

# Evaluating Screening Tools for Identifying Mental Health Risk

By: Dalia Zizumbo, Maryam Abdus Salaam, Xiqiao Liu, and  
Yumiko Chow



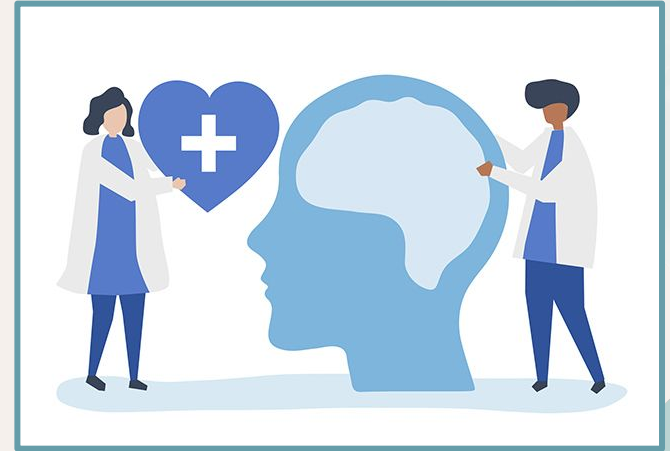
# Introduction

## Background information:

- Patients leaving emergency care are at risk for mental health issues like PTSD and depression
- Emotional impacts increase this risk during recovery
- Screening tools often miss cultural differences, missing key opportunities for support

## Goals:

- This project examines how socioeconomic factors and identities affect healthcare outcomes
- It explores the role of social determinants in healthcare disparities
- The goal is to identify patterns to improve equity and outcomes for marginalized groups



(Chang H. et al., 2019)

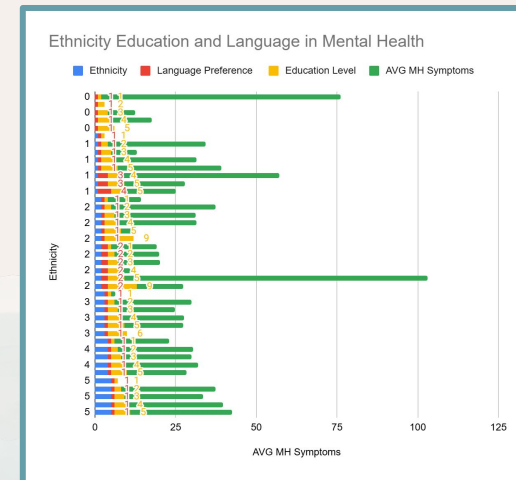
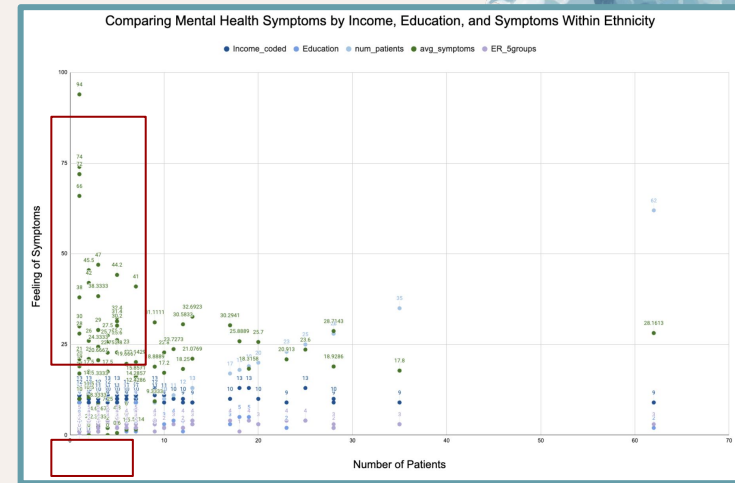
# Is there a relationship between income and educational attainment in influencing the severity of 2-month mental health symptoms, with a breakdown by ethnicity?

- People of color had a higher average mental health score compared to the white population.
- People with a low level of education had a higher average mental health score
- People with lower income levels had higher average mental health score
- Depending on a person's income, educational attainment, and ethnicity will determine their mental health score

Ethnicity	Income Code	Education	Language
0 = Unanswered	-1 = Unanswered	0 = Did not disclose	1 = English
1 = AAPI	9 = Less than \$25,000	1 = Primary/Grade school	2 = Spanish
2 = Latinx	10 = \$25,000 - \$49,999	2 = High School or GED	3 = Chinese Simplified
3 = Black	11 = \$50,000 - \$74,999	3 = Some College	4 = Chinese Traditional
4 = White	12 = \$75,000 - \$99,999	4 = College Degree	
5 = Multirace/A	13 = \$100,000 or more	5 = Graduate Degree	
		9 = No School	

## How do language preferences and race interact to influence mental health symptoms, and what roles does education play in this relationship?

