# Perceptions of Learning Loss and Learning Gaps among 2022 Psychology Graduates because of COVID-19: the Effect of the Pandemic on Self and Career Insights

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### Abstract

Global education systems were devastated by the Covid-19 pandemic. While the education literature has addressed learning losses and gaps in school and college-going students, the perceptions of university students who graduated during and just after COVID have, to our knowledge, not been documented. We report a study of recent psychology graduates from a university in north-eastern India who were entering postgraduate education or the workforce. This study surveys their perceived learning gaps during the pandemic and the need for catch-up learning. The study also reports the self-changes as expressed by the graduates and the links with future career. An online questionnaire was circulated to the 27 members of the 2022 graduating batch on Google Forms, of whom 23 (85%) responded.

Half of the students reported their overall learning was negatively affected, mostly because communication was hindered. Approximately one-third of the students reported gaps in their learning, the major gap being the lack of practical learning experiences. Three-fourths of the students said they needed or maybe needed catch-up learning. Most students (61%) experienced self-changes during the course and COVID, three-fourths stating positive changes. The majority were aware of the increase in mental illness because of the pandemic and the need for more mental health professionals. Some felt that certain specializations like career counselling and trauma counselling had gained more importance. The study highlights the need for catch-up learning and the importance of career guidance in colleges and universities.

**Keywords:** COVID-19 and students, psychology, learning loss, learning gaps, catch-up learning, self-perception, career

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# Introduction

The COVID-19 pandemic has had a cataclysmic effect on education systems worldwide. The closure of schools and universities and the rapid shift to online learning had a major impact on students. The disruption of conventional education has caused learning deficits and unforeseen challenges in their educational journey. The cumulative losses to education have been termed as "aggregate shock" by UNESCO (Diop & Jain, 2020). Understanding the effect of the pandemic on students' learning is crucial to addressing these deficits and developing effective strategies to mitigate their long-term consequences.

## Literature Skewed Towards School Students and Certain Countries

There is a growing body of literature on the adverse effects of the COVID-19 pandemic on students' learning outcomes. The majority of these studies pertain to school education. Most of the early and continuing studies on learning loss, learning gaps and learning recovery in school students are from the US (Dorn et al., 2021; Renaissance, 2022; Kuhfeld et al.; 2022; Spector, 2022).

These studies from the US indicate that the scale of learning loss among school students ranges from six months to a two-year loss in mathematics, and up to a year and a half in reading. National test scores in the US plunged nine points in mathematics and four points in reading on the National Assessment of Educational Progress (NAEP), often regarded as the nation's report card. This was single largest drop in mathematics in 50 years, and there are yet no signs of academic recovery following the disruptions of the pandemic (St. George, 2023).

Some of the OECD countries have been covered in a systematic review (OECD, 2021), that showed varying degrees of learning loss. A study from the Netherlands, which had only a two-month lockdown, found learning loss equivalent to about one-fifth of a year (Engzell et al., 2021). A study from Colombia showed the highest learning losses in English, social sciences, and reading (Vegas, 2022). School children in Mexico suffered learning losses in reading and numeracy (Hevia et al., 2022). A World Bank paper has estimated the worldwide loss of schooling time wise, as equivalent to two-thirds of a school year, but does not provide specific examples of loss of learning (Donnelly & Patrinos, 2021).

## Middle and Lower-Income Countries (MLIC) and India

The only study that provides well-pooled data is from The Centre for Global Development (Moscoviz & Evans, 2022), a philanthropic enterprise led by the Bill & Melinda Gates Foundation. This study examined dropout and learning loss from 13 low- and middle-income countries, including India, and eight high-income countries. Learning loss was found to be consistently much higher among lower socioeconomic groups. The dropout rate increased in all countries, with older students and girls at higher risk.

## Data on Higher Education

Perhaps some of the school data is pertinent to higher education, though not directly extrapolatable. So far there have been very few comprehensive evaluations of country-wise learning loss in higher education, let alone any regional or global studies.

Here again, most of the studies are from the US. A study of a community college system in with 23 institutions found a decrease of 3-6% in course completion (Bird et al., 2022). Another study on a large public institution found that 13% had delayed graduation (Aucejo et al., 2020). A survey of geography majors at six institutions in three countries (four in the US, one in Canada, one in Hong Kong) found that lack of fieldwork and access to laboratories were the main challenges (Day et al., 2020). In another study of chemistry majors, five per cent of students failed to

complete a semester (Kolack et al 2020). Almost half (45%) of STEM undergraduates reported loss of motivation as a major problem (Means & Nessler, 2020).

