AlzAware: Early Alzheimer's Detection

by : GROUP 12 PHASE 5

INTRODUCTION

The AlzAware Project leverages predictive modeling and social determinants of health to detect early signs of Alzheimer's disease and related Dementias.

PROBLEM STATEMENT

Addressing Cognitive Decline: Predictive Modeling of Alzheimer's Disease Through Social Determinants of Health.

MAIN OBJECTIVE

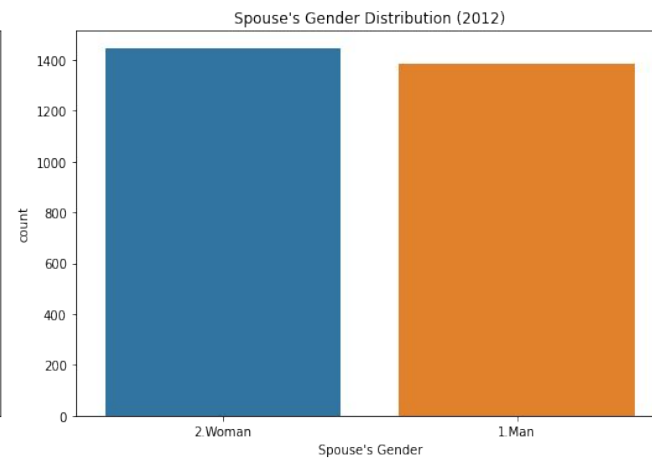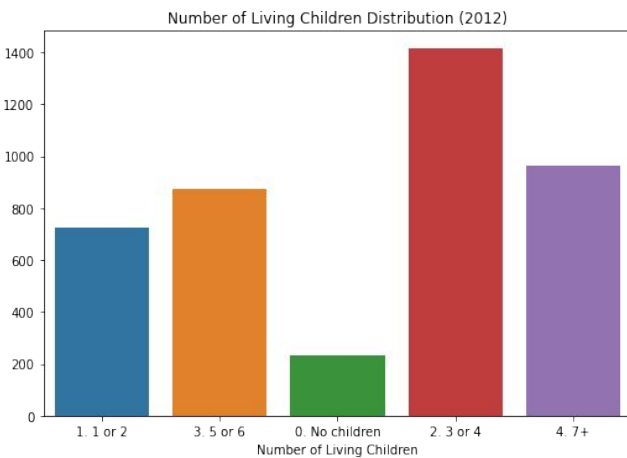- **Develop a Predictive Model for Early Alzheimer's Detection Using Social Determinants.**
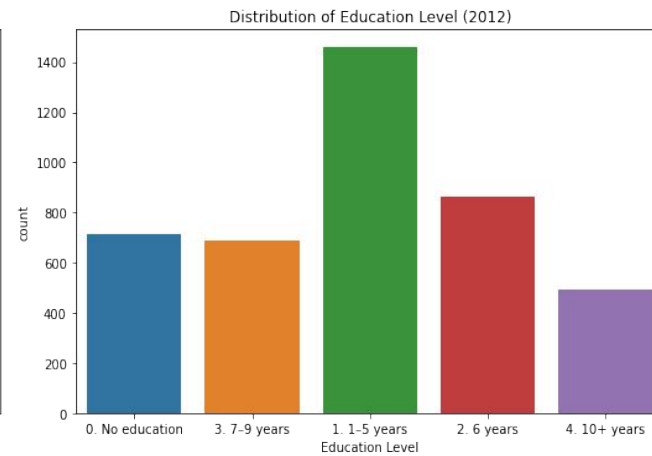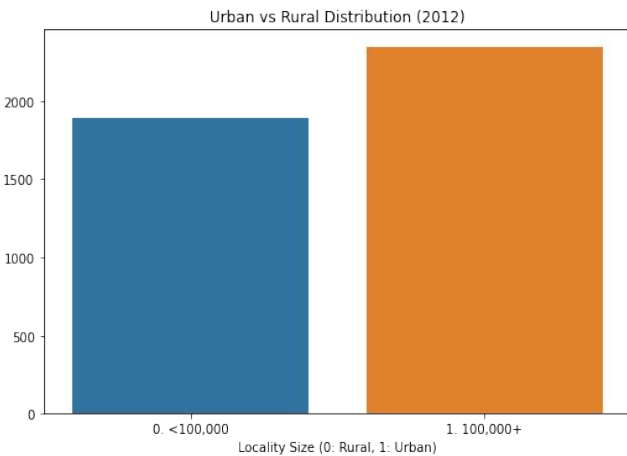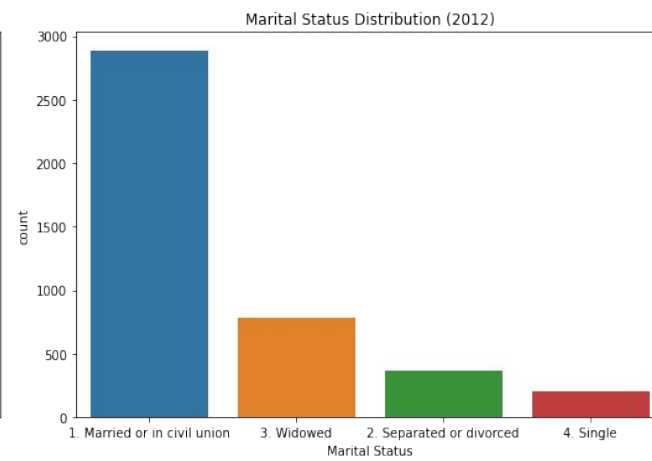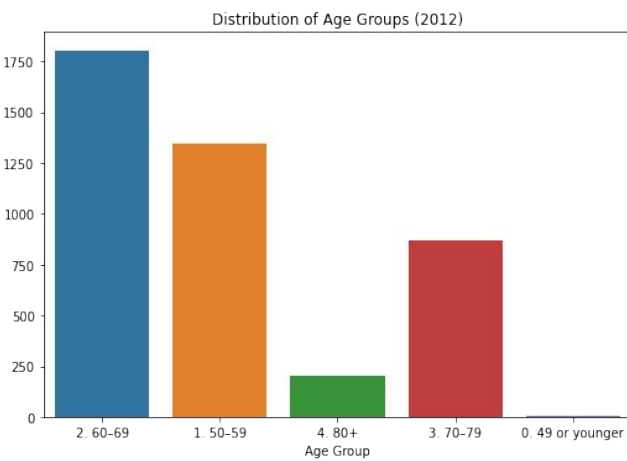
SPECIFIC OBJECTIVES

