

Mental Health Literacy, Beliefs and Demand for Mental Health Support among University Students

Policy Brief

EALE 2024 Bergen Conference

Special Session on Youth Mental Health

Fondazione Ing. Rodolfo Debenedetti

Michelle Acampora, Francesco Capozza, Vahid Moghani

ETH Zurich, WZB Berlin, Erasmus School of Economics

1 Introduction

Mental health problems are the leading cause of disability worldwide (Friedrich, 2017; OECD, 2021). One in every two people is affected by mental or neurological disorders at some point in their lives (OECD, 2019). Young people are largely affected. The WHO estimates that three-quarters of all mental health disorders are developed by the age of 24, but most remain undetected and untreated (Kessler et al., 2005). Mental health problems hinder human capital accumulation (Currie, 2009; Currie and Stabile, 2006; Eisenberg et al., 2009), can lead to the misallocation of talent (de Quidt and Haushofer, 2016) and are associated with penalties in the labor market (Biasi et al., 2021). Despite these extensive negative consequences of poor mental health, young people show a large unmet need for mental healthcare (McGorry and Mei, 2020; WHO, 2004).

Demand-side barriers such as low mental health literacy and stigma largely contribute to the treatment gap among young people, especially university students (Eisenberg et al., 2007; Sæther et al., 2021). On the supply side, universities have increased the supply of free or subsidized psychological services, such as counseling and well-being apps. There is growing evidence that

these services, including well-being apps, can effectively improve mental health (Shreekumar and Vautrey, 2021). However, the majority of students in need do not seek any mental health support.

The literature has pointed to mental health literacy interventions as a promising tool to increase service utilization (Ridley et al., 2020), but causal evidence on their effectiveness remains limited. We designed and implemented an online experiment, recruiting 2,978 students from a large Dutch university. We study the effects of a mental health literacy intervention on incentivized measures of demand for mental health support among university students. Our results show that a light-touch literacy intervention can shift the demand for mental health services among young people, measured using incentivized behavioral outcomes.

This report presents the experimental design and illustrates the key findings of our study (Acampora et al., 2022).

2 The Study

2.1 Experimental Design

We ran an online experiment with a broadly representative sample of 2,978 students recruited from a large Dutch university. University students show a high prevalence of mental health disorders, with the Covid-19 pandemic leading to a further increase in incidence (Giuntella et al., 2021). A 2023 survey of university students in the US using clinically validated screening modules found more than a third of students reporting moderate or severe depression (38%) and anxiety (34%) symptoms (Healthy Minds Network, 2024). At the same time, the majority of students in need do not rely on mental health services.

In our sample, 28.8% of the respondents reported symptoms of poor mental health. We assessed their mental health status using the Patient Health Questionnaire-4 (PHQ-4), a clinically validated ultra-brief screening tool for psychological distress (Kroenke et al., 2009). It consists of four items that ask how often one has experienced symptoms of depression or anxiety over the last two weeks. The resulting score ranges from 0 to 12. An elevated PHQ-4 score is not diagnostic but is an indicator for further inquiry to establish the presence or absence of a clinical disorder. A score of 6 or greater indicates at least moderate psychological distress. We use this threshold to identify respondents with symptoms of poor mental health. Only 26% of them are

receiving support from a mental health professional.

After collecting baseline information on socio-demographics—including age, gender, Dutch, faculty, year and program of study, GPA, parental education, self-reported financial stress—and mental health, we randomized the respondents in one of two experimental conditions. Half of the respondents were randomly assigned to receive the mental health literacy information treatment. The remaining half were allocated to a passive control group, which received no information. The literacy intervention consisted of a short paragraph combining insights from two peer-reviewed articles (Eisenberg et al., 2009; Patel, 2018), which read as follows:

Mental well-being is not binary but is a spectrum. Therefore, the staging approach is a new way to think about someone's mental well-being.

This approach implies that taking care of mental health is a continuous process with positive outcomes: regardless of how someone feels right now, taking care of their mental health could always lead to higher well-being and fulfillment. The staging approach suggests some simple steps toward higher wellness, such as promoting self-care and increasing monitoring.

These general tips apply to anyone, including university students. For example, research evidence suggests that university students who invest in their mental health also show better academic performance.