A detailed study of undergraduate psychology students at a large public university in the US found three-fourths of students experienced motivational and academic challenges and more than half felt that they were learning less in most of their classes. Over one-third of them felt less certain about their future educational plans (Usher et al., 2021).

Outside of the US, we found a study of university students in the Netherlands in which the undergraduate psychology students reported a decrease in motivation, though no numbers were provided in the article (Meeter et al., 2020).

In a survey of 700 university students in India, 85% reported learning loss, estimating the loss as 40-60% of what they would normally learn. Using raw data sets from the World Bank, the authors of this study calculated the learning loss in G7 countries. In these countries the percentage of learning loss ranged from 9.84-31.6% (TeamLease Edtech, 2021).

### Changes in Youth During the Course and because of COVID

In a study which tracked the lives and experiences of young people (Hill, 2021), these youth reported the changes and perceptions that occurred during and because of COVID. All of them described changes, some positive and some negative. Some of the positive quotes were, "This has been a dreadful time, but my self-development has been positive. COVID made me grow up pretty quickly". "It forced me to be a lot more introspective. That's a blessing and a curse, it can also allow self-doubt to creep in." "We'll be more mature and wiser."

Mostly there was dejection. The worries and negative feelings were:

"It's been really tough for people my age, academically and emotionally". "My confidence collapsed". "There is a lot of anxiety, a lot of young people struggling behind closed doors." "My faith in society and government has greatly diminished. We feel betrayed, used and exploited". "Everything feels like it's collapsing specifically for our generation". "We don't believe the adults in positions of responsibility." "Young people are angry and anxious". "Around me I see young people my age just giving up".

The high school graduates of 2021 were more likely to have seen their original postsecondary plans break down and the share of these recent graduates who felt economic stress rose from 57% to 65% from 2000 to 2021, according to a study conducted in the US (Harwin et al., 2021). A study conducted in Ethiopia (Mekonen et al., 2021) reported that more than one-fifth, more than one-third and nearly two-fifths of graduating students had stress, anxiety, and depression respectively.

An international study by the United Nations (n. d.) reported that among youth aged 18-24 years, 40% are facing the future with uncertainty and 14% with fear. A World Economic Forum (WEF) report rated mental health, employment and income as the top three concerns of youth (Peyton, 2021). Another WEF report (Jaisinghania, 2020) indicated that the COVID epidemic has influenced youth to take up social activism. A survey of young people revealed that they wanted skills, especially soft skills rather than "old-fashioned curricula" (Fore, 2020).

It is impossible and imprudent to attempt to separate learning deficits from the stresses experienced by students because of the pandemic. Motivation to learn was greatly affected, students having to self-regulate their routines and pace of learning to a large degree. In a study by

Hollister (2022) students reported lower attendance and interest levels for live lectures, with 72% saying that this diminished their online learning experience. The majority of students said they had trouble keeping pace with their course work and assignments, staying in touch with their friends and teachers, and managing their time. This reduced engagement can have lasting consequences on students' ability to comprehend and retain course material.

Especially after COVID, no study on youth can sidestep the enormous mental strain imposed by the pandemic on an already vulnerable age group. A special release from the Center for Disease Control (CDC, 2022) highlighted the disproportionate burden of mental illness borne by US youth compared to other age groups. Reporting of depression and anxiety among young people were 30-80% higher than for adults in OECD countries during COVID-19 (O'Higgins & Verick, 2021). A UK study reported similar findings of high burden in the age group 16-25 years, with greater mental distress among young women compared to their male counterparts (Schoon & Henseke, 2022). Almost half of Chinese students experienced anxiety (44.4%), higher than the national prevalence, and 19.6% experienced depression (Liu et al., 2020). In Bangladesh, nearly all college students (93.1%) suffered from anxiety (Dhar et al., 2020). The suicide rate among college students in Japan during COVID was the higher than the previous six years (Fuse-Nagase et al., 2021).

