

# **Impact of Covid-19 Pandemic on the mental health of students in USA**

## **Abstract**

The COVID-19 pandemic in 2020 has an unprecedented impact globally across sectors, the most prevalent among them was the education sector that came to a standby. COVID-19 being highly contagious, physical distancing was imposed in order to curb the spread of the pandemic. This resulted in closures of schools and universities across the USA, and the mode of teaching and learning swiftly shifted to an online mode. This study aims to study the impact on mental health of the students in USA with sudden shift in their classes and outdoor activities. The study will be conducted to examine 5 parameters that had direct impact on their mental health: 1. Social Life 2. Emotional Health 3. Dietary Changes 4. Physical Health 5. Stress Levels.

The Research design used to this study will be both qualitative and quantitative via a cross-sectional survey method. To analyse the data descriptive statistics will be compiled to describe participants with, demographics like gender, age, academic levels, majors, state and so on. As well as academic, change in lifestyle, place, dietary, social relationship survey, questions.

Data from 1000 students (ages 18-25) at two large public universities in Missouri State was used, both before (November 2019-March 2020) and after (May/August 2020) the start of the COVID-19 pandemic. After evaluating descriptive data on mental health and stressors by students' demographic characteristics, the estimated association between COVID-19 parameters mentioned like social distancing, restricted outdoor life, lifestyle change and its impact on mental health symptoms. Pre-pandemic and Post Pandemic mental health will be analysed in detail.

The impact on their mental health, behavioural change due to stress, challenges of adopting to new life during the pandemic and post pandemic will be analysed. SPSS software is utilized to study the data and have descriptive analyses through charts and tables. The result will give a broader understanding of the issues to tackle mental health. Subsequent to findings, interventions will be proposed such as health and wellness initiatives like music therapy, meditation, Yoga, and acupressure that has been proved to calm the mind and have shown significant results in studies in others parts of the world.

**Key words: Covid -19, pandemic, education, students, mental health wellness**

## **What is the public health issue in question?**

This study aims to look into the impact of the COVID-19 Pandemic on the mental health of college students throughout in the state of Missouri. Because mental health has been a real challenge during the COVID-19 pandemic, the study believes that mental stress, anxiety and life style change has been important parameters for mental health.

## **What are the intended interventions?**

It is vital to propose few stress management interventions (SMI) and review the evidence for their effects on employee stress and well-being. We propose key types of SMI like Music therapy, Yoga for relaxation, Deep sleep Mediation, <sup>1</sup>Acupressure, Emotional Freedom Techniques (EFT), Tapping therapy, animal therapy towards mindfulness training. The SMI aims to remove the causes of stress by lifestyle. Review of literature suggests that there is convincing evidence for these SMI approaches. However, the evidence base

needs strengthening through more robust methodological designs (e.g., randomised control trials, broad based evaluations of intervention processes) and a better understanding of the contexts and individuals in which SMIs are most effective, how the implementation of SMIs affects outcomes, and the long-term impacts of SMIs. It is observed that these interventions are helpful in many South Asian countries. These interventions will help students cope with stress and change lifestyle and be strong emotionally to face the real-life situations. Short term goals would be to get them back to normal life and long term goal will be to focus on holistic approach towards health.

### **What are the Intermediate and Long-Term Outcomes of the interventions in the study?**

Intermediate: Understand what impact COVID-19 had on the mental health of college students ages 18-25, and help them return to a healthy mental state.

Long-Term: Understand what impact COVID-19 had on the mental health of college students ages 18-25; understand how mental health can impact overall health; focus on holistic approach towards overall health.

### **What is the primary target population for this study?**

This study aims to target college students, taking a special interest in those who are between the ages of 18 and 25. 1000 students will be considered at two universities in the state of Missouri, one of which will be Missouri State University in Springfield, MO. Students will need to be enrolled in a one of the predetermined universities prior to November 2019, and need to still be enrolled as of August 2020. This will allow for the target population to have college experiences in both a pre-COVID-19 pandemic setting, as well as a current, and somewhat “post” pandemic setting.

## **Evaluation Design**

### **1. Outcome Questions for Evaluation**

#### **Learning Objectives:**

- Can students identify the negative impacts of the pandemic on their mental health and wellbeing?
- Can students identify the available resources for their mental health needs/ available in the college?
- Can students explain the importance of addressing their mental health needs problems?
- Are students aware of the individual techniques that they can use to address their mental health needs? (E.g. Yoga methods)?
- Can students explain their behaviour towards the students with mental health problems?
- Can medical health Centre staff identify ways to discuss and address the mental health problems among college students?
- Can the medical health Centre staff explain the expected mental health outcomes in the college?
- Can the medical health Centre staff identify the resources they can use to reach out to students with mental health problems in the college?
- Can the administration explain the benefits of the SMI (stress management interventions) on college management and students' mental health?