We designed the information treatment with a two-fold goal. The first was to mimic the content of mental health campaigns students could be exposed to outside the experimental setting, such as in social media or university campaigns. The second goal was to target the general student population regardless of their mental health status, as is typical for mental health literacy campaigns. Light-touch interventions to promote mental well-being are widespread. These features of the information treatment allow us to shed light on the potential effects of similar interventions on the demand for different mental health support options by studying students in a setting that is realistic for them.

The text displayed to treated participants conveys two main messages. First, it introduces the staging approach, which emphasizes that mental health is not a binary status (ill or healthy) but a spectrum. Second, it notes that investing in better mental health, including through small steps such as self-care and monitoring, can be beneficial along the entire spectrum and that improved mental health can positively affect academic performance.

We expected the literacy intervention to increase the perceived benefits of investing in better mental health regardless of one's current mental health status. This, in turn, could increase the demand for different mental health care options. The treatment did not mention any specific psychological service, but it referred to small steps that may be conducive to better mental health, such as increased self-care and monitoring (as reported in the original peer-reviewed article, (Patel, 2018)). We conjectured that this message would increase the perceived effectiveness of low-intensity interventions, including self-help tools such as mental health apps.

Our primary outcome of interest is demand for mental health support, and we rely on two questions to capture two different aspects of demand. The first outcome is an incentivized measure of willingness to pay (WTP) for a one-month subscription to a mental health app targeting depression, anxiety, and stress. The app is Sanvello, which allows you to track your moods, meditate, and practice cognitive behavioral therapy by using psychologist-designed tools to help manage stress, anxiety, and depression. Two clinical trials document its effectiveness in reducing symptoms in a population with a positive screening for psychological distress (Moberg et al., 2019; Ventura and Chung, 2019). Mental health apps are increasingly popular on campuses and offer an easily accessible and cheaper source of psychological support.

Willingness-to-pay was elicited using the Becker-DeGroot-Marschak (BDM) mechanism, following Cullen and Perez-Truglia (2018). In the BDM, the respondent's bid is compared to a price determined by a random number generator. If the respondent's bid is lower than the price, the respondent receives a dollar amount equal to the price. If the bid is higher than the price, then the subject receives access to a one-month subscription for the mental health app and no dollar amount. The rules of this mechanism make it a dominant strategy for the respondents to bid exactly their true valuation for the app. This outcome measures the demand for a low-intensity psychological service, allowing us to capture both an extensive and intensive margin of demand.

The second outcome captures preferences for information acquisition and allows us to focus on the potential trade-off between high and low-intensity services. Low-intensity services are evidence-based psychological services that target people with or at risk of mild mental disorders and are generally not provided by medical professionals. High-intensity services include psychological therapy and treatment delivered by mental healthcare professionals with clinical training. We selected the two services offered at the university: psychological counseling and coaching. Coaching is a low-intensity service that consists of individual or group-level counseling

to enhance one’s productivity or overcome performance challenges.

We asked respondents to rank three options: (i) whether they would prefer to receive no information —the default highest-ranked option —or information about one of the two services, (ii) psychological counseling, and (iii) coaching. We focus on the first-ranked option, which is incentivized because the default is “no information”, to study how the treatment affects the demand for information about psychological services. We also provide evidence that the highest-ranked option is significantly correlated with self-reported care-seeking behavior.

We use post-treatment questions to explore the potential mechanisms through which we expected the treatment to affect the demand for mental health support. The literacy intervention targeted the expected benefits of investing in better mental health, potentially affecting the perceived effectiveness of mental health services but also the stigma attached to them. We focus on these three dimensions using a set of Likert-type scale questions. They elicit the perceived benefits of mental health investments on academic and labor market success, the perceived effectiveness of mental health apps, and the perceived social and self-stigma attached to suffering from a mental health disorder and seeing a mental health professional.

Finally, we conducted a short follow-up survey approximately three weeks after the main experiment. We were able to track approximately 38% of the original sample, which is in line with other information provision experiments relying on online recruitment of subjects (see, for instance, Settele (2022) and Chopra et al. (2023)), and we find no evidence of differential attrition. We asked participants to report their mental health care-seeking behavior during the preceding two weeks and their care-seeking intentions for the following two weeks to understand whether the literacy intervention affected help-seeking behavior in the weeks following the main experiment. We also re-assessed the students’ mental health using the PHQ-4 module.