The global scale of this second pandemic was measured in a study of young and middle age adults that covered 63 countries. It showed that 70% had anxiety and 39% had depression. The young adults were more vulnerable compared to older adults. The study included countries from all economic categories and did not find significant differences across countries (Varma et al., 2021). A meta-analysis of 89 studies covering 1.44 million undergraduate and postgraduate students from six continents found significantly higher prevalence of depression, anxiety and sleep disturbances after COVID (Deng et al., 2021). Another meta-analysis of 27 studies from 15 countries, including India, showed that 39.4% experienced anxiety, and 31.2 % had depression. The levels of depression and anxiety were higher in females (Batra et al., 2021).

An association between loss of motivation, stress, mental illness and poor academic performance is predictable. A study of higher education students in management, computer science and engineering revealed a significant effect of stress and depression on academic performance during COVID (Jiang et al., 2022). A survey of university presidents across the US declared student mental health as their top concern (Chessman, 2020).

### Changes in the Job Market

The stresses of COVID among youth is compounded by concern about the future, especially job and career prospects. One of the major factors associated with mental illness among youth were financial concerns. An ILO statistical brief (O'Higgins & Verick, 2021) reported that labour markets around the world were severely affected by the COVID-19 crisis, with youth being the most affected. Youth employment fell by 8.7% compared to 3.7% for adults. A WEF report (2023) indicated that young people were left unemployed by the pandemic in far greater numbers than adults, with the effects being felt worse in lower income countries. Young women are more likely to become unemployed as a result of COVID-19 disruption than young men.

### Already Graduated Students

We have not found any study that examines the perceptions of students who completed much of their undergraduate course work and then graduated during or soon after the pandemic. These graduates may carry their gaps in learning into their careers and may have negative

perceptions of their ability in the discipline. If so, it is necessary to address possible solutions to remedying these gaps.

Neither could we find any published data on student perceptions of the field of mental health because of COVID-19 and whether the pandemic had any impact on changes in these perceptions.

### The Aims of the Present Study

1. To ascertain the perceived gaps in learning experienced by undergraduate psychology students during COVID and to determine the need for catch-up learning.

2. To identify the changes in the perceptions of self during the course and because of COVID.

3. To review their initial career plans and explore the links with changes in the field which have impacted the job market especially for psychologists.

### Definitions

According to The Glossary of Education Reform (2013), "Learning Loss" refers to the specific or general loss of knowledge and skills, or reversals in academic progress, most commonly caused by extended gaps or discontinuities in a student's education.

For this study we defined "Learning Gap" as a specific learning loss caused by a disruption in the academic progress due to discontinuities in learning or a change in the mode of learning. In the case of COVID-19, the learning gaps were associated with a change in the mode of learning. In the case of COVID-19, the learning gaps were associated with a change in the mode of learning, and in some situations, by discontinuities in learning. In general, learning gaps affected cohorts of students. In our questionnaire, the term 'remedial learning' was used. On further perusal of the literature, we came across the term 'catch-up learning' which specifically refers to learning loss due to a learning disruption.

Since our study pertains to learning loss during the Covid-19 pandemic, the phrase 'catch-up learning' seems to be a more fitting term. Hence, we have used the term 'catch-up learning' in the article. The full definition of 'catch-up learning' is provided below.

The Accelerated Education Working Group (AEWG) defines a catch-up programme as 'a short-term transitional education programme for children and youth who had been actively attending school prior to an educational disruption, which provides students with the opportunity to learn content missed because of the disruption and supports their re-entry to the formal system' (AEWG, 2021 p4).

### Methods

An online survey of BSc psychology students who had graduated in 2022 from Martin Luther Christian University was conducted in February 2023. The batch consisted of 27 students (22F, 5M). These students studied offline on campus for the first two semesters of the BSc psychology, had online classes for the next three semesters and then returned to campus for the last semester, having roughly half of their degree education in the online mode. The entire class of 27 students graduated in 2022.

The survey tool was a 39-item questionnaire comprising 33 closed-ended questions in the Likert scale format and six open-ended questions. The questions were divided into the following themes: demographic, academic aspects of the course such as the suitability of the syllabus for the general and specialty subjects, practical learning quality of online learning, faculty qualifications, assessment, need for catch-up learning, perceptions in the changes in the field and the job market and career plans. Please see Appendix 1 for the questionnaire.

To support validity and reliability, consultations on the content and structure of the questionnaire were held with the two

faculty members and their suggestions incorporated. The draft questionnaire was sent to six psychology students as a pilot test. All six reported satisfaction with the questionnaire (see Appendix 1). The questionnaire was administered online using Google Forms. Approval for this study was granted by the University Research Ethics Committee.

