

MENTAL HEALTH ATTITUDES AND WORK

AN INVESTIGATION OF SURVEY DATA FROM
OPEN SOURCING MENTAL ILLNESS

CONDUCTED IN PARTIAL COMPLETION OF
IS/DATA 621, CITY UNIVERSITY OF NEW YORK
MAY, 2018

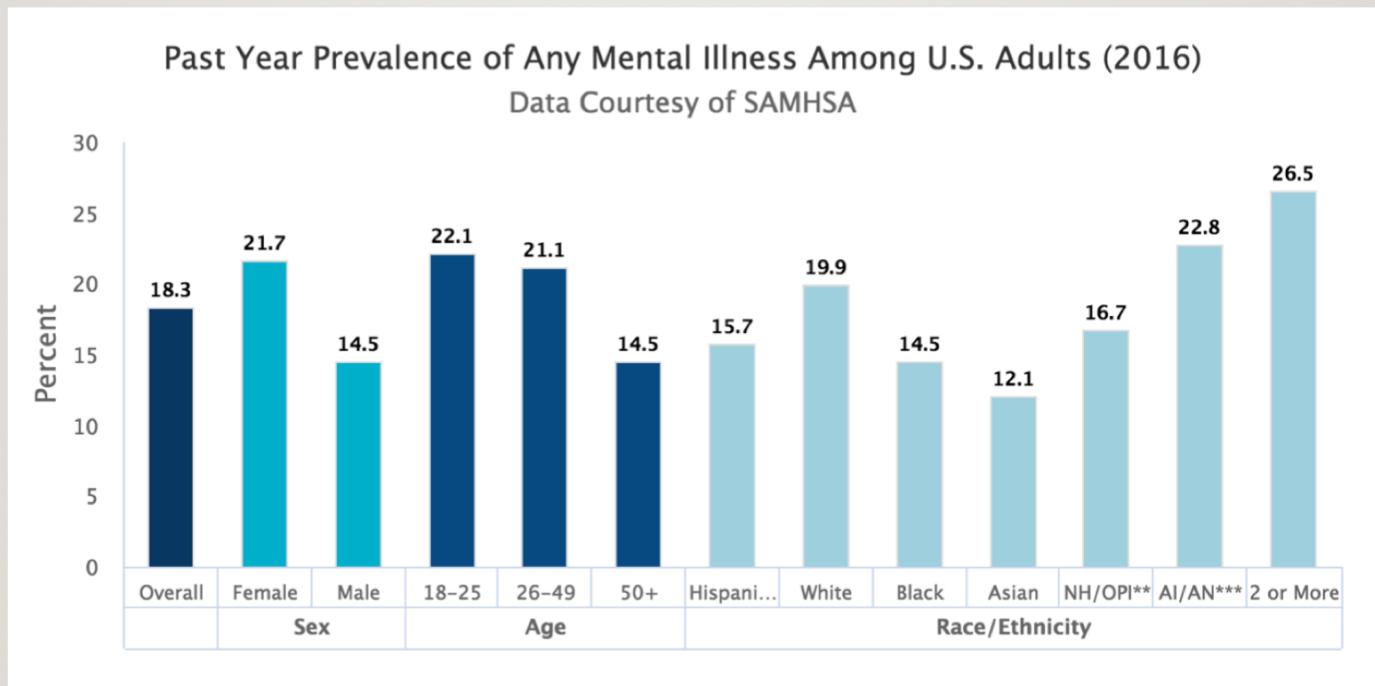
AN ANALYSIS BY

- Andy Carson
- Raphael Nash
- Joel Park
- Joy Payton
- Walt Wells

MOTIVATIONS

- All of us are avid users of open source software, write code, and are information professionals.
- Some of us have careers in medicine.
- All of us know someone who struggles with mental illness.
- We have all managed other employees and want healthy coworkers, colleagues, and direct reports.
- We want to understand what promotes access to mental health care in information workers.

MOTIVATIONS



OPEN SOURCING MENTAL ILLNESS



<https://osmihelp.org/>

OPEN SOURCING MENTAL ILLNESS

What OSMI Does

Awareness



We **fight the harmful stigma** around mental health disorders by **speaking openly** about our experiences. Shame and silence are countered with honest, straightforward explanations of how mental illness affects us.

