Sleep, Loneliness, and High-Risk Alcohol Use in College Students Before and During the COVID-19 Pandemic

Caleb M. Cutrer BS & J. Roxanne Prichard PhD
University of St. Thomas Minnesota, Department of Psychology

UNIVERSITY of ST. THOMAS MINNESOTA

Background

College students in the United States show alarming levels of high-risk drinking. In Spring 2022, 66% of students used alcohol use in last 3 months, 13% reported driving after alcohol in last month, and among drinkers 24% reported heavy episodic drinking. While drinking, 22% reported blackouts or brownouts, 11% had unprotected sex, 7% physically injured themselves, and 2.7% seriously considered suicide.[1]

The Epidemic of Loneliness[2] impacts students. 52% of University students screen positive for Loneliness on the UCLA Loneliness Scale,[1] and loneliness is a significant driver of mental distress and suicidality in this population.[3]

Sleep health is notoriously poor in university students. 7% have been diagnosed with insomnia, 43% report regularly getting >7 hours of sleep, 58% report inadequate sleep most nights a week,[1] and sleep difficulties exacerbate psychological distress in students.[3-5]

The COVID-19 pandemic radically shifted students' learning environment and behaviors. Evidence is mixed regarding its impact on behavioral health. Systematic reviews show wide ranges in alcohol use during early phase of the pandemic, with increased drinking associated with pre-existing mental illness, caregiving responsibilities, but declines in alcohol use among social drinkers.[6-8]

Objectives

1. Compare sleep measures, loneliness, and alcohol behaviors in Fall 2019 to Fall 2020.
2. Determine what behavioral and psychological factors were predictive of high-risk drinking in students with and without a Substance Use Disorder (SUD) diagnosis.

ACHA NCHA — American College Health Association National College Health Assessment