All 27 students in the class were invited to take the survey. In the preamble of the form, the expressed purpose of the survey was stated as: "the data will help to substantiate the loss of learning among psychology students. The data will be shared with higher education institutions. We trust that the data will be useful in the planning of psychology education." The responses to the questionnaire were analysed using MS Excel after data was transferred from Google Forms.

## Results

### Student Characteristics

Of the 27 students from the batch, 23 responded to the survey. The mean age of the respondents was 22 (SD +/- 2) years. Of the 23 respondents, 18 (78.3%) were female and 5 (21.7%) were male. Of the respondents 21 were tribals (91%) and 2 were non-tribal (9%).

### Perceptions of Learning Loss and Need for Catch-Up Learning

Our first research aim was to ascertain the perception of learning loss and learning gaps reported by the respondents during the COVID-19 pandemic. Table 1 presents the responses of the participants pertaining to the effects of online modalities on their learning. Nearly half of the participants stated that their overall learning was negatively affected. More than half of the students reported that their ability to communicate in the classroom had been hindered and approximately two-thirds said that their motivation was negatively affected.

**Table 1. Effects of online modalities on the learning of the students (n=23). Percentages indicated in parenthesis**

| Item | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | Total |
|---|---|---|---|---|---|---|
| **Overall learning negatively affected** | 2 (8.7) | 10(43.5) | 6 (26.1) | 3 (13) | 2 (8.7) | 23 |
| **Ability to communicate in the classroom was hindered** | 2 (8.7) | 11(47.8) | 5 (21.7) | 3 (13) | 2 (8.7) | 23 |
| **Motivation was negatively affected** | 2 (8.7) | 13(56.5) | 2 (8.7) | 5 (21.7) | 1 (4.3) | 23 |
| **Gaps in learning** | 2 (8.7) | 5 (21.7) | 11(47.8) | 5 (21.7) | 0 | 23 |

Table 2 shows the data for the satisfaction with the undergraduate course as a whole. Approximately one-third of the students were satisfied with the course and with continuous formative evaluation. They also felt like they had a good grasp of the discipline by the end of the course.

**Table 2. Academic satisfaction of the undergraduate course (n=23). Percentages indicated in parenthesis**

| Items | Strongly agree (%) | Agree (%) | Neutral (%) | Disagree (%) | Strongly Disagree (%) | Total |
|---|---|---|---|---|---|---|
| **Satisfied with syllabus** | 2 (8.7) | 4(17.4) | 11 (47.8) | 4 (17.4) | 2 (8.7) | 23 |
| **Syllabus was in-depth** | 2 (8.7) | 5 (21.7) | 12 (52.2) | 3 (13) | 1 (4.3) | 23 |
| **Practicals were adequate** | 3 (13) | 7 (30.4) | 10(43.5) | 2 (8.7) | 1 (4.3) | 23 |
| **Faculty were well-qualified** | 5 (21.7) | 8 (34.8) | 9 (39.1) | 0 | 1 (4.3) | 23 |
| **CFE\* helped in my learning process** | 7 (30.4) | 10(43.5) | 5 (21.7) | 0 | 1 (4.3) | 23 |
| **Having completed my degree, I feel I have a good grasp of the discipline** | 2 (8.7) | 6 (26.1) | 9 (39.1) | 6 (26.1) | 0 | 23 |

*continuous formative evaluation

The data from Table 3 shows that approximately half of the students found the coverage of the subjects in the course satisfactory. However, the level of satisfaction varied from subject to subject.

The generally high satisfaction with the course may indicate that the perceived negative effects were because of the online mode of learning, and that the content was by and large satisfactory.

**Table 3. Satisfaction of coverage of different subjects in the undergraduate course (n=23). Percentages indicated in parenthesis**

| Subject | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | Total |
|---|---|---|---|---|---|---|
| Major Subject (Abnormal / Organizational Psychology) | 2 (8.7) | 11(47.8) | 8 (34.8) | 1 (4.3) | 1 (4.3) | 23 |
| Experimental Psychology | 4 (17.4) | 9 (39.1) | 7 (30.4) | 3 (13) | 0 | 23 |
| Child Psychology | 0 | 11(47.8) | 9 (39.1) | 2 (8.7) | 0 | 22 |
| Research Methodology | 3 (13) | 13(56.5) | 5 (21.7) | 1 (4.3) | 1 (4.3) | 23 |
| Counselling Psychology | 2 (8.7) | 8 (34.8) | 10(43.5) | 2 (8.7) | 1 (4.3) | 23 |

The data in Table 4 shows that nearly three-fourths of the students said Yes or Maybe wished to have catch-up learning. Ninety per cent said Yes or Maybe to guided self-study, and 86% said Yes or Maybe to additional internships and practical learning.