2.2 Results

We document four sets of results. Table 1 presents the results of the mental health literacy intervention on the demand for mental health support. Our first outcome of interest is the willingness to pay for the mental health app, which allows us to capture an extensive and intensive margin of demand. The extensive margin is captured by a dummy variable equal to one if a participant offered more than zero, while the continuum of values is used to identify the

intensive margin. Results on the WTP for the app are reported in Columns 1 and 2 of Table 1.

On average, the mental health literacy intervention had a small and statistically insignificant effect on both the extensive and intensive margin of demand for the mental health app. The WTP for the app is measured on an interval between 0€ and 10€. The average WTP in the control group is 3.79€, and the share of students who offered a positive amount for it is 92%. Both treatment estimates are positive but small and not statistically significant at conventional levels. To understand if these insignificant positive estimates mask differential treatment effects for population subgroups, we rely on a pre-specified heterogeneity analysis.

Our second outcome of interest is a revealed preference measure of the demand for information about in-person mental health services. We use the ranking to define three dummy variables, capturing whether the respondent selected no information, information about counseling, or information about coaching as their preferred option. These allow us to address two related but distinct questions: whether the treatment increased the overall demand for information and induced any shift between low and high-intensity psychological services.

On average, Column 5 of Table 1 shows that treated respondents are 3.9 percentage points more likely to demand information about the coaching service from a control mean of 25%. This increase is almost entirely driven by a decrease in the demand for information about psychological counseling (-3.1 percentage points). 31% selected no information as their preferred option in the control group, and we find no evidence of an overall increase in demand for information. The estimates point to a substitution effect of the intervention that led respondents to reduce their demand for information about psychological counseling in favor of information about coaching. This result raises the question of whether the intervention had the unintended effect of shifting respondents with worse mental health scores toward low-intensity psychological services. We address this question by focusing on heterogeneity by mental health status.

Second, we document heterogeneous treatment effects focusing on two pre-registered dimensions of heterogeneity: gender and mental health scores. The psychological literature documents substantial heterogeneity in mental health risk and help-seeking behavior by gender, with females being more likely to suffer from psychological distress but also more likely to seek help, holding constant the mental health status. When we split the sample (Panels B and C of Table 1), we see that the shift in information acquisition is coming from both groups. While the point estimates are larger for females, they are not statistically different across the two groups. Instead, only male

Table 1: Main Results: Demand for Mental Health Support

	(1) WTP	(2) WTP > 0	(3) No Info	(4) Psych	(5) Coaching
<i>Panel A: Whole Sample</i>					
Treatment	0.089 (0.084)	0.012 (0.010)	-0.008 (0.017)	-0.031* (0.018)	0.039** (0.016)
<i>RW p-values</i>	0.392	0.392	0.636	0.146	0.047
Control group mean	3.79	0.92	0.31	0.43	0.25
Observations	2,978	2,978	2,978	2,978	2,978
<i>Panel B: Males</i>					
Treatment	0.353** (0.142)	0.036* (0.019)	0.005 (0.029)	-0.020 (0.029)	0.015 (0.027)
<i>RW p-values</i>	0.046	0.152	0.879	0.857	0.857
Control group mean	3.27	0.87	0.38	0.37	0.25
Observations	1,107	1,107	1,107	1,107	1,107
<i>Panel C: Females</i>					
Treatment	-0.078 (0.105)	-0.004 (0.010)	-0.015 (0.020)	-0.041* (0.023)	0.057*** (0.021)
<i>RW p-values</i>	0.702	0.702	0.857	0.276	0.039
Control group mean	4.13	0.95	0.27	0.47	0.26
Observations	1,834	1,834	1,834	1,834	1,834

