Mental Illness and Gender Identity in Ohio Residents

Danielle M. Siwula, Hava J. Topolski, & Aubrey M. Woodhull

Grand Valley State University

PH 602-01: Chronic Disease Epidemiology

Dr. Karen Niemchick

April 19, 2021

Background

The risk of Americans experiencing mental illnesses is astonishingly high and has a complicated history in the United States (Stein & Manderscheid, 2016, Chapter 18). However, new literature is beginning to show an association between mental illnesses and chronic diseases (Stein & Manderscheid, 2016, Chapter 18). In 2006 it was reported that about 11% of American children had been diagnosed with an emotional disorder (Merker et al., 2017). Yet, by the year 2010, the prevalence of American youth that had been diagnosed with at least one mental health disorder has risen to 49.5% (Noltemeyer et al., 2020). Among the elderly who reside in the state of Ohio, mental health disorders have resulted in a 33% increase of suicide incidence rates (Sweeney et al., 2020).

Residents of the state of Ohio are exposed to a number of risk factors that can impact their mental health. The social determinants of mental health include, but are not limited to, education, diet, job stability, housing stability, health care and insurance access, social and economic policies, adverse childhood experiences (ACEs), gender discrimination, and physcial environmental factors (Compton et al., 2020). Ohio in particular places a heavy emphasis on cross-cutting outcomes that help promote a healthy lifestyle early in life starting in elementary schools so that citizens of Ohio are less likely to experience traumatic and violent events (Ohio Department of Health, 2017). These social determinants of mental health have the power to increase both the prevalence and risk of both mental health issues and substance use and abuse (Compton et al., 2020).

Gender identity is defined as a person's internal idea of who they are and what their gender is (Green, 2012). It is important to note that gender identity is socially constructed. Those who have experienced discrimination and inter-personal violence based on their gender identity

are a specifically high-risk population for the prevalence of mental illness (Compton et al., 2020). There have been numerous barriers in place that hinder access to health care for those who identify within the LGBTQIA community in particular. As non-traditional gender identities become more present, additional care needs to be put in place so individuals can adequately seek care. This discrimination is shown most commonly in the body as chronic stress and anxiety (Compton et al., 2020). Additionally, appropriate training in allyship for providers treating LGBTQIA patients will be crucial in ensuring all patients are receiving appropriate and necessary care that does not discriminate against gender identity. Due to this perceived association and necessary effort to provide inclusive medical care, we chose to look into mental health and gender identity.

After analyzing the health needs of the entire state, Ohio has listed improving mental health and addiction as one of three of its greatest health challenges for the upcoming years alongside chronic disease and maternal and infant health. The 2017-2019 State Health Improvement Plan for Ohio indicates that the state is prioritizing and working to reducing depression and suicide related deaths. To actively monitor this measure, the state hopes to increase access to mental health services, standardize screening for mental health conditions, and collect data to help reduce health disparities (Ohio Department of Health, 2017). The aim of this paper is to discuss if there is an association between the amount of recently unhealthy mental health days and gender identity in the state of Ohio. With an increased focus on mental health, we are hopeful that mental health services will become more accessible and utilized by the community while helping destigmatize the perception of mental health conditions.

Methods

The variables used in this study are Ohio residents with a diagnosed mental illness and their binary gender identity. Data were provided by the Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, and Division of Population Health in a dataset titled "U.S. Chronic Disease Indicators (CDI)." The data was compiled from multiple sources, but notably came from the Behavioral Risk Factor Surveillance System (BRFSS). The data was originally published on May 17, 2016 and was last updated on February 25, 2021. The variable collected was "recent mentally unhealthy days among adults aged ≥ 18 years" and data was collected for males and females. In the state of Ohio, data was collected each year from 2011 to 2019.

To analyze the data, conditions of normality were first checked and, since they were met, an independent samples t-test was conducted in version 26 of Statistical Package for the Social Sciences (SPSS). The independent samples t-test was chosen because the dependent variable, recently unhealthy mental health, is quantitative and the independent variable, gender, is categorical. Additional analyses were unable to be conducted outside of analyzing the means from each year as the dataset did not include this information which serves as a limitation of our findings.

