The Association of Income Disparity on Presence of Depression in Different Aged Adults

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Introduction

- Conditions for those who live in poverty have been found to be more associated with worse mental health conditions compared to those with greater income levels (Ridley et al., 2020), with around 11.5 percent of Americans living in poverty, totaling 37.9 million people (U.S. Census Bureau, 2024).
- Depression, specifically, was more prominent in individuals with worse economic status. (Lund & Cois, 2018) .
- It has been introduced that specific demographic characteristics should be accounted for (Zimmerman & Katon, 2005).
- Past studies that have lacked introducing older populations into the association between income and depression, (Sánchez-Moreno & Gallardo-Peralta, 2022)

Research Questions

- Is there a significant association between income level and depression in adults?
- Does the association between income level and depression differ significantly across age groups (young adults, middle-aged adults, older adults)?

Methods

Sample
- Data drawn from the sample from the first wave of the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC)
  - studied multiple mental health disorders, including alcohol and other substance use disorders, personality disorders, and anxiety and mood disorders
- The sample is taken from people living in households and the noninstitutionalized population of the United States 18 and older.
- Information was collected using the NIAAA Use Disorder and Associated Disabilities Interview Schedule.
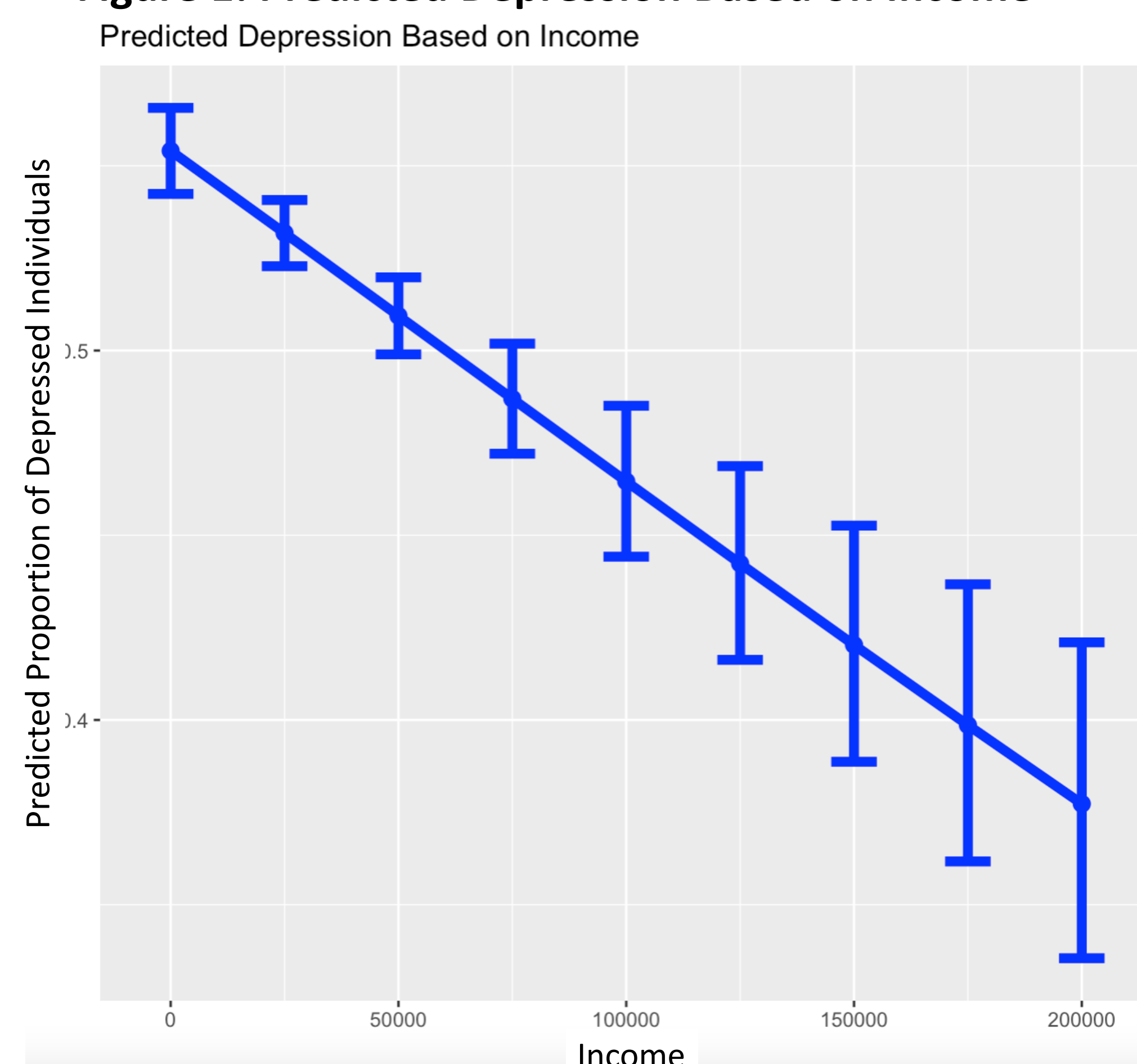- The sample in this study includes 12,935 participants.