Dataset

A total sample of 50,052 students from U.S. post-secondary institutions completed the Fall 2019 and Fall 2020 National College Health Assessment III. Response rates were similar (14%) across both years, but fewer schools participated in 2020.
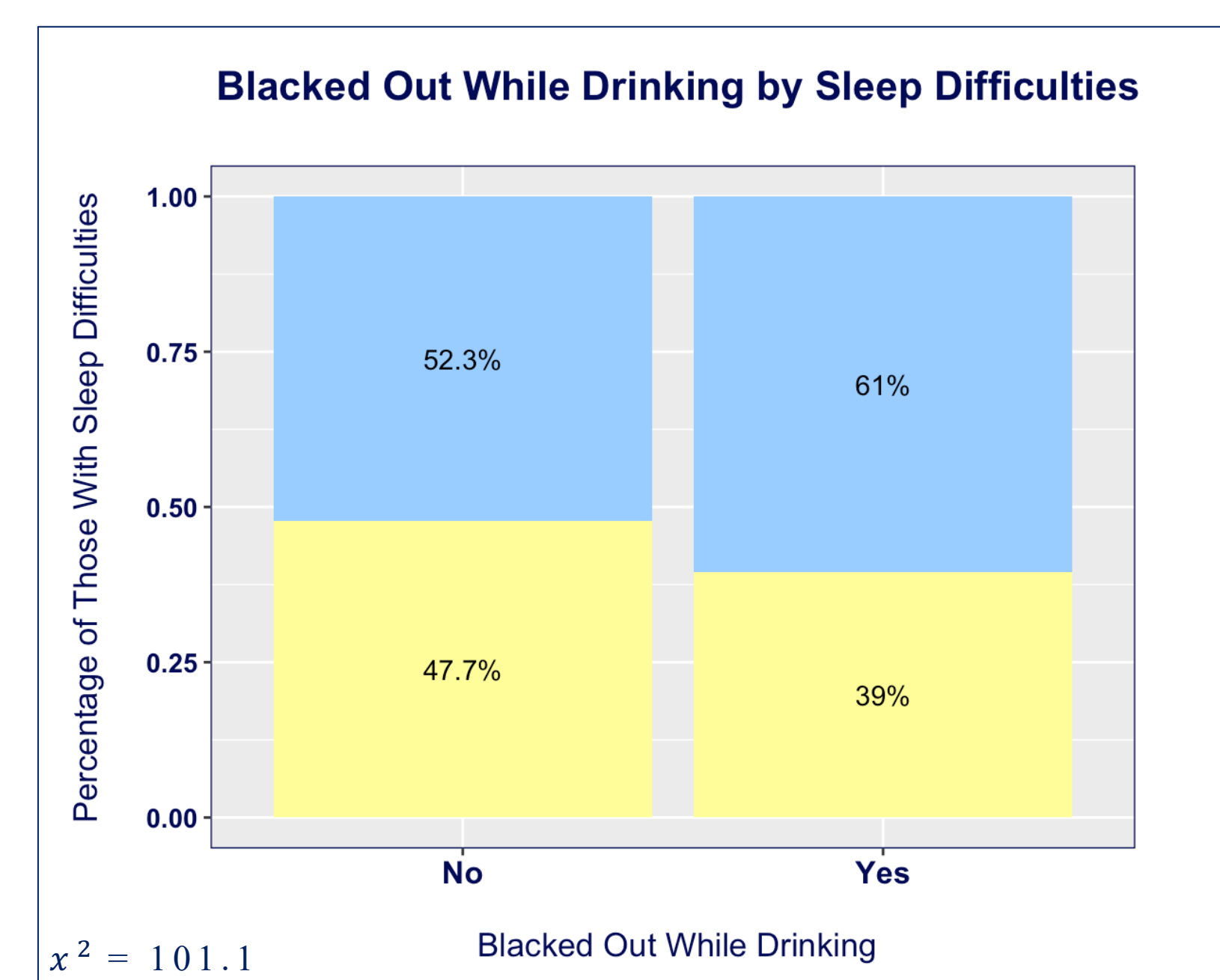