[WATCH TALKS](#)

Education



We educate the tech community on both the **economic impact** of mental disorders, and how they affect worker **productivity**. We collect and share important data on tech workers' expectations about how they'll be treated.

[VIEW OUR RESEARCH](#)

Resources



We help workplaces identify the **best resources** to support their employees, and we create detailed guides on how to make the workplace **safe and supportive** for those with mental health issues.

[FIND RESOURCES](#)

OSMI DATA

- Open Sourcing Mental Illness (OSMI) offered its mental health survey in 2014, 2016, and 2017.
- Data is available for 2014 and 2016.
- We used 2016 data, licensed under Attribution-ShareAlike 4.0 International (CC BY-SA 4.0). Therefore our findings here are shared under the same license. For more information please see

<https://creativecommons.org/licenses/by-sa/4.0/>

OSMI DATA

- Survey data is collected anonymously, with no identifying information (no IRB / Ethics oversight required).
- Some questions are posed about the person answering the survey, such as “What is your gender?”, “Do you work remotely?”, “Do you have a family history of mental illness?”.
- Other questions ask about that person’s employer (e.g. “Do you think that discussing a mental health disorder with your employer would have negative consequences?”)
- Some questions can be answered in a free-text format, others are multiple choice.

LIMITATIONS AND CHALLENGES

- Survey is offered in English only
- No tracking of participation (people could choose to respond multiple times)
- Free text fields (e.g. gender) need to be consolidated to categorical answers
- Self-selection / sampling biases exist (predominantly North American, likely engaged / interested in the topic)
- Information about employer is gathered from employees (may be inaccurate)

DATA CLEANING

- Notes field mined for useful information that could clear up ambiguous answers
- Gender field consolidated into M/F/Other
- Removal of unhelpful / sparse questions like U.S. State

ANALYTICS APPROACH

- Aim: model seeking professional mental health services as the dependent variable based on responses to other questions
- Logistic regression using logit
- Three models, of increasingly constrained feature sets, all with AUC above 0.89
- A balanced model with 8 predictors and AUC of 0.91 explains nearly half the variance in whether help is sought from professional mental health services.

SELECTED MODEL

Variable	Estimate	Std. Error	z value	Pr(>)
(Intercept)	-2.86067	0.51261	-5.581	2.40e-08 ***
Age	0.02308	0.01142	2.021	0.043305 *
Genderfemale_trans	-0.51100	1.16244	-0.440	0.660233
Genderfluid	-0.68534	1.23932	-0.553	0.580264
Gendergenderqueer	0.65882	1.10910	0.594	0.552502
Gendermale_cis	-0.75196	0.22689	-3.314	0.000919 ***
Genderunknown	10.71894	535.41126	0.020	0.984027
family_historyYes	0.98156	0.17544	5.595	2.21e-08 ***
work_interfereNo Response	-2.35093	0.55073	-4.269	1.97e-05 ***
work_interfereOften	3.38019	0.33485	10.095	< 2e-16 ***
work_interfereRarely	2.44761	0.28372	8.627	< 2e-16 ***
work_interfereSometimes	2.82398	0.24920	11.332	< 2e-16 ***
benefitsNo	-0.06002	0.23089	-0.260	0.794915
benefitsYes	0.48226	0.24500	1.968	0.049027 *
care_optionsNot sure	-0.15089	0.22230	-0.679	0.497299
care_optionsYes	0.53490	0.22423	2.385	0.017056 *
anonymityNo	-0.02996	0.36986	-0.081	0.935449
anonymityYes	0.30273	0.21200	1.428	0.153297
coworkersSome of them	0.21571	0.20477	1.053	0.292147
coworkersYes	0.84316	0.28387	2.970	0.002975 **

NOTABLE FINDINGS

- Predictive variables within a company's control that encourage the treatment of mental health include
 - An employer offering mental health benefits
 - An employee being well informed about the options offered by the employer for mental health treatment
 - Anonymity being maintained when an employee makes use of mental health or substance abuse treatment resources offered by the employer
- Predictive variable about the employee's self-evaluation that encourages the treatment of mental health
 - Mental health issue affecting work productivity

PARTICIPATE!

- To join in the data gathering for the next round of OSMI research, please visit <https://osmi.typeform.com/to/XYupsC>.