Measure
- **Depression**: 4 questions asked participants to answer "yes" or "no"
  - Moved/Talked much more slowly than usual most days for 2+ weeks
  - Felt worthless most of the time for 2+ weeks
  - Slept more than usual nearly every day for 2+ weeks
  - Felt tired/easily tired nearly every day for 2+ weeks, when not doing more than usual
- Coded Binary: Presence of depression in this study is measured by score. A score of 0-1 indicates the absence of depression(0), while a score of 2-4 indicates the presence of depression(1)
- **Income and Age**: Section 1 of AUDADIS-IV provides details about the participants background information, including personal income and age.
  - Income: ranges from $0-200,000
  - Age: Responses ranged from 18-98.
    - For this study age was divided into 3 categories young adults (18-35), middle-aged adults(36-65), older adults (66-98)
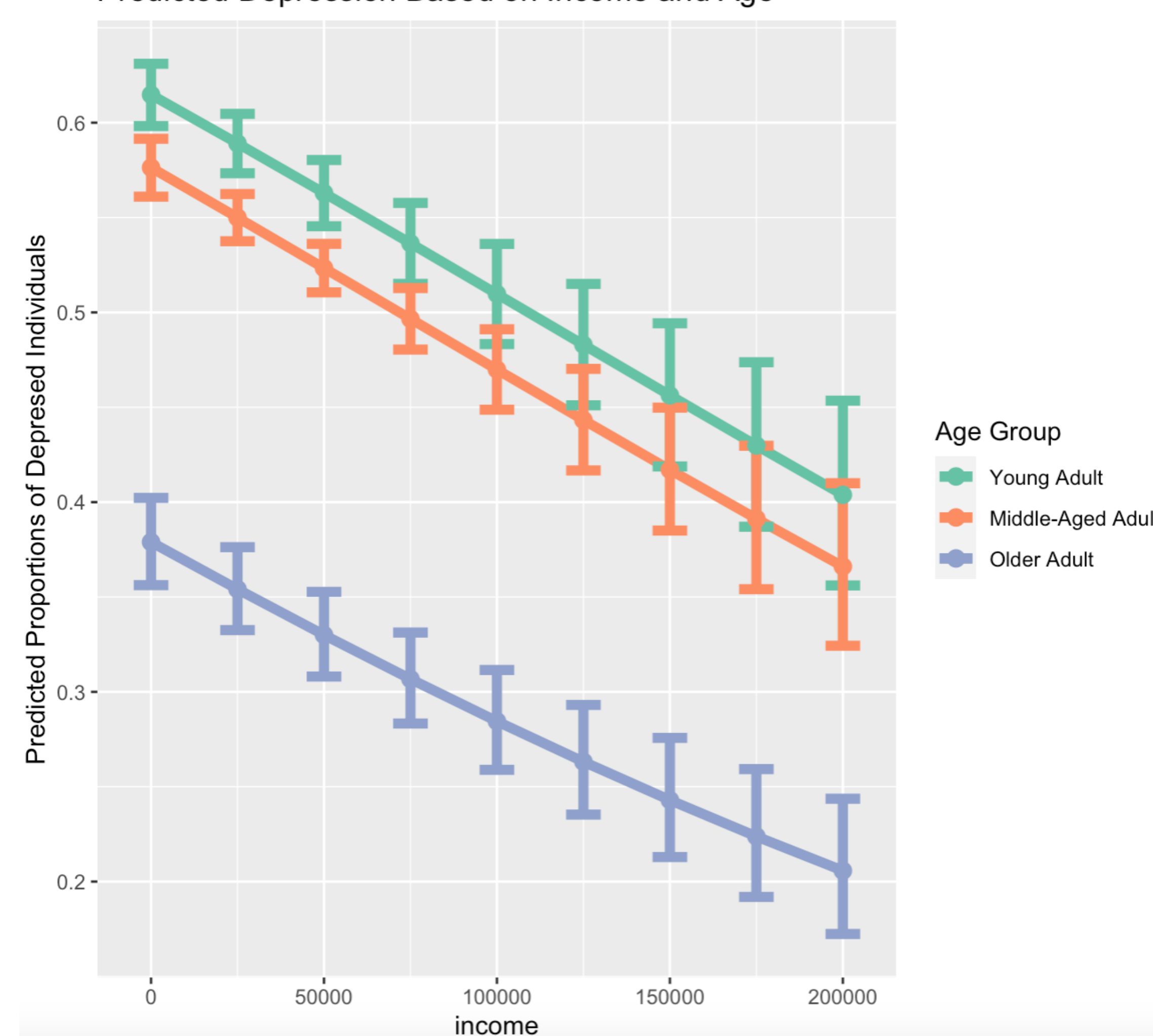
Results

Bivariate- Figure 1

- In logistic regression analysis, a one-unit increase in income is associated with a decrease in the odds of depression by a factor of about 0.9999964, with all other variables held constant (O.R=0.9999964, 95% CI: 0.9999954-0.9999975, p < 0.001).
- This indicates that higher income is associated with lower odds of experiencing depression, with a *statistically significant* relationship.

Multivariate- Figure 2

- The logistic regression analysis, controlling for age, indicates a one-unit increase in income is associated with a decrease in the odds of depression by a factor of approximately 0.9999957 (OR = 0.9999957 (95% CI: 0.9999946-0.9999968, p<0.001)
- When using young adults as the reference level:
  - Middle-aged adults have approximately 0.85 times the odds of depression compared to young adults(p = 0.000143).
  - Older adults have approximately 0.38 times the odds of depression compared to young adults(p < 2e-16).

Figure 1: Predicted Depression Based on Income

Figure 2: Predicted Depression Based on Income and Age

Discussion

- There is a significant association between income and presence of depression in adults
- Higher income is associated with lower odds of depression consistent with previous research
- Controlling for age, there are variations in the income-depression association across age groups
  - Middle-aged adults have 0.85 times the odds of depression compared to young adults.
  - Older adults have 0.38 times the odds of depression compared to young adults.
- Policymakers and healthcare professionals can use this knowledge to address socioeconomic disparities in mental health.
- Further exploration is needed to understand the role of demographic factors, such as race, gender (etc.) in the income-depression relationship.

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