



The Association between Overworking and Physical and Mental Health among Adults who were Healthy as Children

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Introduction

- **Defined Threshold of Overworking:** The Fair Labor Standards Act established the standard 40-hour work week in 1940, yet 488 million people worldwide worked more than 55 hours weekly in 2016, leading to 745,194 deaths. (Pega, F., et al., 2021)
- **Current Findings:** Working either multiple jobs or more than 55 hours has been proven detrimental to both physical and mental health. Existing research has proven significant associations between:
 - Working 55 hours or more and heart disease, stroke, and hypertension among Black men who work multiple jobs (Bell, Owens-Young, and Tavares, 2024)
 - Working multiple jobs and depression as well as life dissatisfaction among low-income mothers (Bruns and Pilkauskas, 2019)
- **Gap in Literature:** The relationship between overworking and physical and mental health issues has not been studied across a sample of adults who did not have health problems as children, and previously deemed themselves as physically and mentally fit. It will remain unclear to what extent overworking can impact an individual's health until individuals who entered the workforce in stable physical and mental health are studied.

Methods

Sample

- **Employed adults who were healthy as children** (n=2,751) were drawn from waves 1 and 5 of the National Longitudinal Study of Adolescent to Adult Health (**AddHealth**). Wave 1 surveyed a representative population of adolescents in 1994, and wave 5 records the same population in 2016.

Measures

- General physical health was recorded from 1 (poor) to 5 (excellent)
 - Net change in health was derived from subtracting the general health recorded in wave 1 from that of wave 5
- Well being variables in wave 1 note the frequency at which the participant has experienced the health issue (headaches, chest pains, insomnia) or emotion (depressed, happy, hopeful)
 - Participants were filtered in wave 1 to have at least "good" general health, no frequent feelings of depression, and no frequent chest pains
- Adult health issue variables in wave 5 are binary (hypertension, cancer, heart disease, stroke, depression, or anxiety)
- Number of jobs recorded as int, hours worked recorded as ordered factor
- Individuals were classified as "overworked" if they worked over 40 hrs

Research Questions

1. Are results from previous studies investigating the association between overworking and health issues replicable among a sample of adults who were healthy as children?
2. Given said replicability, are there groups that are more vulnerable to the health impacts of overworking?

Results

Univariate

- 46% of the sample recorded general health scores that had worsened in adulthood.

Bivariate

- Analysis of variance (ANOVA) indicated **no significant difference in general health decline** between individuals working more than 55 hours and those working a standard workweek (p-value > 0.05)
- A chi-squared test revealed **no significant difference in depression rates** amongst low-income mothers working multiple jobs (p-value > 0.05)
- A chi-squared test again revealed **no significant difference in hypertension rates** amongst black men working 55 hours or more or multiple jobs (p-value > 0.05).
- Conversely, a chi-squared test revealed a **significant difference in mental health diagnoses** (depression or anxiety) among those working multiple jobs across the entire sample (p-value < 0.05)

Multivariate

- A logistic regression analysis found a **significant difference in mental health diagnoses** between both **multiple job** holding as well as **sex** (Fig. 1)
- A logistic regression analysis also found a **significant difference in depression rates** between both **multiple job** holding as well as **low income** (Fig. 2)