**Table 4. Catch-up learning for the students who perceived gaps in their learning (n=22). Percentages indicated in parenthesis**

| Items | Yes | Maybe | No | Total |
|---|---|---|---|---|
| I would like to have remedial/extra classes | 5 (22.7) | 11 (50) | 6 (27.3) | 22 |
| I would like to have guided/mentored self-study | 10 (45.5) | 10 (45.5) | 2 (9.1) | 22 |
| I would like additional internships/practicum | 14 (63.6) | 5 (22.7) | 3 (13.6) | 22 |

### Changes in Perception of Self

Our second aim was to identify the changes in the perceptions of self during the course and because of COVID. Since COVID was simultaneous with the course for this batch of students, we clubbed some of the responses together. This section of the survey consisted of open-ended questions. The majority (14/23) said they had experienced changes during the course. Of these 10 had positive changes, realizing the importance of the field and reaffirming their interest. Some acquired more clarity about the field and gained more patience and empathy, thus increasing their motivation. During the course and because of COVID, perceptions and insights were deepened, and for some their interest in the field was reinforced, and altruistic reasons for taking up psychology were re-affirmed. Four reported being distracted, perhaps losing interest, while five said they did not change in any way.

"Before starting the course, my interest in the subject was neutral. After completing the course, I became even more interested and curious of acquiring knowledge re mental illness."

"During my learning experience I got to learn many new things and help myself to build a better person."

"Overall, the course was interesting even though COVID struck at the most crucial part of the course."

"Before the pandemic my vision was blurry, or it wasn't very definite."

"Overall, the pandemic did make me question my future and my knowledge of the subject."

"I have learned that there is much more to psychology than what I had imagined it to be. We do not only learn the subject to apply it to other people, but also on ourselves."

### Links Between Initial Career Plans with Changes in the Field

The third aim was to review the initial career plans of the students and explore the links with changes in the field which have impacted the job market especially for psychologists. The following figures show our findings.
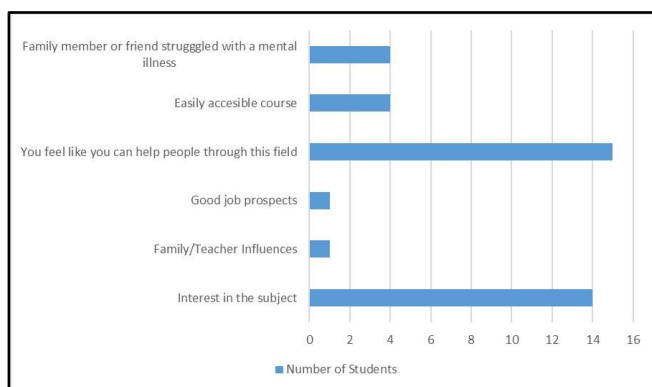
**Figure 1. Reasons for joining the course**

When asked about the reasons for taking up psychology, almost two-thirds stated they wanted to "help people".
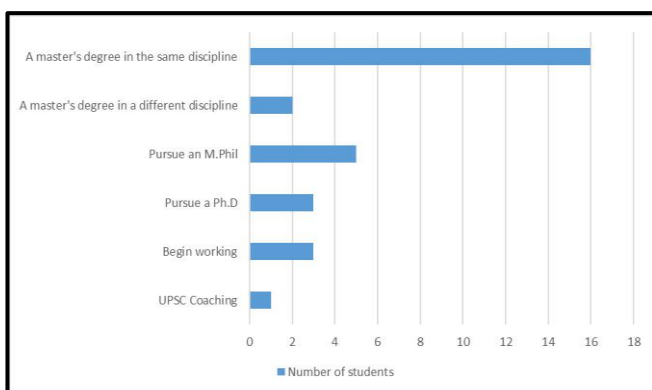