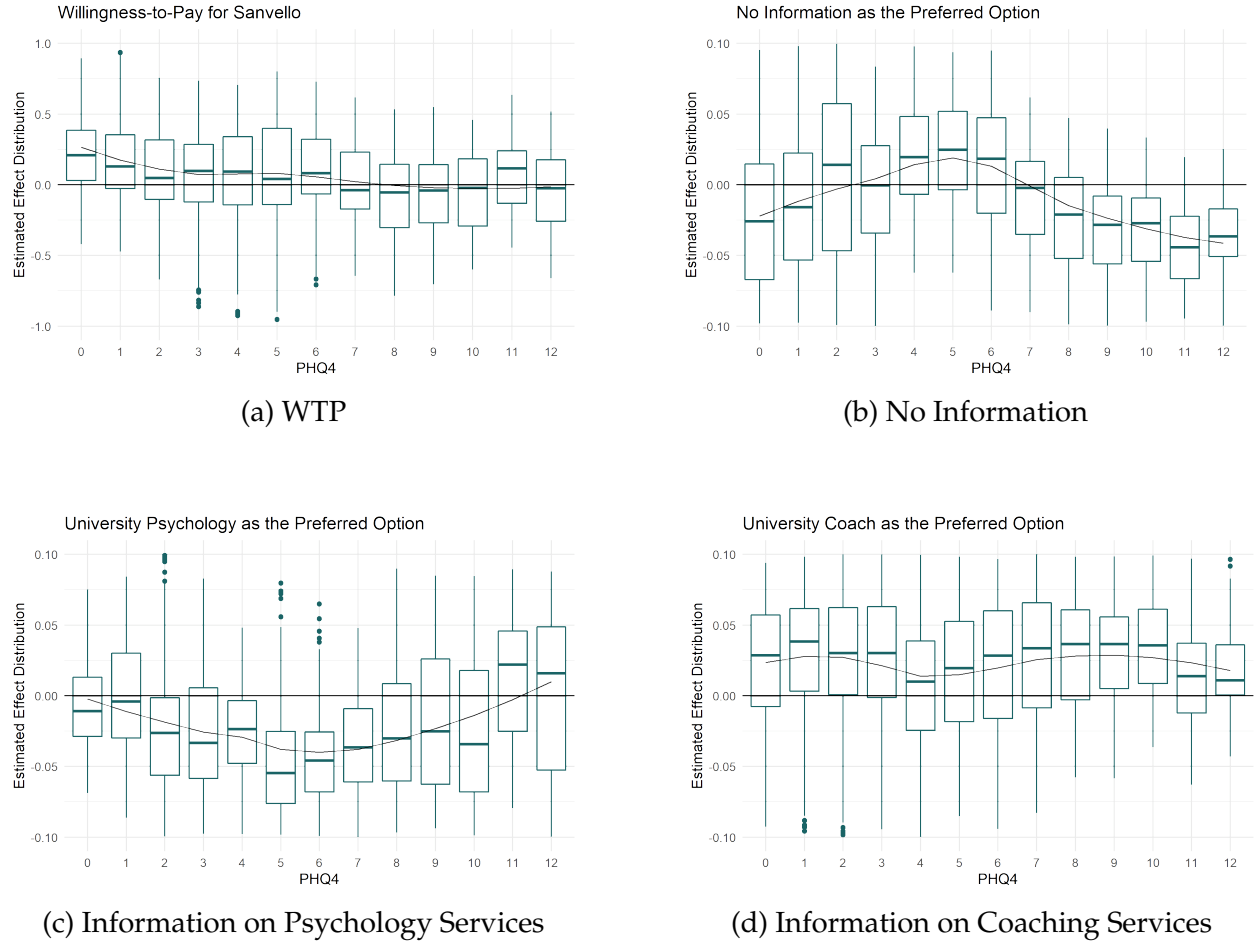
Notes: All specifications are OLS models. The outcomes in Columns (1)-(2) are the WTP for a one-month subscription to the mental health app and the extensive margin of demand captured by a dummy taking the value of 1 if the WTP is greater than 0. The outcomes in columns (3)-(5) are dummy variables that take value 1 if a respondent selected psychological counseling, coaching, or no information, respectively, as their preferred option for information acquisition. Robust standard errors are reported in parentheses. All specifications include the following set of covariates: Age, Female, Other gender, Dutch, Bachelor, GPA Lower than 7.5, High Financial Stress, Mother's Education: Below Bachelor's, Father's Education: Below Bachelor's, PHQ-4 Score, which are defined in the Notes of Table ?? . Significance code: *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$. We also report the Romano-Wolf p-values to correct for the family-wise error rate.

respondents increase their demand for the app, both along the extensive and intensive margin. On the extensive margin, the likelihood to submit a bid increases by approximately 4 percentage points from a control mean of 87%. On average, WTP increases by 35 cents from a control mean of 3.27€. The intervention closes half of the gender gap in WTP in the control group. Higher levels of perceived stigma and lower levels of care-seeking among males compared to females in the control group can help rationalize why males responded to the treatment by increasing their demand for a private and anonymous low-intensity support option.