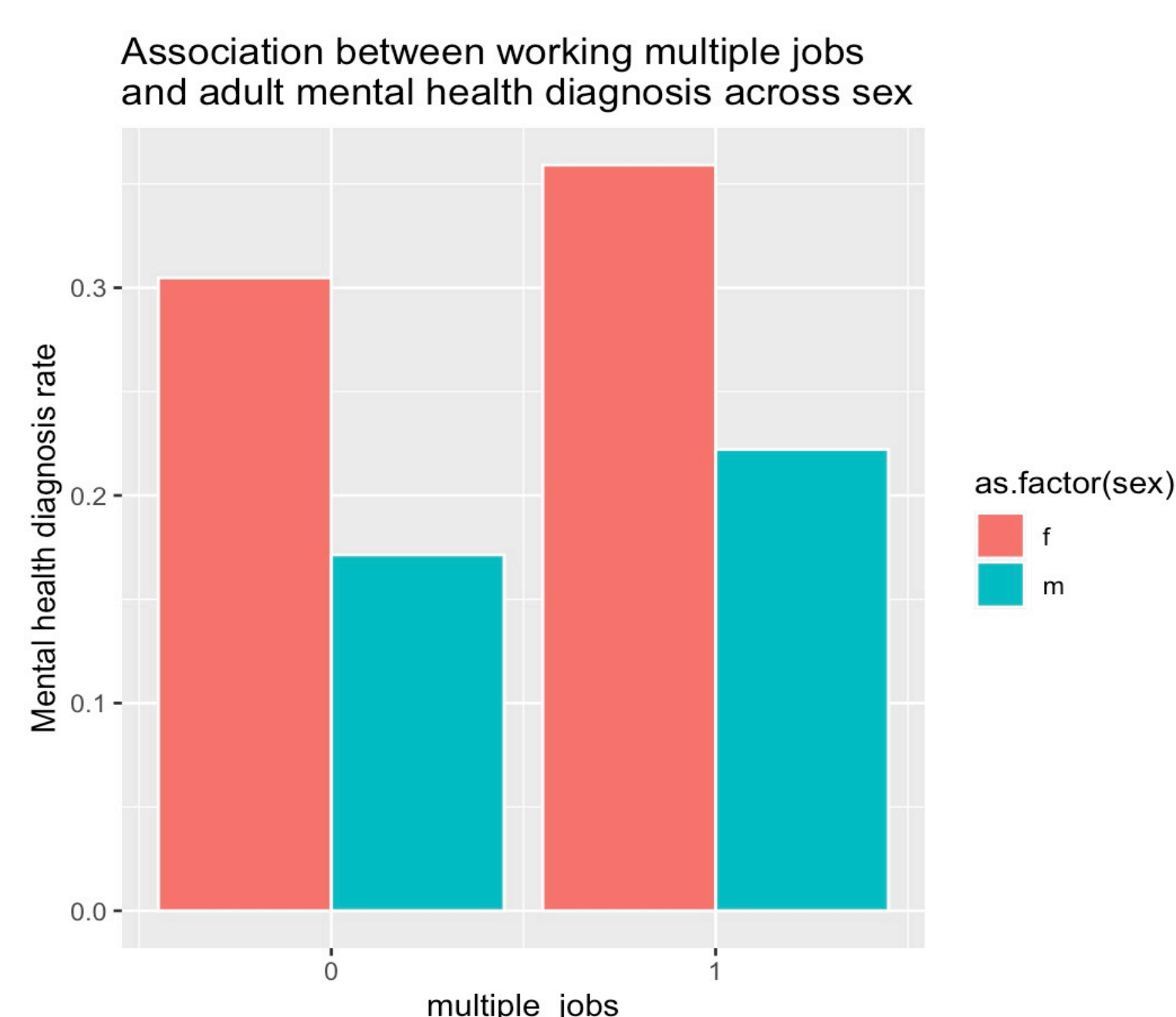


Figure 1. Association between mental health diagnosis rate and number of jobs held by sex