**Performance Objectives:**

- What percentage of students used stress management interventions?
- How many students used the counselling resources available in the college related to their mental health needs?
- How many students consented to the use of the counselling and helpline centres?
- How have the stress management interventions affected the focus and personality of students in the college?
- Has the medical health centre integrated the use of lifestyle change techniques in their counselling techniques
- How many students reported better mental health outcomes by use of the stress management interventions such as yoga?
- How have the stress management interventions affected the focus and personality of students in the college?
- Did any administrators advocate for the continued use of stress management interventions among students in the college?

**What is the rationale for choosing these outcome evaluation questions?**

These questions present the critical learning and performance objectives of the Stress Management Intervention. This outcome evaluation will help determine whether there was proper implementation of the Stress Management intervention technique by achieving the objectives. We decided not to evaluate the long-term mental health objectives, such as reducing stigmatization surrounding mental health, as this would not be feasible with the given timeline of our study.

**2. Study Design**

Qualitative and Quantitative via cross-sectional survey. To analyse the data descriptive statistics will be compiled to describe participants with, demographics like gender, age, academic levels, majors, state and so on. As well as academic, change in lifestyle, place, dietary, social relationship survey, questions.

<b>Timeline</b>	<b>Before the beginning of the pandemic</b>	<b>After the pandemic</b>
<b>Observations</b>	<b>Cross-sectional study</b>	<b>Cross-sectional study</b>
<b>Evaluation design</b>	<b>O<sup>1</sup></b> <b>O<sup>5</sup></b>	<b>O<sup>2</sup></b> <b>O<sup>6</sup></b>

**What are the time points for Data Collection?**

- We will send an online survey to students using the emails and phone numbers obtained from the university.
- Note: If the university denies access to students' email addresses or there is no email response from the student, we will instead send home the pre-stamped surveys with students. For students who do not return the survey, we will repeat attempts for contact by sending home reminders and additional copies of the survey.

- We opt to use online surveys as our primary survey method because we are in the technological era. Students can easily access the internet just as they can access the online classes at the university. We will offer the survey in English because both universities use the English language in teaching. Therefore, there will be no problem in understanding. Surveys will be limited to one page to minimize the burden on those filling out the survey.
- Surveys will be anonymous. Mailed surveys will include a phone contact or any other contact information so that the students can contact the number to confirm that they have completed and mailed the survey.
- There will be an incentive award of \$5 for every student who completed the survey and returned it via mail or online.
- All pre- and post-pandemic tests will be cross-sectional surveys administered to students. The study will be conducted to examine the effects of Covid-19 on education and how it has affected the student's mental wellness using the following parameters:
  1. Social Life
  2. Emotional Health
  3. Dietary Changes
  4. Physical Health
  5. Stress Levels.
- The pre-pandemic test (O1, O5) was conducted before (November 2019-March 2020), and post-test (O2, O6) will be conducted after (May/August 2020) the start of the Covid-19 pandemic.

### **What are the reasons for choosing this study design?**

Researchers of this study are interested in observing ways that the COVID-19 pandemic has impacted the mental health of college students in Missouri universities. The target population was chosen as college students are a population that is relevant to who we are and are also a subset of people who were greatly impacted by the pandemic in terms of distanced learning that impacted housing, grades, jobs, financial stability, families, and more. We can easily reach students at the university online compared to their high school counterparts who may not either have internet access or not have the gadgets. We feel that it is likely that these impacts to daily life would have played some sort of role in impacting the mental health of the students who lives were disrupted by the developments of the COVID-19 pandemic. Choosing our cross-sectional survey allowed for the study to be as valid as possible without any biases, and allowed for the ability to easily include N=1000 to ensure an appropriate sample size. These students will also be comparable at baseline to ensure proper randomization. We are opting to do a pre-pandemic and post-pandemic evaluation to assess changes that the covid-19 pandemic has brought about.

### **What are the Strengths and Weakness of the Study Design?**

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>- Cost effective</li> <li>- Quick for students to participate in</li> <li>- Pre and post surveys allow for multiple points in time to consider</li> </ul>	<ul style="list-style-type: none"> <li>- Unable to determine causality, which calls to question if mental health concerns could be related to pandemic or other influences</li> <li>- Group sizes between universities may be unequal</li> </ul>

	- Students taking surveys at current time may not remember how they felt pre-pandemic
--	---

### What is the rationale for the Design Choice?

Using a Cross-Sectional Survey allows for a simple way for the target population (college students ages 18-25) to quickly fill out a survey online with a set of predetermined questions set by the researchers. Researchers felt that this study design would be the most beneficial to observing if there is any impact on the COVID-19 pandemic on the mental health of college students, as college students are busy and may not be willing to participate in other types of studies that might require more time and/or commitment. The ability of the survey(s) to give a look into how students felt both before the pandemic and currently after colleges have started going back to “normal” after the lockdown period where classes were held online rather than in person, is another reason researchers chose this type of study design. This will allow for the students who are participating to illustrate to the best of their abilities their thoughts and feelings both before and after the COVID-19 pandemic. Cross-sectional surveys also provide to be one of the more cost-effective ways of performing a research study, which is yet another perk of choosing this type of study design, especially when choosing 1000 participants to provide a large enough sample to get well founded and justifiable results.