**Figure 2. Short term future plans**

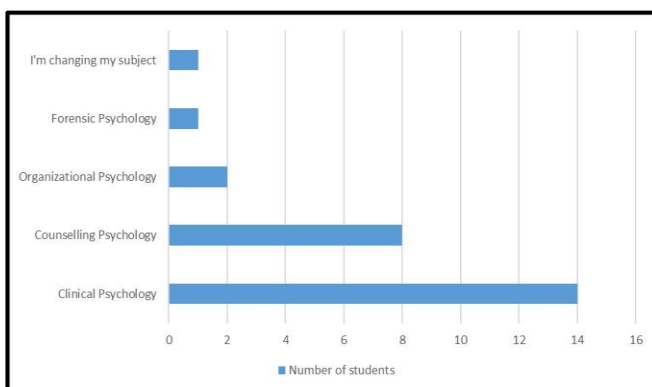The majority (87%) had plans to pursue higher degrees in psychology.



**Figure 3. Choice of master's degree specialisations**

Clinical psychology was the most popular choice (14/23) and counselling psychology the second (8/23).
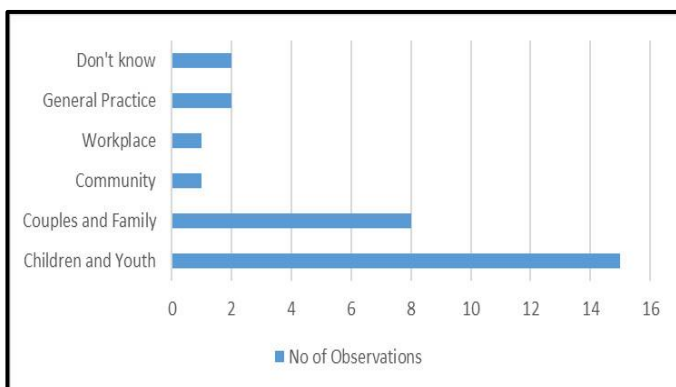


**Figure 4.**
**Choice of groups to work with**
When asked about which client group they would like to work with, two-thirds of them said "Children and youth".

The majority of the participants had noted changes in the field because of COVID, noting the increase in mental illness and in public awareness. More than half (56%) said they realized that the field was more in-depth than what they thought at the beginning of the course.

> "I have learned that there is much more to psychology than what I had imagined it to be. We do not only learn the subject to apply it to other people, but also on ourselves."

> "The pandemic made me realise that everyone can benefit from therapy and there are not enough mental health professionals to tackle this increasing need."
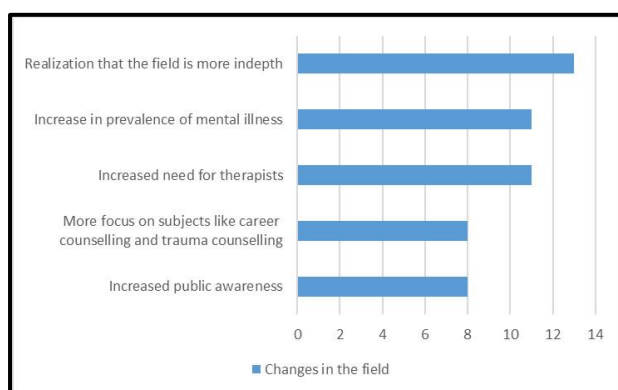


**Figure 5.**
**Changes in the field of psychology reported by participants.**

While the majority had chosen clinical psychology as their choice of specialization, it was now noted that other subjects like trauma and career counselling had gained importance. About half of them felt there was a greater need for counsellors.

## Limitations of the Study

The study was confined to one institution, one department and one course. The participants were predominantly tribal (91%) and female (73%). So, the application of the findings to wider populations of students and graduates may be hindered. The study focused on academic gaps, perceptions of which may have been affected by other factors, such as personal stress, which this study did not cover.

## Discussion

### Learning Loss and the Need for Catch-Up Learning

In our study, about half of the students reported that their overall learning was negatively affected, one important reason being that their ability to communicate with teachers and classmates in the classroom was hindered. Approximately one-third of the students said there were gaps in their learning, the major gap being the lack of practical learning experiences. In the one study we found (Usher et al., 2021) that pertained to undergraduate psychology students, half (51.9%) of the students reported 'learning less'. This was similar to our findings (52.2%). A primary factor in both the studies was inadequate communication with teachers. In the Usher (2021) study, loss of motivation was reported by four-fifths of the students, similar to two thirds of the students in this study.