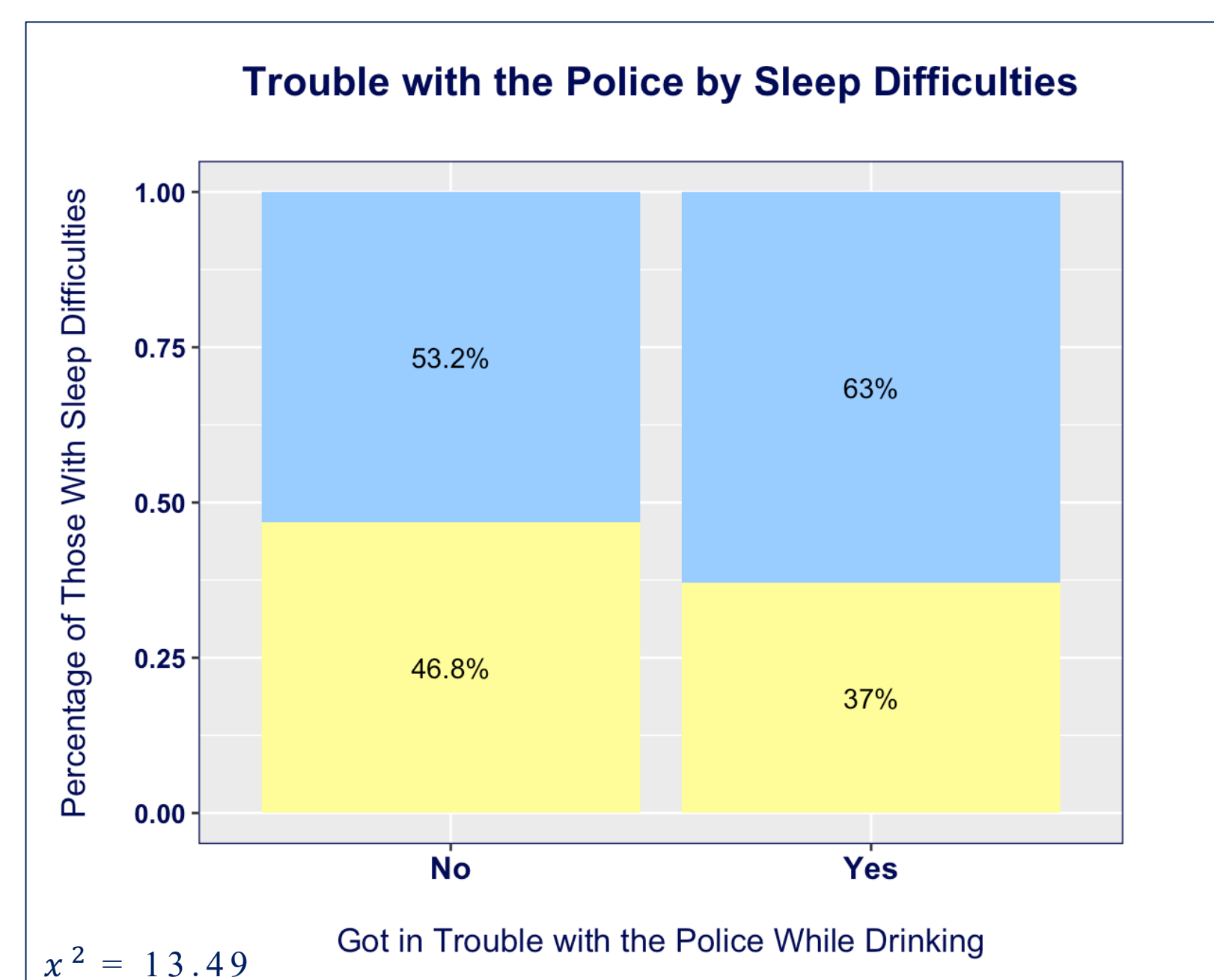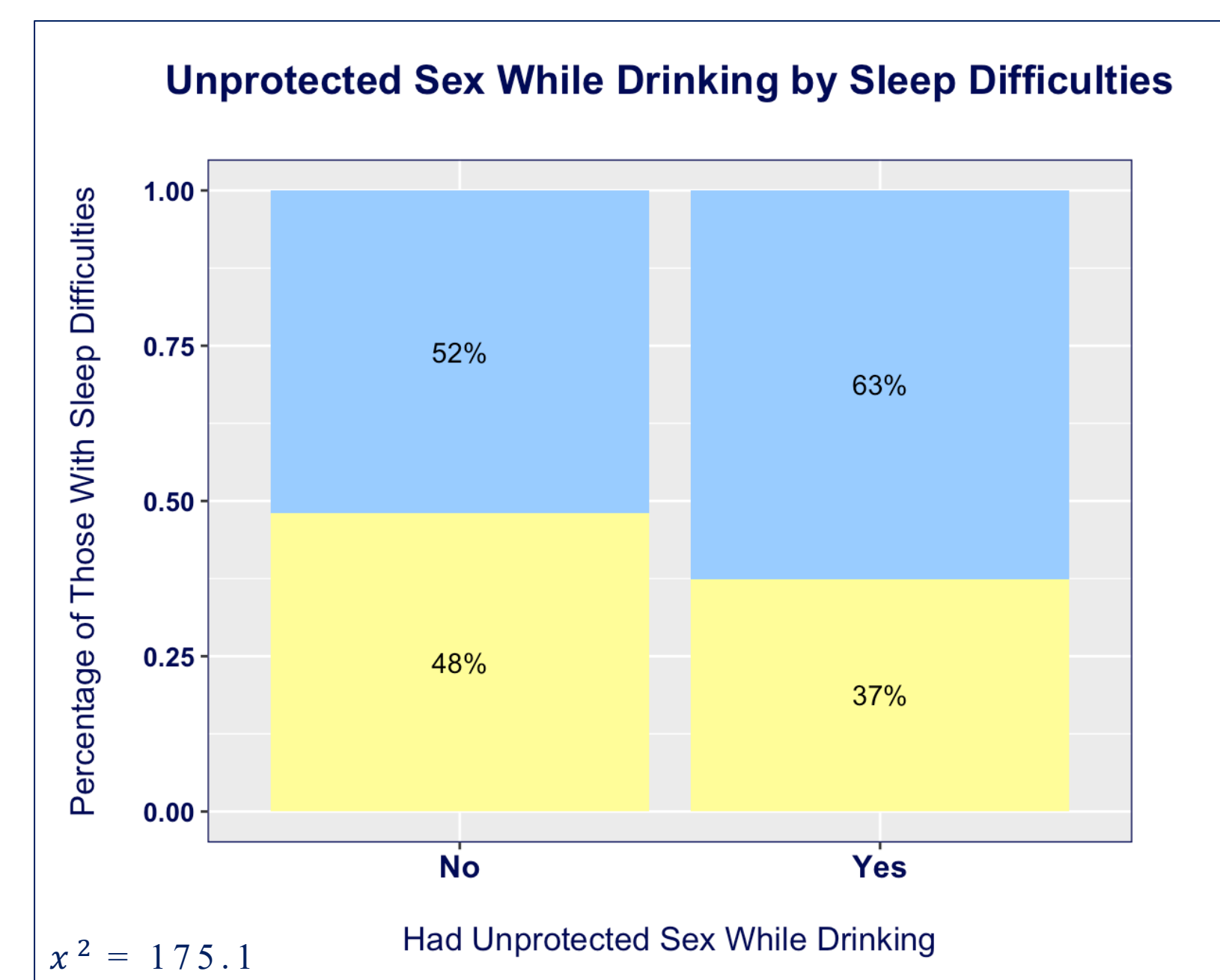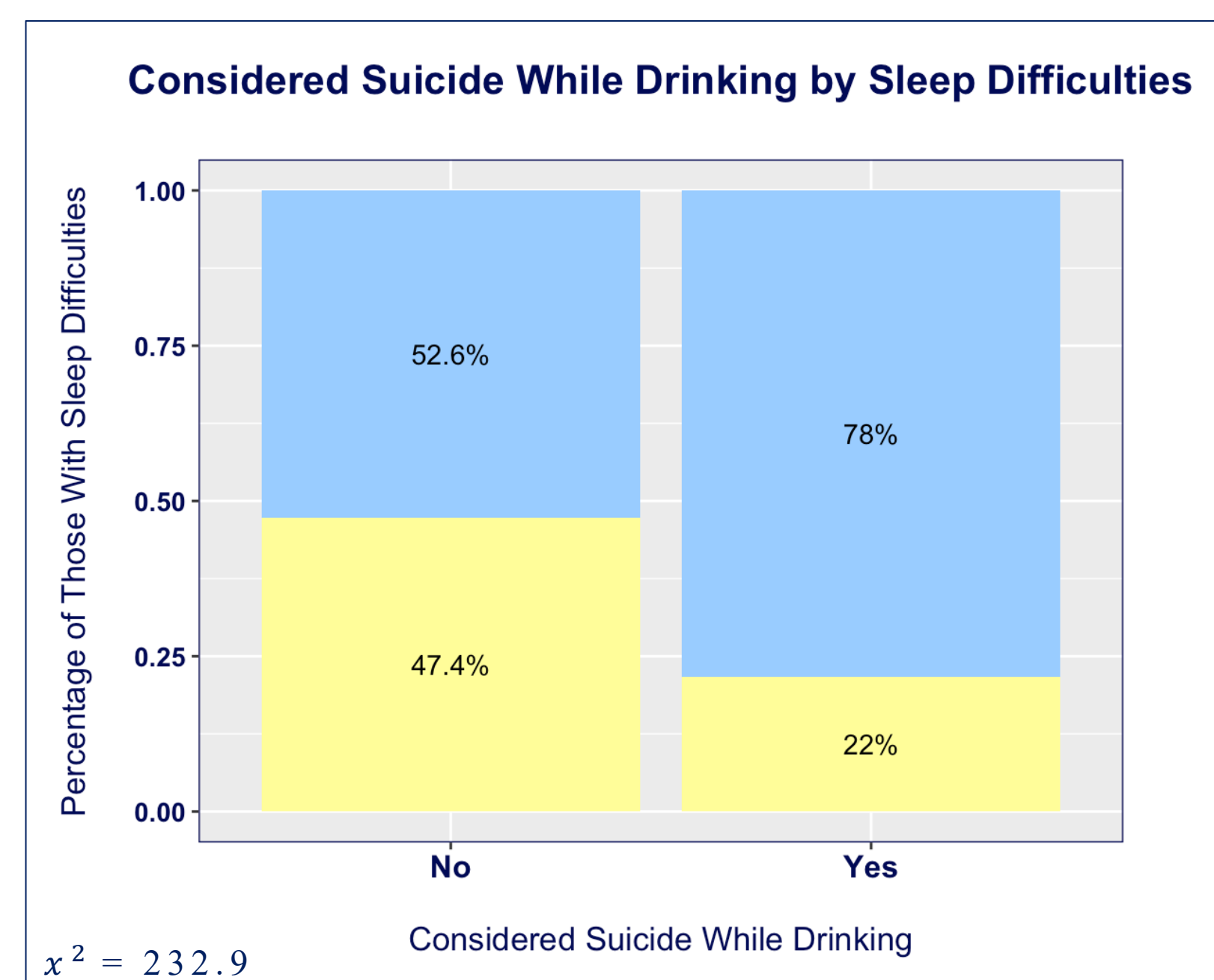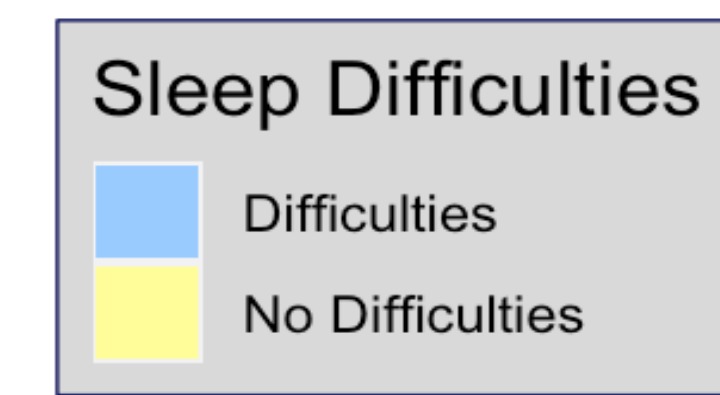
Variables

