Social Determinants of Mental Health in California, by Life Stage

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Abstract

Background
Previous research suggests that poor mental health outcomes can be attributed to social, economic and physical environments within one's lifespan. Risk factors include social inequalities that disadvantage groups of people, such as the lack of education and unsatisfactory housing (1). We examined the relationship between these factors and mental health in a population-based study in California.

Methods
The Behavioral Risk Factor Surveillance Survey (BRFSS) is used across the United States to assess health-related risk factors, chronic health trends, and the use of preventative services. We obtained California BRFSS data from Sacramento State University for 2018, 2017, 2010 and 2001. We used logistic regression to estimate odds ratios (OR) and 95% confidence intervals (CI) of poor mental health by social determinants of health including age, race/ethnicity, and education. This project was approved by the SJSU Institutional Review Board.

Results
The OR of Black & African Americans experiencing poor mental health in comparison to whites was 1.56 (95% CI 1.12 – 2.16), while Asians had an OR of 0.50 times (95% CI 0.33 – 0.76). Compared to persons aged 18-24 years, those aged 65 and older had 0.51 times (95% CI 0.37 – 0.69) the odds of poor mental health.

Research Questions
- What are the social determinants of mental health in California?
- How have mental health outcomes changed over time (2001-2018)?
- How do the social determinants of health, such as age, race/ethnicity, education level, and home ownership affect mental health outcomes?

Project Activities
- Learned about the epidemiology of mental health, and the social determinants of health
- Gained an understanding of epidemiological research and the relation to population health
- Developed expertise in using SAS for statistical analysis, including data preparation, chi-squared tests, and binary logistic regression
- Learned survey design and weighting methods
- Prepared documents for IRB review and approval

Results: Participant Characteristics (2018)

Table 1: Characteristics of CA 2018 BRFSS Participants

Variable	Measure	N	Weighted %
	Total Number of Participants	11347	N/A
Days of Poor Mental Health in the Past 30 Days	0-3 Days, Not at all depressed	8499	75.81
	4-15 Days, Several days of depressed mood	1845	16.26
	16+ Days, More than half the days of depressed mood	929	7.93
Education	Less than High School	1517	16.47
	High School	2187	21.79
	Some College	2808	31.92
	College Graduate	4835	29.82
Home Ownership	Own	5414	57.77
	Rent	5318	36.84
	Other arrangement	615	5.40
Age	18-24 years	1074	12.18
	25-44 years	3765	36.10
	45-64 years	3864	32.66
	65+ years	2644	19.06
Race/Ethnicity	White	5527	42.03
	Black or African American	647	6.08
	Hispanic	3737	33.78
	Asian	990	16.25
	Other	378	1.85