In this study, three-fourths of the students said they needed or maybe needed catch-up learning. Measuring the amount of learning loss was not attempted in our study. Across undergraduate and postgraduate students in India, the learning loss was estimated at 40-60%, and that it would take three years to close the deficit (TeamLease EdTech, 2021).

The relevance of studying learning gaps among undergraduate students during the COVID-19 pandemic extends beyond understanding the immediate

consequences. It should lay the foundation for developing targeted interventions and policies to bridge these gaps and ensure educational equity. By identifying the specific areas where students have struggled the most, educational institutions can design tailored support mechanisms to address the challenges faced by students in the post-pandemic era.

Furthermore, the findings of this study will contribute to the broader discourse on educational resilience and crisis management. By examining the effects of the COVID-19 pandemic on undergraduate learning, policymakers and educators can gain valuable insights to inform decision-making processes and develop contingency plans for future crises. Also, students who have experienced gaps in learning may carry this learning deficit into their early careers and this may be corrected early by providing catch-up learning.

We found one report with detailed coverage on recovering lost learning (UNESCO, 2021). Several strategies were recommended such as catch-up, accelerated and bridge programs, after assessments, to ascertain learning needs. Other studies have recommended increasing instructional time by extending school hours by adding extra hours to the school day, extra days in the school year, or summer programs (MacGillis, 2023). All of these recommendations pertain to catch up learning for students who have returned to school, whereas the students in this study had already graduated.

## Self-Changes

In this study most students (61%) experienced self-changes during the course and COVID. Of these, almost three-fourths reported positive changes, realizing the importance of the field, reaffirming their interest, and gaining more patience and empathy, thus increasing their motivation. These changes mirrored the self-changes in other studies (Hill, 2021).

Perhaps the most important change experienced by youth in higher education was an increase in academic and psychological stress, leading to anxiety and depression. While this study did not examine this aspect, unpublished survey data from our university conducted during (December 2020) and after (February 2023) the pandemic, showed that the high prevalence levels of stress during COVID (87%) persisted after on-campus classes were resumed (88%), though academic stress decreased from 74% to 48%. These data showed the importance of prioritizing social and emotional support for students.

## Perceived Changes in the Field, Job Market, and Impact on Future Career

The majority of the participants were aware of the increase in mental illness, and the need for more mental health professionals because of the pandemic. Some of them said that certain specializations like career counselling and trauma counselling had gained more importance.

Altruism was the reason why two-thirds of the participants in this study chose psychology as a major. This concurs with findings in other studies from the Caribbean (White, 2015), USA (Hill et al., 2013; Farber et al., 2005), China (Xu & Li, 2012), South Africa (Mudhovozi, 2010; Mudhovozi & Maree, 2012), Australia (Poon et al., 2019), Germany (Safi et al., 2017), Ireland (Beatty, 2012), Russia (Karepova, 2010) and the UK (DiCaccavo, 2002). Some of our participants said that increased empathy was one of the changes they experienced during the pandemic.

In our study group, two-thirds of the respondents said that their preferred groups to work with are children and youth. This aligns well with the age group that has experienced the greatest rise in mental illness during the pandemic. Some of them reported their perception that career counselling would be needed even more in the post-pandemic era. This perception is borne out by reports of changes in the job market.

"The COVID pandemic has severely affected labour markets around the world,

hurting young people more than other age groups", according to the International Labour Organization (O'Higgins & Verick, 2021). Globally, youth employment fell by 8.7% in 2020 compared with 3.7% for adults. Based on available country-level data, the fall in employment has been much more pronounced in middle-income countries (O'Higgins & Verick, 2021). Youth, especially young women, experienced a higher rate of unemployment compared to adults, with the lower income countries being hit the hardest (World Economic Forum, 2023). Like our participants stated, there is evidently an increased need for career counsellors to guide students and youth about the changing job market.

An exception to the general dip in the job market, the need for psychologists has increased during and after the pandemic (APA, 2021) (Chamlou, 2022). Workplace psychologists are especially needed in larger numbers (Moralo & Graupner, 2022). In India, the pandemic has emphasized the growing gap for mental health professionals, especially in remote and rural areas. In these areas, inadequate internet connectivity will limit the access to online counselling (Mondal et al., 2020). The COVID pandemic has raised the profile of the profession, increased the demand for more mental health professionals and has thus enhanced the appeal of a career in mental health.