1. ASSIST SSIS Alcohol Use Score
2. Kessler 6 Non-Specific Psychological Distress Scale
3. UCLA 3-ITEM Loneliness Scale
4. Sleep variables including typical hours of sleep week and weekend, sleep latency, self-reported sleep difficulties (all ordinal). Number of days in the last 7 "waking up too early and not being able to get back to sleep", "feeling tired and sleepy during the day", "having an extremely hard time falling asleep" and "getting enough sleep to feel rested".

Compared to 2019, in Fall 2020, both students with and without SUD diagnosis reported lower levels of high-risk drinking, more difficulties falling asleep, and slightly longer sleep duration on weeknights.

|	No SUD Diagnosis		SUD Diagnosis	
	Fall 2019 N = 37,833	**Fall 2020** N = 13,093	**Fall 2019** N = 423	**Fall 2020** N = 154
ASSIST SSIS Alcohol Score Averages (0-39)	6.91	6.45	13.42	12.62
Number of Nights in the Past 7 Days with Extreme Difficulties Falling Asleep	1.92	2.28	2.68	2.79
Average Sleep Duration on Weeknights (hours)	6:30	6:42	6:24	6:33
Average Sleep Duration on Weekend-nights (hours)	7:30	7:31	7:25	7:14
Percentage of Respondents with Reported Sleep Difficulties	51%	52%	69%	68%
UCLA Loneliness Scale Score Averages (3-9)	5.37	5.41	6.2	5.68

In both years, students with a SUD reported significantly more problems with sleep initiation, more subjective sleep difficulties, and higher levels of loneliness compared to those without a SUD diagnosis.