*Some values do not add up to 100% due to missing/refused answers
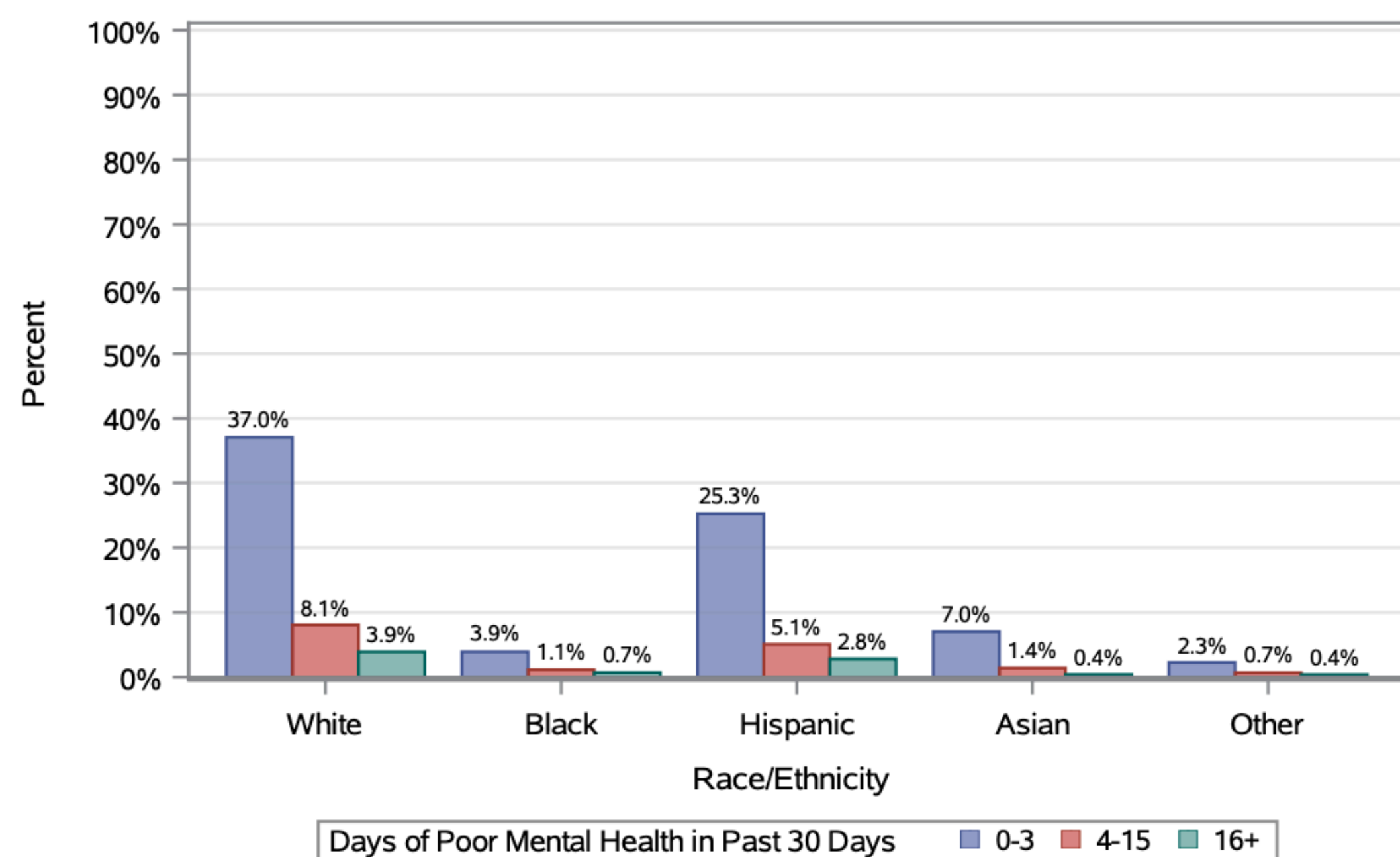
Results, Cont'd: Figure 1

