The Effect of Mental Health Challenges on Human Capital Accumulation Decisions Following Return to Campus Life Across Massachusetts Public Higher Education Institutions During Covid-19

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Central Research Question
How did the mental health of college students shape human capital accumulation decisions in the Covid-19 higher education environment in Fall 2021?

The Survey
- Massachusetts college students attending public institutions
- Survey pilot in Summer 2021 with a convenient sample of 23 UML students
- Final survey deployed in November 2021
- A sample of 634 students from:
  - Northern Essex Community College
  - Framingham State University
  - University of Massachusetts Lowell

Sampling
- Assisted by faculty, staff, and administrators
- Via email link
- Quatristics
- QR Code placed in student common areas
- Incentive of ten $25 Amazon gift cards

Statistics
- 14.74 minutes on average to complete the survey
- 5.88% were not undergraduate students
- 3.37% accessed the survey via QR code

Survey Questions
- Health Section, physical and mental health
  - PHQ-4, Resilience, and UCLA 3-item Loneliness Scale
- Socioeconomic information about the student and their family
- Academic characteristics and schooling decisions
- Demographic characteristics
- Raffle participation option

Literature Review
- Human capital accumulation depends on ability, and access to resources to finance education and training (Becker, 1962 & 1994; Becker and Chiswick, 1966; Becker & Tomes, 1986; Tomes, 1981; Rosen, 1977).
- Ability is a function of mental health (Fletcher, 2008)
- Mental health illness affects concentration
- Mental health illness affects work performance
- Mental health illness affects investments in human capital
- Investments in human capital, activities that influence future monetary and psychic income by increasing resources in people. (Becker, 1964)
- Ability define in terms of earnings holding everything else constant. (Becker, 1964)
- Two people with identical education but earnings differential is explained by their ability differential
- Assuming no discrimination, despotism, bad luck, etc.

Just before the start of the corona virus pandemic in the Spring of 2020, the World Health Organization categorized depression as the leading cause of disability affecting work and school performance of over 264 million worldwide (The World Health Organization, 2020).

The Covid-19 pandemic is likely to impact human capital accumulation decisions as research indicates the pandemic impacted the mental health of college students, with: women (Alon et al., 2020; Browning et al., 2021; Hoyt et al., 2020; Kecojevic et al., 2020) sexual minorities (Hoyt et al., 2020; Lederer et al., 2020; Sánchez-Teruel et al., 2020) experiencing the worst outcomes

Resilient students more capable of dealing with fears associated with COVID-19 (Sánchez-Teruel et al., 2020, Capone et al., 2020).

Research Methodology
Data analysis to answer the research questions was performed using proportion analysis, or the following regression specification estimated by Logit,

\[ edu_i = \alpha + \beta_1 Psych_1 + \beta_2 Resilience_1 + \beta_3 Disability_1 + \beta_4 FirstSemester_i + \text{EnrollmentStatus}_i + \phi X + \epsilon_i \]

where \( i = \text{individuals}, \)
\( j = \text{institution} \) (UML is the omitted category)

\( edu_i \), a measure of human capital accumulation decisions
Likelihood of enrollment at current or any institution in Spring 2022 for the cohort of students enrolled at Massachusetts public higher education institutions in Fall 2021 after return to campus life following the Covid-19 pandemic remote learning period.

\( \beta_1 \text{Psych}_1 \), coefficient measures the association between anxiety, depression, and loneliness (measured by scales)
\( \beta_2 \text{Resilience}_1 \), coefficient measures the association between resilience and capital accumulation decision and controls for omitted variable bias to evaluate mediation (measured by scale)
\( \beta_3 \text{Disability}_1 \), coefficient measures the association between a learning disability and capital accumulation decision and controls for omitted variable bias to evaluate mediation (measured by scale)
\( \phi X \), to control for individual demographic and socioeconomic characteristics (self-reported)

\( \epsilon_i \), error term, variation not explained by the model

Selected Results
- How Students Rated Their Mental Health

Average Predicted Probabilities, Estimates of Retention by School for First-Semester Students (full-time, freshman)

Table 1: How Students Rated Their Mental Health

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<thead>
<tr>
<th>Institution</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
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<tbody>
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Average Predicted Probabilities, Estimates of Persistence by School for First-Semester Students

Table 2: How Students Rated Their Mental Health

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Selected Findings
Results suggest that mental health of college students influenced the likelihood of enrollment in Spring 2022. Overall, more than a third of students in the sample rated their mental health worse than before the pandemic, but differences across schools were not statistically significant. Regarding the effect of mental health challenges on the probability of enrollment, loneliness and resilience scores did not play a role in the likelihood to enroll in Spring 2022. It is unknown if it played a role in academic performance. Casesness, a screening measure for underlying anxiety and/or depression disorder, showed a negative effect on the likelihood of re-enrollment. The effect of casesness on likelihood of re-enrollment was negative. This effect was larger and statistically significantly different for those students who graduated from high school or earned a GED in 2020 or 2021 compared to those that did not.

Somewhat unexpected, results indicated that the effect of mental health challenges and resilience on likelihood of enrollment did not vary by institution type, nor across gender race and ethnicity, Pell grant recipient status, or ESL status.