Reporting sleep difficulties was associated with significantly more negative drinking outcomes across years.

Sleep Difficulties
- Difficulties
- No Difficulties

Considered Suicide While Drinking by Sleep Difficulties — No: 52.6% / 47.4%; Yes: 78% / 22%; $x^2 = 232.9$

Unprotected Sex While Drinking by Sleep Difficulties — No: 52% / 48%; Yes: 63% / 37%; $x^2 = 175.1$

Trouble with the Police by Sleep Difficulties — No: 53.2% / 46.8%; Yes: 63% / 37%; $x^2 = 13.49$

Blacked Out While Drinking by Sleep Difficulties — No: 52.3% / 47.7%; Yes: 61% / 39%; $x^2 = 101.1$

Among drinkers, 11.6% reported having unprotected sex, 10.9% blacked out, 2.4% seriously considered suicide, 1% got in trouble with the police, while drinking in the past 12 months. In each of these categories, students with self-reported sleep difficulties were over-represented.

Path Diagram of Structural Equation Model with sleep & psychopathology factors predicting problematic drinking.
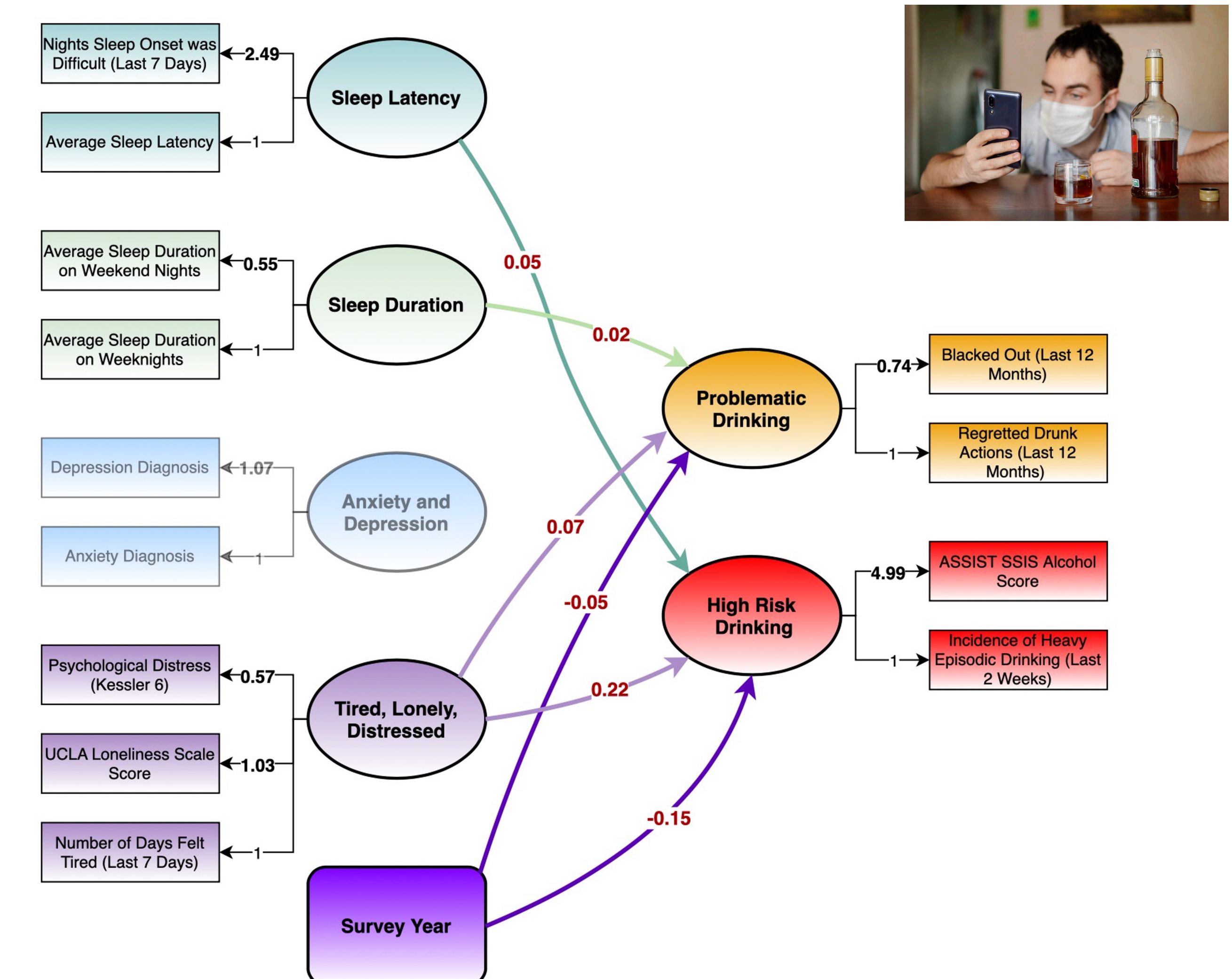
Conclusions