- Improved Detection: Predict AD/ADRD risk using non-clinical factors.

- Bias Mitigation: Ensure accuracy across diverse groups.

- Enhanced Accessibility: Utilize widely available social health data.

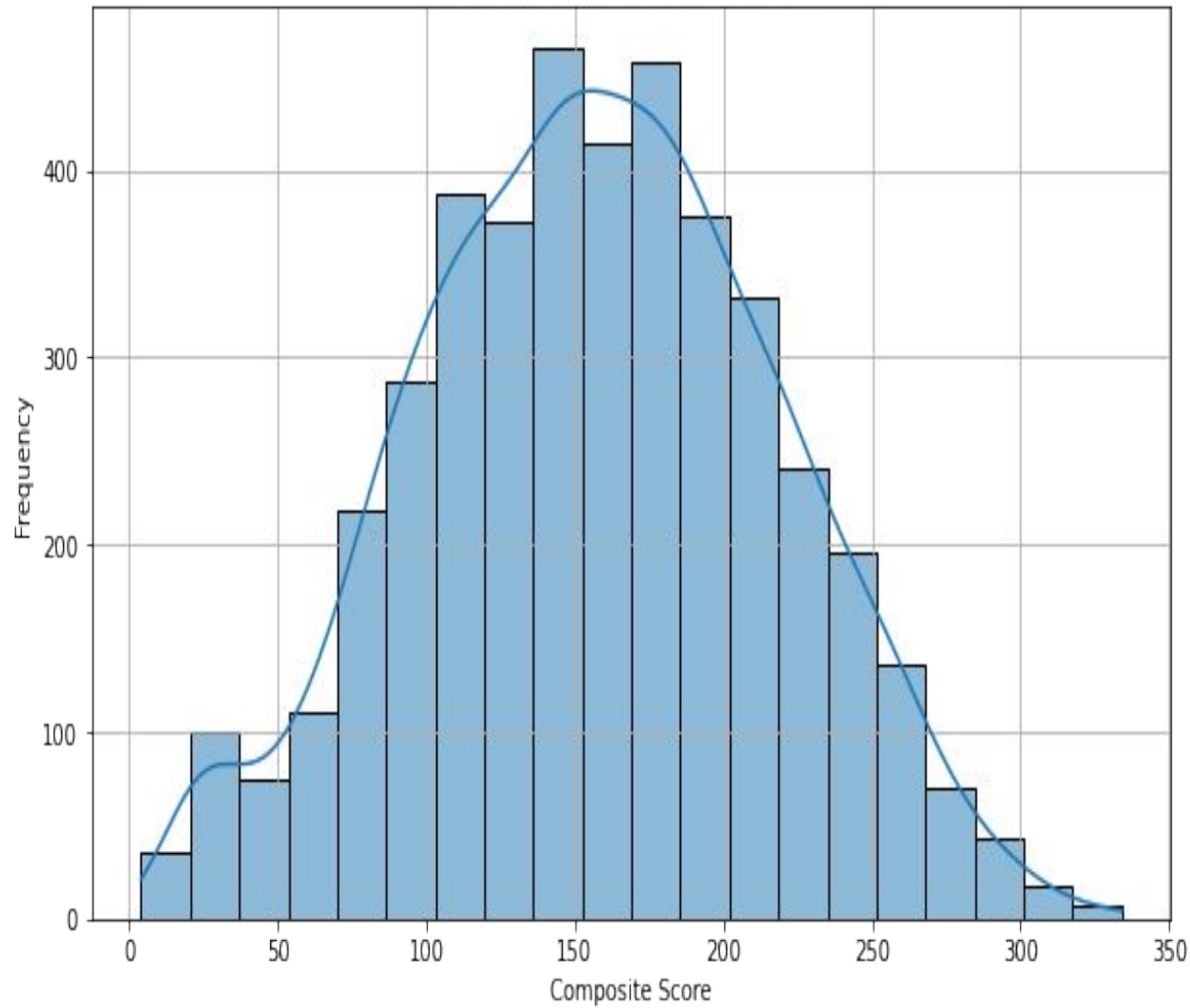- Generalization Potential: Adaptable framework for global applications.