### 3. Comparison Group

For the purpose of this study, we were only interested in the impact of COVID-19 on the mental health of college students ages 18-25. Because of this we were able to choose to survey students from two specific universities in Missouri to be able to compare the results from the universities to each other, but for the purposes of this study we were not interested in comparing results from any other groups. Further directions from this study could include surveying high school students, elementary school students, or even various age ranges of adults.

### 4. Threats to Internal and External Validity

Threat	Threat to Validity	Explanation	How we will control for this
Social Desirability	MAYBE	Study participants may feel embarrassed to admit mental health status during the COVID-19 pandemic	Interventions will be presented to study participants such as yoga and other various therapies such as music and animals

Instrumentation	NO	Study instrumentation will remain the same for both the pretest and posttest	Two prechosen schools and prechosen survey questions before surveys administered
Selection	NO	1000 random 18–25-year-old college students at 2 preselected Missouri universities	Two prechosen schools and prechosen survey questions before surveys administered via email and mail, first 1000 surveys returned selected for sample size
History	NO	Randomization – Control Groups	Matching universities prior to randomization
Regression from the mean	NO	Randomization; universities will not be selected for intervention based on “extreme scores” of mental health state	Matching universities prior to randomization

## References

- Cleofas, J. V. (2022). Social media disorder during community quarantine: A mixed methods study among rural young college students during the COVID-19 pandemic. *Archives of Psychiatric Nursing*, 40, 97-105.
- Clotworthy, A., Dissing, A. S., Nguyen, T. L., Jensen, A. K., Andersen, T. O., Bilsteen, J. F., ... & Hulvej Rod, N. (2021). 'Standing together—at a distance': Documenting changes in mental-health indicators in Denmark during the COVID-19 pandemic. *Scandinavian Journal of Public Health*, 49(1), 79-87.
- Fawns-Ritchie, C., Altschul, D. M., Campbell, A., Huggins, C., Nangle, C., Dawson, R., ... & Porteous, D. J. (2021). CovidLife: a resource to understand mental health, well-being and behaviour during the COVID-19 pandemic in the UK. *Wellcome Open Research*, 6(176), 176.
- Giovenco, D., Shook-Sa, B. E., Hutson, B., Buchanan, L., Fisher, E. B., & Pettifor, A. (2022). Social isolation and psychological distress among southern US college students in the era of COVID-19. *medRxiv*, 2021-12.
- Huckins, J. F., Wang, W., Hedlund, E., Rogers, C., Nepal, S. K., Wu, J., ... & Campbell, A. T. (2020). Mental health and behavior of college students during the early phases of the COVID-19 pandemic:

Longitudinal smartphone and ecological momentary assessment study. *Journal of medical Internet research*, 22(6), e20185.

Liu, F., Dai, L., Cai, Y., Chen, X., Li, J., & Shi, L. (2022). Psychological state and its correlates of local college students in Wuhan during COVID-19 pandemic. *Psychology in the Schools*.

Loades, M. E., Chatburn, E., Higson-Sweeney, N., Reynolds, S., Shafran, R., Brigden, A., ... & Crawley, E. (2020). Rapid systematic review: the impact of social isolation and loneliness on the mental health of children and adolescents in the context of COVID-19. *Journal of the American Academy of Child & Adolescent Psychiatry*, 59(11), 1218-1239.

Soria, K. M., Horgos, B., & Roberts, B. J. (2021). The COVID-19 pandemic and students' mental health. *New Directions for Student Services*, 2021(176), 37-45.

Sparasci, O., Bhui, K., Biswas, A., Chamberlain, S., Dubicka, B., Dudas, R., ... & Young, A. (2022). Impact of COVID-19 on mental health research: is this the breaking point?. *The British Journal of Psychiatry*, 220(5), 254-256.

Szkody, E., Stearns, M., Stanhope, L., & McKinney, C. (2021). Stress-buffering role of social support during COVID-19. *Family process*, 60(3), 1002-1015.

Thoits, P. A. (1985). Social support and psychological well-being: Theoretical possibilities. In *Social support: Theory, research and applications* (pp. 51-72). Springer, Dordrecht.

Zhao, X., Liu, Q., Zhang, S., Li, T., & Hu, B. (2022). the impact of psychological capital and social capital on residents' mental health and happiness during COVID-19: evidence From China.



