energy, activity, food intake, thinking patterns, etc. (Abdisa et al. 2022)
- The relationships between cardiovascular conditions, specifically hypertension, and mood disorders are well recognized, and previous studies suggest that having one puts individuals at a higher risk of developing the other (Arriola et al. 2012; De Hert et al. 2018)
- Certain discriminatory factors, have been known to influence psychological stress and mood disorders (Bellamy et al. 2021)
- Hypothesis: Higher levels of discrimination and depression will be associated with an increased likelihood of reported high blood pressure

Methods

- Data was pulled from the publicly available Survey of American Life, collected from 2001-2003 in the form of an in-home survey conducted between the participant and the administrator
- A total of 5,892 participant responses were recorded, answering questions that included experiences of physical health, mental health, and discrimination
- Answers to specific areas of questioning was compiled into three distinct variables: depressive symptomology, professionally diagnosed high blood pressure, and discrimination, with answers for each section being assigned a point system
- We defined depressive symptomology as anyone who answered Yes on either questions SC21, SC22 or SC23 from the administered survey. Yes was given a score of 1 and no was given a score of 0
- Professionally diagnosed hypertension was defined as anyone who answered yes to question C10D. Responses were assigned points, Yes = 1 and No = 0 as to allow statistical analysis
- Discrimination was defined as being equal to the total number of discrimination questions that the participant answered yes to. The scoring system of consisting of a range of 0-3, with 0 meaning no discrimination, 1 representing low discrimination, 2 meaning moderate discrimination, and 3 representing severe discrimination
- The data was run through a chi-square test and logistic regressions were run to determine relationship significance

Results Cont.

- There is no statistically significant relationship between high blood pressure and depressive symptomology
- There is a statistically significant association between high blood pressure and race
- There is no statistically significant relationship between blood pressure and discrimination

Discussion

- The strongest association came from questions regarding race, which is often the most commonly associated term to discrimination and hypertension
- This data supports previous evidence suggesting that African Americans suffer from a greater likelihood of developing high blood pressure compared to other racial counterparts
- There does not appear to be a correlation between depression and hypertension, which contradicts previous studies showing that depressive symptomology can lead to an increased chance of hypertension diagnosis
- The data suggests that discrimination does not provide enough of a physical or mental impact to influence high blood pressure or depressive symptomology

Results

Table 1

Simple Frequency of Race/Ancstry

Race/Ancstry	Frequency	Weighted Frequency	Weighted Percent (%)
Hispanic	178	230210	0.4865
Afro-Caribbean	1408	1436970	3.0365
African American	3436	21950534	46.3847
White	870	23705079	50.0923
Total	5892	47322794	100.0000

Note. Frequency relates to the surveyed population, weighted frequency and weighted percent are derived from the frequency in relation to representative population approximations in the United States

Table 2

Simple Frequency of Professionally Diagnosed High Blood Pressure (Hypertension)

High Blood Pressure Variable (C10D)	Frequency	Weighted Frequency	Weighted Percent (%)
Yes	1812	14101946	29.7995
No	4080	33220848	70.2005
Total	5892	47322794	100.0000

Table 3

Simple Frequency of Depressive Symptomology

Depressive Symptomology	Frequency	Weighted Frequency	Weighted Percent (%)
No	2710	18424222	38.9331
Yes	3182	28898572	61.0669
Total	5892	47322794	100.0000

Table 4

Simple Frequency of Discrimination

Discrimination	Frequency	Weighted Frequency	Weighted Percent (%)
None	2532	19594818	41.4067
Low	1413	12042640	25.4479
Moderate	868	7164101	15.1388
Severe	1079	8521235	18.0066
Total	5892	47322794	100.0000

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