DATA UNDERSTANDING

- Source: Mexican Health and Aging Study (MHAS).

- Years: Data from 2003, 2012 (training), and 2016, 2021 (evaluation).

- Key Data: Demographics, socioeconomic factors, health metrics, lifestyle behaviors, and cognitive scores.

- Majority aged 60–69, mostly married/civil union.
- Urban residents slightly outnumber rural.
- Common education: 1–5 years; most have 3–4 children.
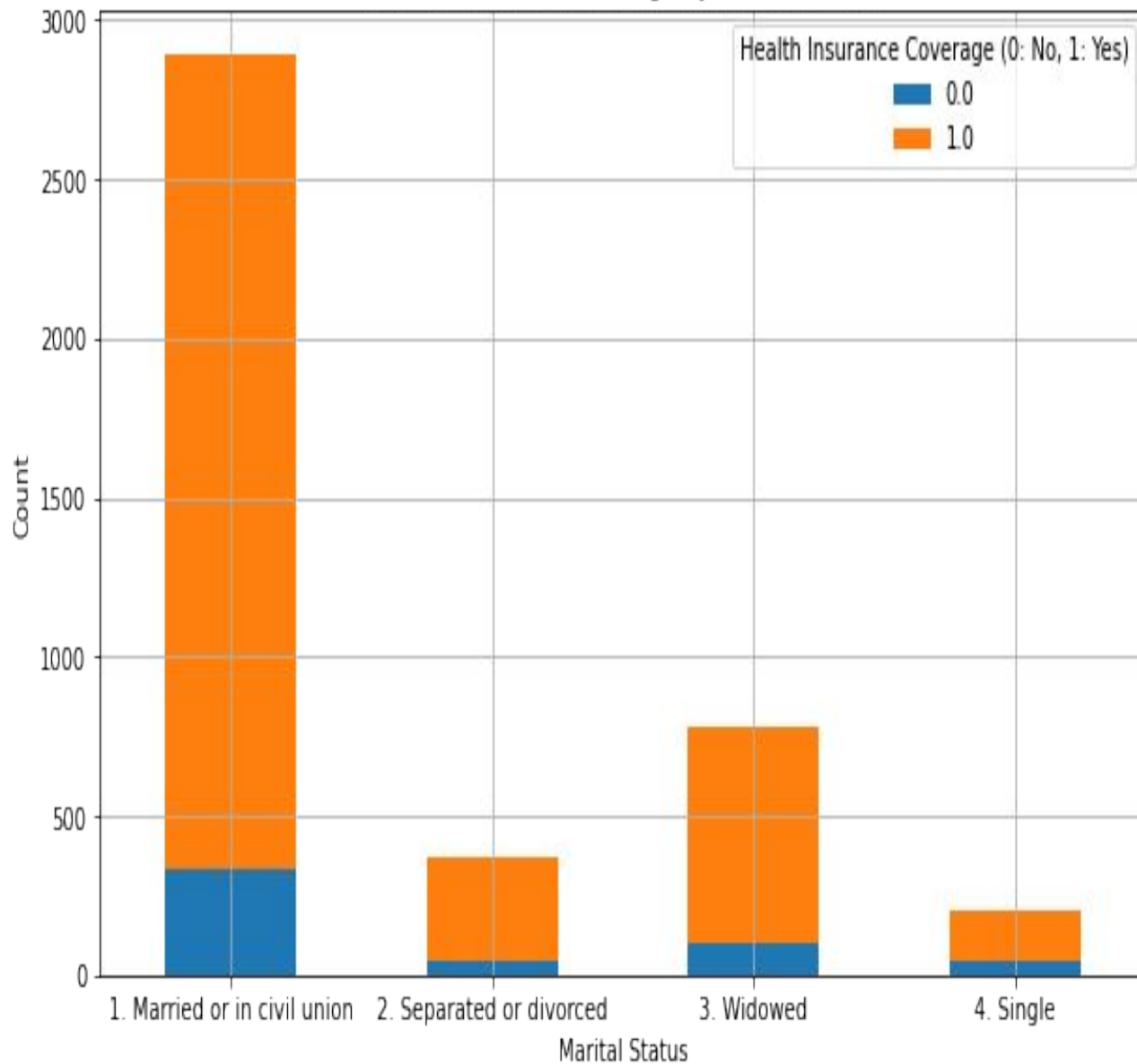- Spouse gender nearly equal, slightly more women.