The heterogeneity of effects by mental health status is relevant to understanding the potential trade-off between high and low-intensity services. This is a crucial policy question because different levels of symptom severity call for different psychological services and because there are constraints to the supply of high-intensity services such as psychological counseling. It is also important to understand whether promoting low-intensity services can lead to a substitution away from high-intensity ones, with potentially adverse effects for individuals with higher symptom severity. Following Athey and Wager (2019), we use causal random forests to address these questions and estimate the conditional average treatment effects of the mental health literacy intervention on the primary outcomes.

Figure 1 shows the distribution of conditional average treatment effects by the baseline mental health status captured by the PHQ-4 score. Figure 1d suggests that the increase in demand for information about coaching is homogenous along the mental health spectrum. Figure 1c shows that the respondents with scores consistent with mild/moderate psychological distress are driving the substitution from psychological services to coaching services. We also find suggestive evidence that students displaying severe psychological distress are less likely to select *no information* as their preferred option (Figure 1b). Overall, the results provide suggestive evidence against an adverse effect of the treatment on students with severe psychological distress.

Figure 1: Distribution of Conditional Average Treatment Effect by Baseline Mental Health (PHQ-4)



Notes: We follow Athey and Wager (2019) to estimate the conditional average treatment effects (CATEs) for each of the observations in our sample. Each figure shows the distribution of CATEs by the mental health level (PHQ-4 score) using boxplots. Each box delineates the interquartile range (from the 25th to the 75th percentile) of the CATEs, while the whiskers capture the bottom and top 25 percentiles. A solid line traces the mean CATEs corresponding to each PHQ-4 score level. (a) is the willingness to pay for one month of access to Sanvello as the outcome. (b) is whether the individuals put no information as their preferred option for information acquisition. (c) is whether the individuals put information on psychological services as their preferred option for information acquisition. (d) is whether the individuals put information on coaching services as their preferred option for information acquisition. In the random forest methods, we include Age, Dutch, Female, Bachelor, GPA, Financial Stress, Father's Education, Mother's Education, and PHQ-4 as the covariates.

Third, we rely on post-treatment questions to explore the potential mechanisms behind the observed effects. The intervention increased the perceived effectiveness of mental health apps. The effect is driven by male respondents, who show an increase by 20% of a standard deviation, consistently with the results of the heterogeneity analysis. This result suggests that beliefs about service effectiveness are the main driver of the documented increase in WTP for males. We also find suggestive evidence that the intervention increased the perceived social stigma attached to high-intensity psychological services. By highlighting the benefits of small steps toward improved mental health, which may be associated with low-intensity services, the literacy intervention could have increased the salience of the stigma attached to seeking professional mental healthcare.

Table 2: Follow-up Results: Mental Health and Help-seeking

	(1) Did Seek Care	(2) Plan Seek Care	(3) PHQ-4 Score
<i>Panel A: Whole Sample</i>			
Treatment	0.004 (0.019)	0.020 (0.021)	-0.191* (0.116)
<i>RW p-values</i>	0.247	0.838	0.482
Control group mean	0.13	0.15	4.08
Control group SD	0.34	0.36	2.93
Observations	1,121	1,121	1,121
<i>Panel B: Males</i>			
Treatment	-0.023 (0.020)	0.007 (0.025)	0.122 (0.187)
<i>RW p-values</i>	0.702	0.791	0.776
Control group mean	0.06	0.07	3.35
Control group SD	0.23	0.25	2.59
Observations	399	399	399
<i>Panel C: Females</i>			
Treatment	0.025 (0.028)	0.028 (0.029)	-0.339** (0.147)
<i>RW p-values</i>	0.776	0.776	0.111
Control group mean	0.17	0.20	4.45
Control group SD	0.38	0.40	3.01
Observations	710	710	710