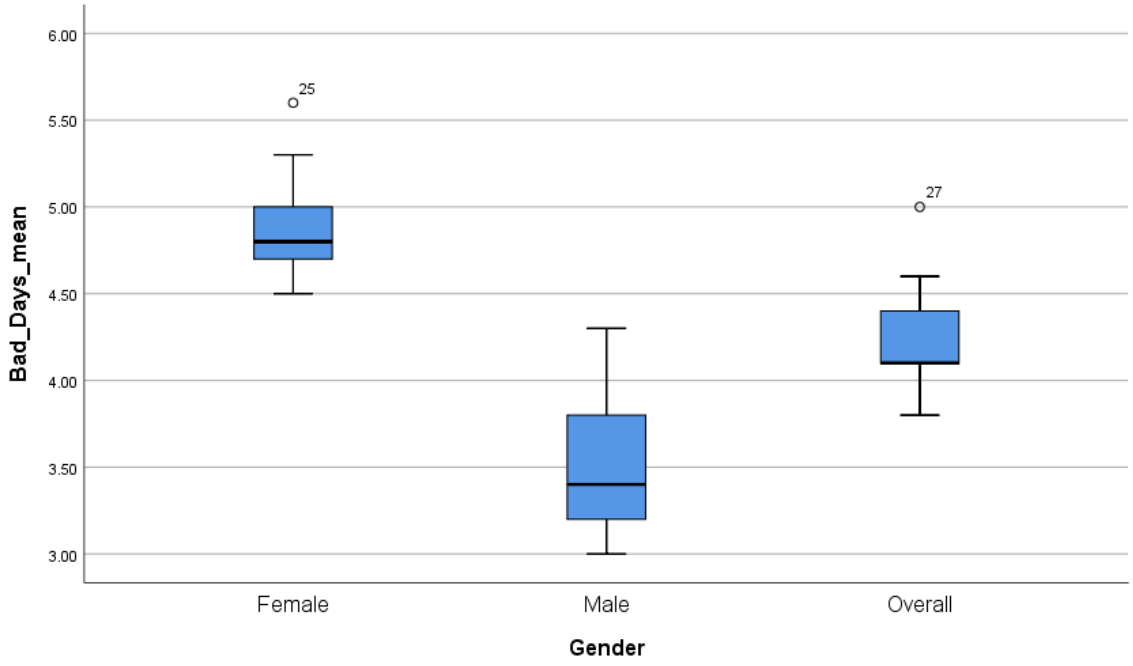
Results & Conclusion

At the 5% significance level the data provide sufficient statistical evidence that the average number of recently mentally unhealthy days of females ≥18 differs from that of males ≥18 in the state of Ohio. Furthermore, we are 95% confident that the average number of recently unhealthy mental healthy days of females ≥ 18 is 1.001 to 1.777 more than that of males ≥18 ($t = 7.593$ $df = 16$, $p < 0.001$). On average, females are having 5.0056 recently mentally unhealthy

days per 30 days while males are averaging 3.5444 recently mentally unhealthy days per 30 days (Figure 1). Males and females follow a similar trend where recently mentally unhealthy days were fairly stable from 2011 to 2015, but this has been steadily increasing since 2015. In 2019, males and females both hit a peak of recently mentally unhealthy days at an average of 4.3 days for males and 5.6 days for females. This trend will likely continue to increase given the recent events of the COVID-19 pandemic. The race and ethnicity data included in this set did not include information regarding the gender identity of each group so this data was not analyzed.

Figure 1.

Visualization of data, separated by gender



The implications for mental health and gender identity are highly interconnected as mental health conditions contribute heavily to disease burdens in people all around the world. Neurological conditions account for 12.3% of disability adjusted life years (DALYs) and 31% of all years lived with disability at all ages and in both sexes which severely impact quality of life in mentally unhealthy individuals (World Health Organization, 2002). While women are more

susceptible to mental health conditions (29% compared to 17%), men are more susceptible to substance abuse problems (Recovery Across Mental Health, n.d.). This difference may explain some of our findings, however further research needs to be conducted in this area while also considering the bias associated with traditional gender roles and health disparities (Hill & Needham, 2013).