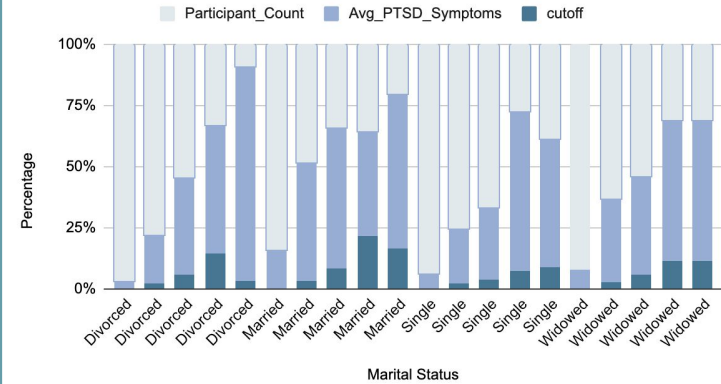
- The group with the highest mental health symptoms were those who participated in higher education
- People of color consistently have higher symptoms than non-poc
- Mental Health Symptoms in this analysis don't seem to rely on language spoken



## What is the relationship between PTSD symptoms and feelings of being cut off by others, and how does this vary across different marital statuses?

- Average PTSD symptoms for divorced participants have an extreme cutoff compared to other married/single participants
- Married, single, and widowed individuals with high average PTSD symptoms report high cutoff scores

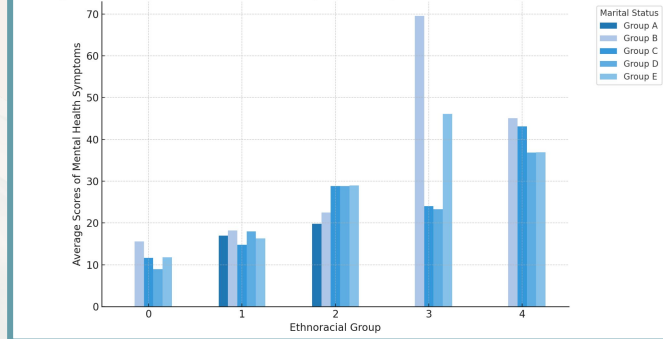
Average PTSD Symptoms by Marital Status and Cutoff Scores



## How does marital status and past mental health history impact mental health symptoms across different ethno racial groups?

- **Group B (Latinx):**  
Exhibits the most severe symptoms with a peak around 70.
- **Single people (represented by 0):**  
Have the lowest mental health scores regardless of ethnicity (best mental health condition)

Average Scores of 2-Month Mental Health Symptoms by Ethnoracial Group and Marital Status



# Conclusion

## Outcome:

- Our findings contribute to a deeper understanding of the disparities in mental health screening and care. Our analysis highlights the need for more inclusive and culturally sensitive screening tools and provides a foundation for addressing the barriers related to stigma and access to mental healthcare.

## Key areas where targeted interventions are most needed:

1. Socioeconomic Support
2. Mental Health Screening and Support
3. Cultural and Linguistic Competency in Care
4. Social Support Networks
5. Tailored Educational and Health Literacy Programs

## Next steps:

- Reduce patient drop out from the study
- Expand scope to cover mental health trends in other countries
  - Represent smaller ethnic and racial groups

## Citations:

- Carlson EB. Performance replication of the Hospital Mental Health Risk Screen in 631 U.S. patients admitted through emergency care, 2021-2023. *Openicpsr.org*. Published online October 1, 2024. doi:<https://doi.org/10.3886/E208549V1>
- Carlson EB, Barlow MR, Palmieri PA, et al. Performance replication of the Hospital Mental Health Risk Screen in ethnoracially diverse U.S. patients admitted through emergency care. *PloS one*. 2024;19(10). doi:<https://doi.org/10.1371/journal.pone.0311256>
- Chang H. The Mental Health Crisis in Medical Education: Sharing Stories, Normalizing Unwellness and Seeking Help | Biomedical Odyssey. Johns Hopkins Medicine. Published December 20, 2019. <https://biomedicalodyssey.blogs.hopkinsmedicine.org/2019/12/the-mental-health-crisis-in-medical-education-sharing-stories-normalizing-unwellness-and-seeking-help/>