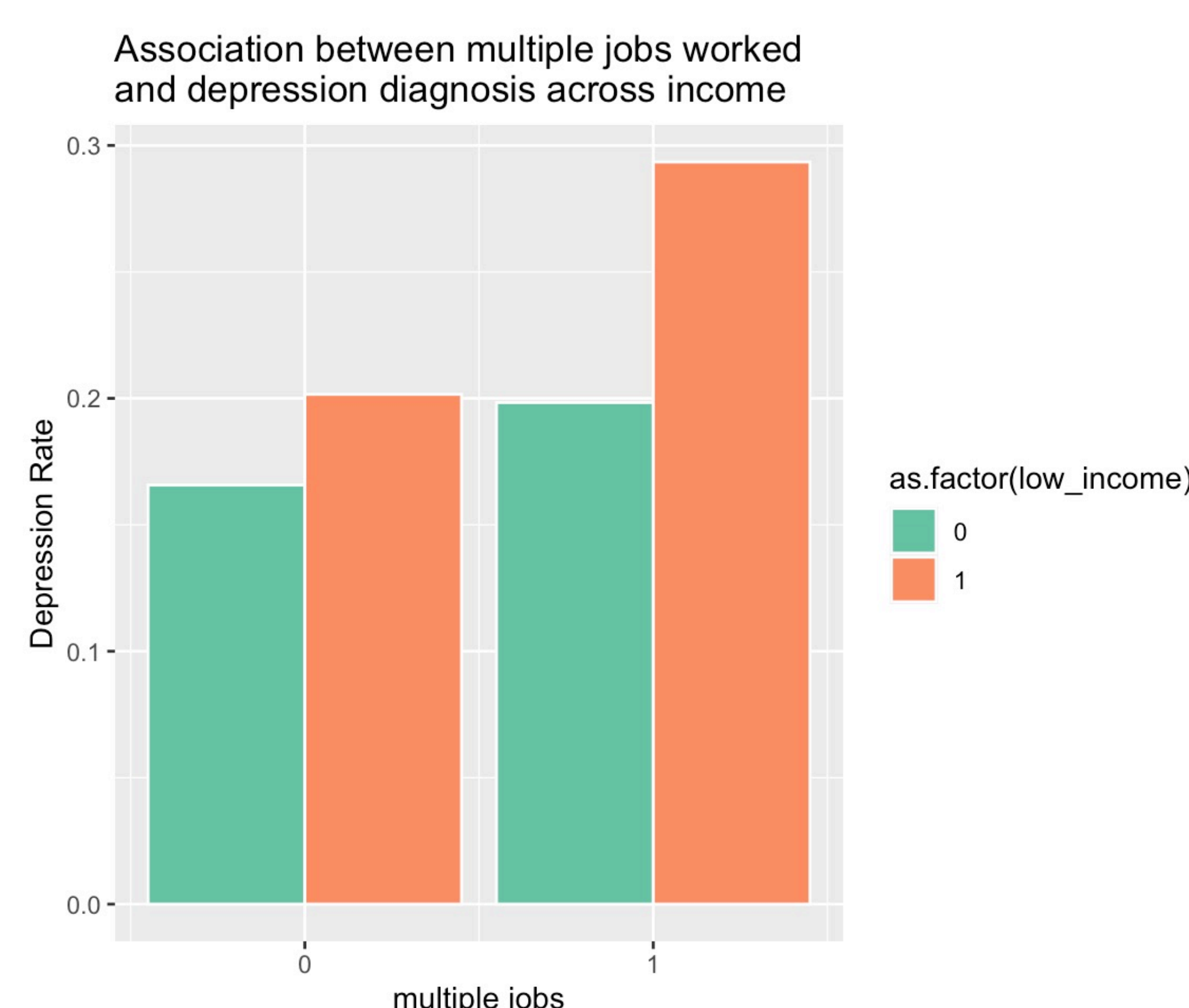


Figure 2. Association between depression rate and number of jobs held by income level

Discussion

- The lack of significant associations between health issues across both Black men and low-income mothers working multiple jobs conflicts with previous research in the field.
- The significant associations between mental health diagnosis rate and working multiple jobs do prove the hypothesis that overworking negatively impacts health
- The legitimacy of the results is limited by lack of significance in most of the statistical tests performed, and thus further studies are demanded by this
- Further studies must consider the following:
 - Larger Sample Size
 - Emphasis on direct health impacts of overworking such as sleep deprivation, increased stress, etc.

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