The challenges surrounding mental health are expansive. Health disparities today are heavily influenced by social, environmental and economic factors. Disparities are still prevalent in health today and a goal of Healthy People 2020 was to eliminate disparities and reach health equity for all groups (Office of Disease Prevention and Health Promotion, 2020). Health disparities can impact the health of anyone based on many factors, such as race, ethnicity, mental health, disability, sexual orientation, mainly those who face systematic obstacles (Office of Disease Prevention and Health Promotion, 2020). As stated previously, it was not possible to analyze race and ethnicity groups since this data did not include a breakdown of gender identity, however it is important to realize that certain groups are more susceptible to lack access to adequate resources such as health care and mental health services.

Given the recent events of the COVID-19 pandemic, there have been additional stressors placed on people all over the world. This also has caused great financial and utilization strain on health care systems as resources are stretched thin with limited availability for services that are deemed nonessential. While the pandemic originally began in late 2019, the impact of the pandemic will likely continue on for the foreseeable future with 2020 being the most impactful as individuals were quarantining and facing new challenges yet to be experienced by most. These additional challenges were widespread as nearly eight in ten adults attributed the pandemic as a significant source of stress (American Psychological Association, 2020). In the upcoming years,

it will be a key area of research as public health professionals continue to evaluate the long-term effects of the pandemic alongside the development of mental health conditions.

References

American Psychological Association. (2020, October 20). *Stress in America 2020 survey signals growing national mental health crisis*. https://www.apa.org/news/press/releases/2020/10/stress-mental-health-crisis#:~:text=Stress%20in%20AmericaTM%202020,faces%20is%20overwhelming%20to%20them.

Centers for Disease Control and Prevention. (2021, February 25). *U.S. Chronic Disease Indicators (CDI)*. [Data Set]. Retrieved from https://chronicdata.cdc.gov/Chronic-Disease-Indicators/U-S-Chronic-Disease-Indicators-CDI-/g4ie-h725

Compton, M. T., & Shim, R. S. (2020). Why employers must focus on the social determinants of mental health. *American Journal of Health Promotion*, *34*(2), 215–219.

Green, E. R. (2012, August 10). *Identities chart: The "S/I/E/O" model* [PDF]. Eli R. Green, PhD: Educator, Author, and Changemaker. http://www.elirgreen.com/Green-SIEO-Model.pdf

Hill, T. D., & Needham, B. L. (2013). Rethinking gender and mental health: A critical analysis of three propositions. *Social science & medicine, 92*, 83–91. https://doi.org/10.1016/j.socscimed.2013.05.025

Merker, J. M., Dolata, J., Pike, E., Newman, E., Rex, D., & Sehgal, A. R. (2017). Prevalence of chronic illness among youth with DSM-IV-TR Axis I diagnoses at a large mental health agency in northeast Ohio. *Child Welfare*, *95*(5), 79–95.

Noltemeyer, A., Huang, H., Meehan, C., Jordan, E., Morio, K., Shaw, K., & Oberlin, K. (2020). Youth mental health first aid: Initial outcomes of a statewide rollout in Ohio. *Journal of Applied School Psychology*, *36*(1), 1–19.

Ohio Department of Health. (2017, May). *Ohio 2017-2019 state health improvement plan* [PDF]. https://odh.ohio.gov/static/SHIP/2017-2019/Ohio-2017-19-State-Health-Improvement-Plan.pdf

Office of Disease Prevention and Health Promotion. (2020, October 8). *Disparities*. Healthy People. https://www.healthypeople.gov/2020/about/foundation-health-measures/Disparities

Recovery Across Mental Health. (n.d.). Gender differences across mental health. https://ramh.org/guide/gender-differences-in-mental-health/

Stein, E. & Manderscheid, R. (2016). Mental disorders. In P.L. Remington, R. C. Browson, M. V. Wegner (Eds.), *Chronic disease epidemiology, prevention, and control* (4th ed.; pp. 857-893). American Public Health Association.

Sweeney, H. A., Fontanella, C. A., Steelesmith, D. L., & Quinn, C. (2020). Suicide in older adults in Ohio: Characteristics, precipitants, and mental health service utilization. *Community Mental Health Journal*, *56*(8), 1549–1556. https://doi-org.ezproxy.gvsu.edu/10.1007/s10597-020-00606-7

World Health Organization. (2002). *Gender and mental health* [PDF]. https://www.who.int/gender/other_health/genderMH.pdf