Reductions in social drinking were likely responsible for the decreased problematic alcohol use among students in 2020, a finding consistent with previous research.[7]

Sleep disturbances were significant predictors of problematic drinking. Specifically, students with longer sleep latencies and daytime tiredness were more prone to problematic drinking.

Loneliness was a significant driver of problematic alcohol use and interacted with daytime fatigue and psychological distress.

Implications: Universities could better support student health by investing in sleep education and screening, as well as fostering opportunities for genuine social connection.

References

1. American College Health Association National College Health Assessment III Reference Group Summary Spring 2022. https://www.acha-ncha.org.
2. Our Epidemic of Loneliness and Isolation: The U.S. Surgeon General's Advisory on the Healing Effects of Social Connection and Community. (2023) https://www.hhs.gov/sites/default/files/surgeon-general-social-connection-advisory.pdf
3. Berg SS, Rosenau PS, Prichard JR. Sleep quality mediates the relationship between traumatic events, psychological distress, and suicidality in college undergraduates. J Am Coll Health. 2022 Aug-Sep;70(6):1611-1614.
4. Peng A, Tang Y, He S, Ji S, Dong B, Chen L. Association between loneliness, sleep behavior and quality: a propensity score-matched case-control study. Sleep Med. 2021;86:19-24.
5. Rivera Juarez, A, S. Berg, and J.R. Prichard. (2023). Psychological Well-Being in Asian and Asian American College Students Impacts of Discrimination during the COVID-19 Pandemic. J. of Adolescent Health. Doi: https://doi.org/10.1016/j.jadohealth.2023.04.016
6. Wilson SE, Feltus SR, Brennan AM, Carey KB, DiBello AM, Mastroleo NR. Comparing Alcohol Use of Pre-COVID-Era and COVID-Era Cohorts of Mandated College Student Drinkers. J Stud Alcohol Drugs. 2022 Jul;83(4):480-485
7. Schmidt RA, Genois R, Jin J, Vigo D, Rehm J, Rush B. The early impact of COVID-19 on the incidence, prevalence, and severity of alcohol use and other drugs: A systematic review. Drug Alcohol Depend. 2021 Nov 1;228:109065.
8. Evans S, Alkan E, Bhangoo JK, Tenenbaum H, Ng-Knight T. Effects of the COVID-19 lockdown on mental health, wellbeing, sleep, and alcohol use in a UK student sample. Psychiatry Res. 2021 Apr;298:113819. doi: 10.1016/j.psychres.2021.113819.