Distribution of Composite Scores

- The graph shows the distribution of the composite score, which aggregates various health and lifestyle domains.

- Analyzing this score can reveal patterns or trends in overall health across the population in your dataset.
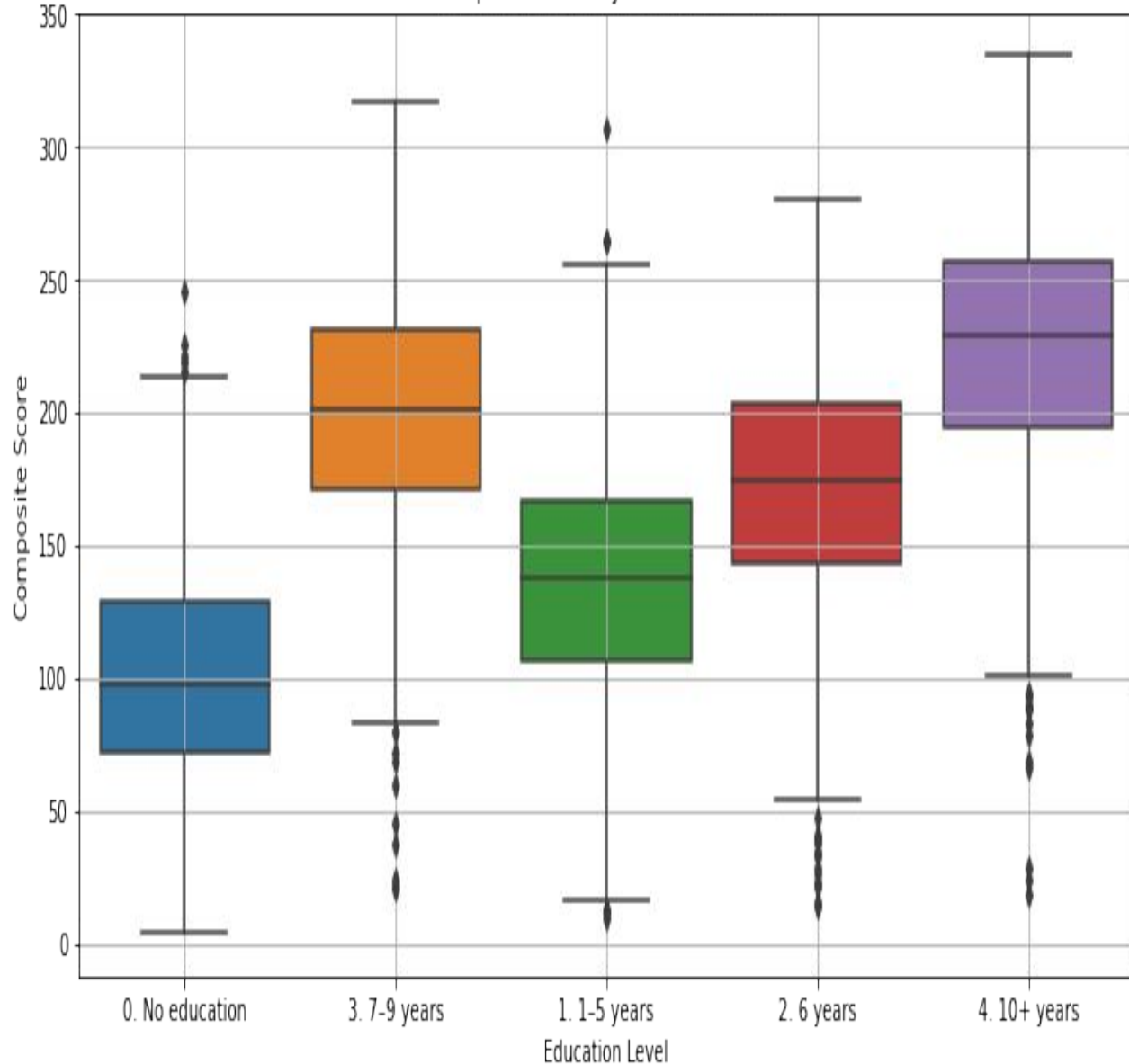
Health Insurance Coverage by Marital Status