Note: The specification is an OLS model. Robust standard errors are reported in parentheses. Outcome variables are the following: *Did seek care*, which gets a value of 1 if the respondent reported seeking care for mental health in the preceding two weeks; *Plan seek care*, which gets a value of 1 if the respondent is planning to seek care in the following two weeks; and *PHQ-4*, which is the PHQ-4 score from the follow-up survey. All specifications include the following set of covariates: Age, Female, Other gender, Dutch, Bachelor, GPA Lower than 7.5, High Financial Stress, Mother's Education: Below Bachelor's, Father's Education: Below Bachelor's, PHQ-4 Score, which are defined in the Notes of Table ?? . Significance code: *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$. We report the Romano-Wolf p-values to correct for the family-wise error rate.

Finally, we rely on data from our short follow-up survey to test whether the literacy intervention affected care-seeking behavior and mental health scores beyond the documented short-term effects on demand for mental health services. Table 2 illustrates the results of this analysis. The treatment estimates suggest a moderate improvement in mental health scores, particularly for female respondents, as captured by a decrease in the PHQ-4 score between the two survey waves. The point estimate corresponds to a decrease in the PHQ-4 score by 0.19 points from a control mean of 4.08. This is consistent with suggestive evidence of increased help-seeking behavior in the weeks between the main survey and the follow-up and regarding future intentions, even though the estimates are not significant at conventional levels.

While we cannot pin down a mechanism for the improved mental health of female respondents, the result suggests increased investments in better mental health, as advocated by the intervention. Treated female students may also have increased self-care, which was not captured by the questions on care-seeking behavior. Finally, in line with findings from the psychological literature, female respondents showed worse mental health scores and a higher disposition toward help-seeking than male students in the main survey, which can help rationalize this result.

3 Concluding Remarks

Our results have important implications for a growing literature in economics that investigates the causes and the economic consequences of poor mental health (Ridley et al., 2020) and for studies that focus on the impact evaluation on mental health service provision interventions. We focus on the *demand* for mental health support and its determinants. Understanding the drivers of demand is essential for any policy aimed at scaling up a mental health service provision program that people would have to take up voluntarily. A large body of literature in psychology identifies perceived stigma, low mental health literacy, and negative attitudes toward mental health services as important barriers to care-seeking (see Aguirre Velasco et al. (2020) for a review). Ours is one of the first studies to experimentally assess the effects of a mental health literacy intervention on the demand for mental health support using incentivized behavioral outcomes.

We showed that information can be an effective tool to promote demand for mental health support and highlighted that impacts can vary significantly across population subgroups. More work is needed to understand what type of information is most effective in targeting different

socio-demographics and how it interacts with their prior beliefs. This evidence can play a central role in informing public mental health literacy and prevention campaigns. Still, the results of our experiment suggest that low-cost, highly scalable mental health literacy interventions have the potential to increase the demand for mental health support among individuals with low baseline demand and pessimistic beliefs about service effectiveness. Perceived service effectiveness is a central driver of demand for mental health services.

We have also shown that promoting low-intensity psychological services (e.g., mental health apps or coaching) can lead to a substitution away from high-intensity services (e.g., psychological counseling). This could be detrimental for individuals experiencing more severe psychological distress, whose level of symptom severity calls for services provided by mental healthcare professionals. One way in which promoting low-intensity services could discourage take-up of high-intensity services is by increasing the salience of stigma attached to help-seeking with mental health professionals, as suggested by our results. This further highlights the importance of targeting information provision interventions and campaigns to different groups based on their needs, as well as prior beliefs and disposition toward help-seeking.

References

- Acampora, M., F. Capozza, and V. Moghani (2022). Mental health literacy, beliefs and demand for mental health support among university students. Technical report, Tinbergen Institute Discussion Paper.
- Aguirre Velasco, A., I. S. S. Cruz, J. Billings, M. Jimenez, and S. Rowe (2020, June). What are the barriers, facilitators and interventions targeting help-seeking behaviours for common mental health problems in adolescents? A systematic review. *BMC psychiatry* 20(1), 293.
- Athey, S. and S. Wager (2019). Estimating Treatment Effects with Causal Forests: An Application. *Observational Studies* 5(2), 37–51. Publisher: University of Pennsylvania Press.
- Biasi, B., M. S. Dahl, and P. Moser (2021, July). Career effects of mental health. Working Paper 29031, National Bureau of Economic Research.
- Chopra, F., C. Roth, and J. Wohlfart (2023). Home price expectations and spending: Evidence from a field experiment. *Available at SSRN* 4452588.
- Cullen, Z. B. and R. Perez-Truglia (2018, October). The Salary Taboo: Privacy Norms and the Diffusion of Information. (w25145).