Number of Days of Poor Mental Health in the Past 30 Days by Age
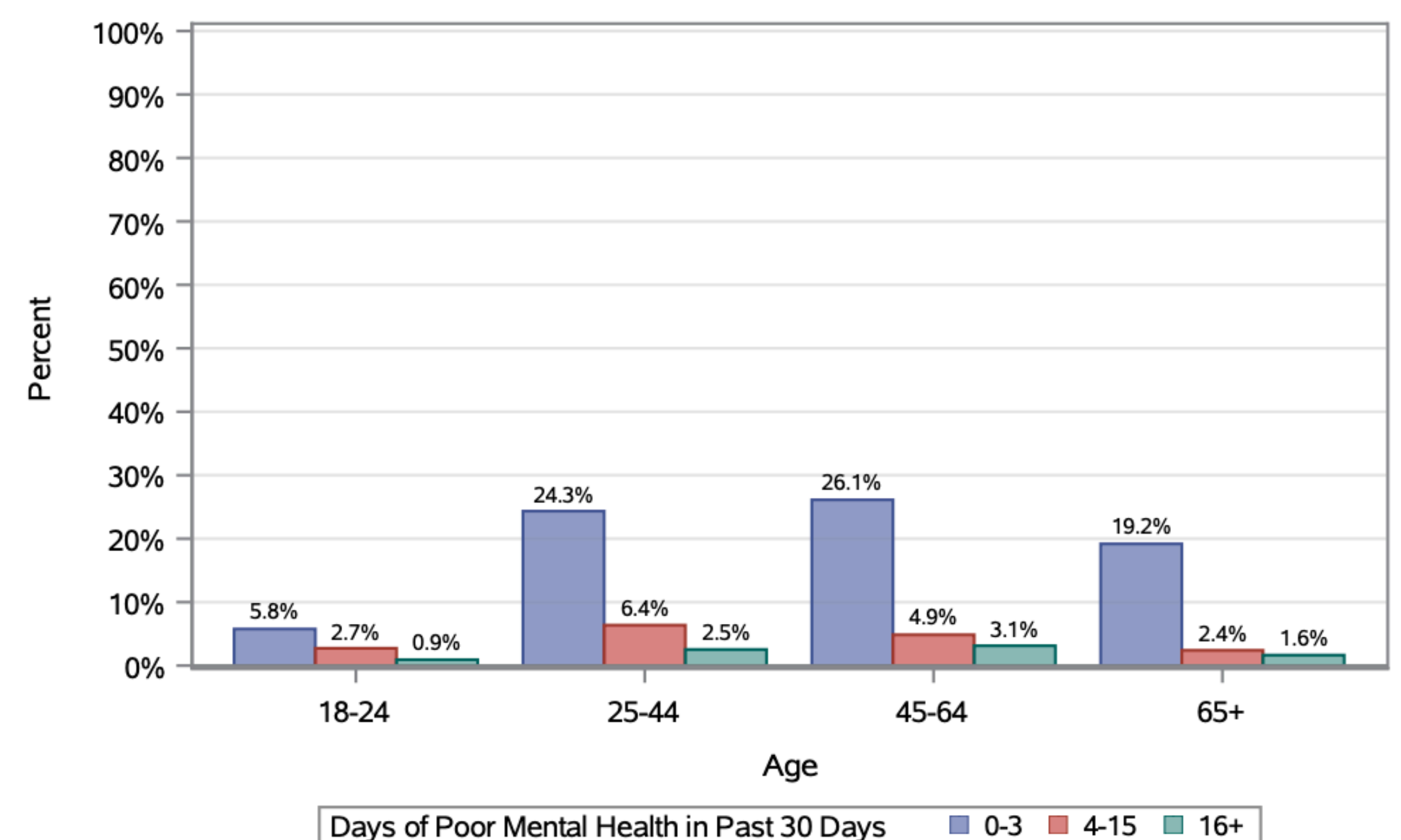
California BRFSS, 2018

Results, Cont'd: Figure 2

Number of Days of Poor Mental Health in the Past 30 Days by Race/Ethnicity

California BRFSS, 2018

Main Findings
- As shown above, race/ethnicity and age were associated with poor mental health. In addition to age and ethnicity, education and home ownership were also associated with poor mental health. The OR comparing those with a college degree to those with less than a high school education was 0.46 (95% CI 0.35 – 0.59) and that comparing homeowners to those with other living arrangements was 2.86 (95% CI 2.10 – 3.90).
- One key strength of this population-based study is that it is representative of California, and therefore the findings can be generalized to the broader California population.

Next Steps
- Conduct multivariate logistic regression
- Examine the relationship in Santa Clara County
- Examine trends in mental health over time (2001 – 2018)
- Prepare manuscript for publication

Citations
1. Allen J, Balfour R, Bell R, Marmot M. Social determinants of mental health. *International Review of Psychiatry*. 2014;26(4):392-407. doi:10.3109/09540261.2014.928270.

Acknowledgments