

# Exec Summary - Mental Health in Undergrads

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## Insights into Topic

The topic of our Shiny app is mental health in US undergraduate students. Initially, our motivating question was “how does the amount of credit hours per course affect mental health in students?” Many colleges have full-credit courses of three credit hours, while some colleges require full-credit courses have four credit hours, and the number of classes taken will differ depending on how many credit hours each course is worth. We were interested in exploring whether that will have an effect on students’ mental health. We were not able to find a dataset that contained information on different colleges’ credit hours but came across a data set that allows us to explore adjacent questions related to students’ mental health and academic adjustment.

## Data

Our data comes from the Healthy Minds Network surveys conducted on mental health of US college students from 2007 - 2025. We primarily focused on undergraduates that were pursuing associate’s or bachelor’s degrees, in particular their academic adjustment and whether they were impacted by anxiety/depression.

We used adjust\_aca\_1, a score indicating how difficult a student found it to adjust to the academic demands of their school. We created an indicator variable, adjust\_easy, using adjust\_aca\_1 where a “1” would represent that the student found it easy to adjust to the academic demands (adjust\_aca\_1 values 1-3) and “0” if it was difficult (adjust\_aca\_1 values 4-6). In addition, we allow users to specify degree type, specifically the highest degree pursued by students.

We also used anx\_score and deprawsc, which indicate the frequency a student experienced various symptoms of anxiety/depression in the last two weeks (as of response to the survey), and dx\_anx and dx\_dep, which indicate whether the student was diagnosed with anxiety/depression.

More information about the variables involved in our plots can be found under the “More” -> “About our data” tab in our Shiny app.

## Shiny App

At [https://69a3lt-miranda-yang.shinyapps.io/Mental\\_Health\\_of\\_Undergrad\\_Students/](https://69a3lt-miranda-yang.shinyapps.io/Mental_Health_of_Undergrad_Students/), our Shiny app explores how anxiety/depression and academic adjustment relate.

Plot 1 displays the average academic adjustment for all students with each anxiety/depression symptom score (anx\_score and deprawsc) as a point. Users can choose to show data for anxiety or depression and associate's, bachelor's, or all undergraduate degrees together.

Plot 2 is a bar graph with the percentage of students diagnosed with anxiety/depression or who adjust more easily per year, according to user input. Users can also select what years to display and whether to show data for associate's or bachelor's degrees (or both side by side).

Plot 3 is a interactive map where users could see the trend of proportion of anxiety/depression diagnosis and ease of adjustment across different regions and years. When users click on a region, they can see a popup of the exact proportion value of the variable they select (ease of academic adjustment, depression, or anxiety).

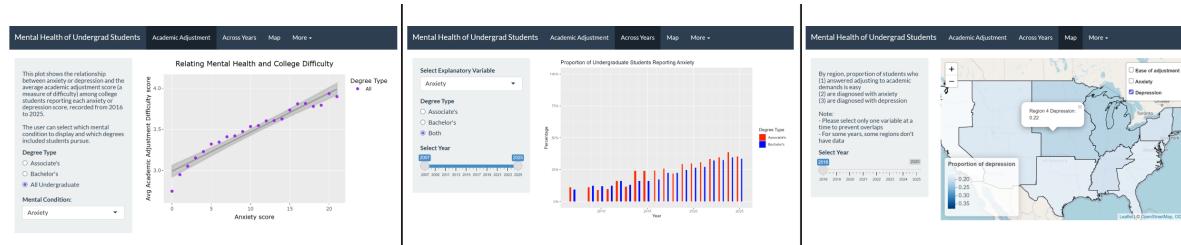


Figure 1: Image of the three main panels of our Shiny app

## Results

For plot 1, with students of any degree type, difficulty adjusting increases with anxiety and depression symptoms. This makes sense to us, as sufficient academic difficulty can exacerbate anxiety and depression, and anxiety and depression can make academic life harder.

For plot 2, for undergraduate students of any degree type, the proportion of reported diagnosed anxiety and depression has increased from 2007 to 2025. However, the proportion of those reporting an easy academic adjustment has remained steady. We speculate that this is the result of mental health diagnosing becoming more common and less stigmatized.

For plot 3, how positively or negatively the proportion of students who have an easy time adjusting correlates with anxiety or depression diagnosis varies by region and by year, so it is difficult to establish a relationship. On the other hand, the proportions of students in a region with anxiety and depression diagnoses correlate strongly. As an example, depression and anxiety increase in the west mountain region over time, and ease of adjustment varies. Regions also tend to have higher or lower anxiety and depression at the same time nationwide.