- Currie, J. (2009, March). Healthy, wealthy, and wise: Socioeconomic status, poor health in childhood, and human capital development. *Journal of Economic Literature* 47(1), 87–122.
- Currie, J. and M. Stabile (2006). Child mental health and human capital accumulation: The case of adhd. *Journal of Health Economics* 25(6), 1094–1118.
- de Quidt, J. and J. Haushofer (2016). Depression for Economists. *NBER Working Paper* 22973.
- Eisenberg, D., E. Golberstein, and S. E. Gollust (2007). Help-seeking and access to mental health care in a university student population. *Medical Care* 45(7), 594–601.
- Eisenberg, D., E. Golberstein, and J. B. Hunt (2009). Mental Health and Academic Success in College. *The B.E. Journal of Economic Analysis & Policy* 9(1).
- Friedrich, M. (2017, April). Depression Is the Leading Cause of Disability Around the World. *JAMA* 317(15), 1517.
- Giuntella, O., K. Hyde, S. Saccardo, and S. Sadoff (2021). Lifestyle and mental health disruptions during covid-19. *Proceedings of the National Academy of Sciences* 118(9).
- Healthy Minds Network (2024). Healthy minds study among colleges and universities [data set]. Healthy Minds Network, University of Michigan, University of California Los Angeles, Boston University, and Wayne State University. Available at: <https://healthymindsnetwork.org/research/data-for-researchers>.
- Kessler, R. C., P. Berglund, O. Demler, R. Jin, K. R. Merikangas, and E. E. Walters (2005). Lifetime prevalence and age-of-onset distributions of dsm-iv disorders in the national comorbidity survey replication. *Archives of general psychiatry* 62(6), 593–602.
- Kroenke, K., R. L. Spitzer, J. B. Williams, and B. Löwe (2009). An ultra-brief screening scale for anxiety and depression: the phq-4. *Psychosomatics* 50(6), 613–621.
- McGorry, P. D. and C. Mei (2020). Unmet needs in youth mental health: Transforming models of care to improve outcomes. In *New Directions in Psychiatry*, pp. 181–191. Springer.
- Moberg, C., A. Niles, and D. Beermann (2019, Jun). Guided self-help works: Randomized waitlist controlled trial of pacifica, a mobile app integrating cognitive behavioral therapy and mindfulness for stress, anxiety, and depression. *Journal Med Internet Res* 21(6), e12556.
- OECD (2019). *Health at a Glance 2019: OECD Indicators*. Paris: Organisation for Economic Co-operation and Development.
- OECD (2021). *A New Benchmark for Mental Health Systems*. Paris: Organisation for Economic Co-operation and Development.

- Patel, V. e. a. (2018). The Lancet Commission on global mental health and sustainable development. *The Lancet* 392(10157), 1553–1598.
- Ridley, M., G. Rao, F. Schilbach, and V. Patel (2020). Poverty, depression, and anxiety: Causal evidence and mechanisms. *Science* 370(6522), eaay0214.
- Settele, S. (2022). How do beliefs about the gender wage gap affect the demand for public policy? *American Economic Journal: Economic Policy* 14(2), 475–508.
- Shreekumar, A. and P. L. Vautrey (2021). Managing emotions: The effects of online mindfulness meditation on mental health and economic behavior. Technical report.
- Sæther, M. H., B. Sivertsen, and O. Bjerkeset (2021). Mental distress, help seeking, and use of health services among university students. the shot-study 2018, norway. *Frontiers in Psychiatry* 12, 1700.
- Ventura, J. and J. Chung (2019). The lighten your life program: An educational support group intervention that used a mobile app for managing depressive symptoms and chronic pain. *Journal of Psychosocial Nursing and Mental Health Services* 57(7), 39–47.
- WHO (2004). Prevalence, severity, and unmet need for treatment of mental disorders in the world health organization world mental health surveys. *Jama* 291(21), 2581–2590.