Health Insurance by Marital Status:

- Married or Civil Union: Majority have health insurance; few are uninsured.

- Widowed: Most have coverage, but uninsured rates are higher than married individuals.

- Separated/Divorced & Single: Lower overall counts, with insurance coverage less prevalent compared to married individuals.

Composite Score by Education Level

Education and Performance:

- Higher education leads to better scores.

- Low scores and high variability in no education group.

- Significant improvement with 6+ years of education.

- Outliers in higher education reflect other influencing factors like socio-economics.

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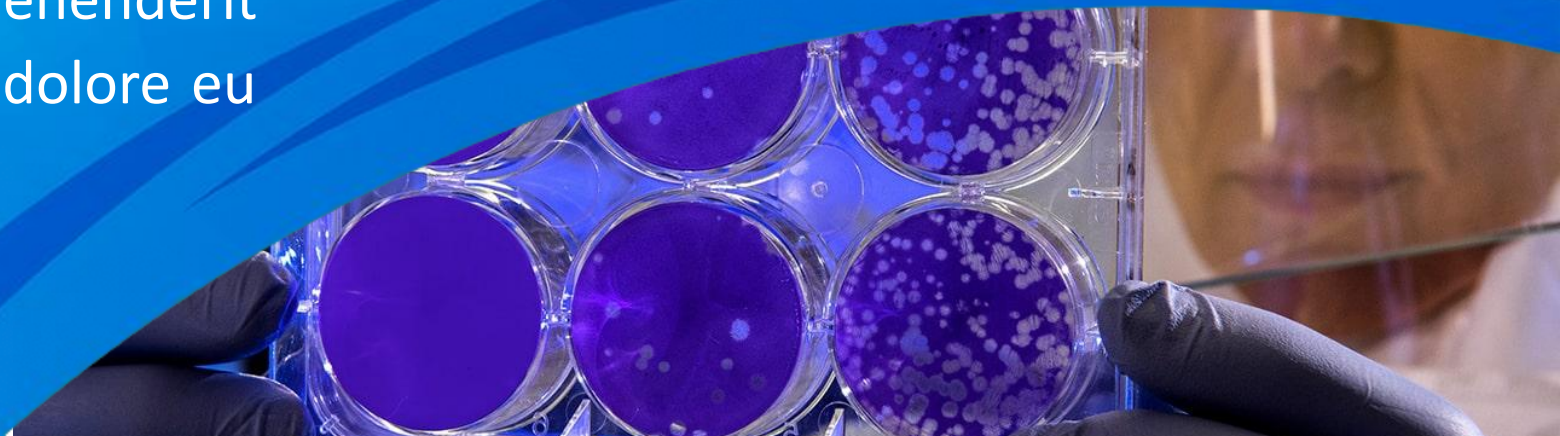
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Thank You!

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