## Conclusions

Even though the psychology students in our study had all graduated, half of them reported learning loss, mostly in practical learning, and expressed the need for supplementary learning. Almost half of them experienced positive self-changes. Of the others, half reported no change and the other half experienced negative changes. They were perceptive about the increase in mental illness during the pandemic and the need for more psychologists, especially in the area of career counselling.

## Recommendations

Catch-up learning should be provided to university or college students, especially practical learning which was not possible during the lockdown. For those who have already graduated, they could return to campus for supplementary practical experience such as an internship. Since NEP 2020 recommends a four-year degree, students with three-year degrees could enrol for an additional year and receive an honours degree, thus increasing their qualifications and expertise. All colleges and universities should provide career guidance, highlighting the changes in the job market because of COVID.

**About the authors**

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# Appendix 1

*A survey of the gaps in learning of undergraduate students during the Covid19 pandemic and its influence on their perception of career.*

Greetings! This is an anonymous survey of MLCU psychology students to ascertain the effect on learning of the Covid-19 pandemic. Your response is requested as the data will help to substantiate the loss of learning among psychology students. The data will be shared with higher education institutions. We trust that the data will be useful in the planning of psychology education. Your participation will be greatly appreciated. The results of the survey will be shared with you.

Please answer the following questions
1.  Age

2. Gender

3. My major in B.Sc. Psychology
Mark only one
o        Abnormal Psychology
o        Organizational Psychology

4. Short-term future plan
Choose one or more
o        A master's degree in the same discipline
o        A master's degree in a different discipline
o        Pursue a Ph.D.
o        Pursue an M.Phil.
o        Begin working
o        Other

A. General

5. My learning was negatively affected by online modalities
Mark only one
o        Strongly disagree
o        Disagree
o        Neutral
o        Agree
o        Strongly agree

6. My ability to communicate in the classroom was hindered because of online modalities
Mark only one
o        Strongly disagree
o        Disagree
o        Neutral
o        Agree
o        Strongly agree

7.  My motivation to learn was negatively affected by online modalities
Mark only one
o        Strongly disagree
o        Disagree
o        Neutral
o        Agree
o        Strongly agree

8. Having completed my degree, I feel I have a good grasp of the discipline
Mark only one
o	Strongly disagree
o	Disagree
o	Neutral
o	Agree
o	Strongly agree

9. Having completed my degree, I feel competent to work as a therapist/counsellor
Mark only one
o	Strongly disagree
o	Disagree
o	Neutral
o	Agree
o	Strongly agree
10. Having completed my degree, I feel competent to teach the subject
Mark only one
o	Strongly disagree
o	Disagree
o	Neutral
o	Agree
o	Strongly agree

B. Academic aspects of the course

11. I am satisfied with the content of the syllabus
Mark only one
o	Strongly disagree
o	Disagree
o	Neutral
o	Agree
o	Strongly agree
12. The syllabus provided a comprehensive in-depth knowledge about the subject
Mark only one
o	Strongly disagree
o	Disagree
o	Neutral
o	Agree
o	Strongly agree
13. The syllabus was relevant to my field
Mark only one
o	Strongly disagree
o	Disagree
o	Neutral
o	Agree
o	Strongly agree
14. The practicals were adequate
Mark only one
o	Strongly disagree
o	Disagree
o	Neutral
o	Agree
o	Strongly agree

15. The faculty were well-qualified
Mark only one
o       Strongly disagree
o       Disagree
o       Neutral
o       Agree
o       Strongly agree

16. Continuous Formative Evaluation (CFE) helped me in my learning process
Mark only one
o       Strongly disagree
o       Disagree
o       Neutral
o       Agree
o       Strongly agree

17. CFE is better than a one-time summative exam at the end of the semester
Mark only one
o       Strongly disagree
o       Disagree
o       Neutral
o       Agree
o       Strongly agree

C. Subjects

18. The coverage of the subject in my major was adequate
Mark only one
o       Strongly disagree
o       Disagree
o       Neutral
o       Agree
o       Strongly agree

19. The coverage of the subject EXPERIMENTAL PSYCHOLOGY was adequate
Mark only one
o       Strongly disagree
o       Disagree
o       Neutral
o       Agree
o       Strongly agree

20. The coverage of the subject CHILD PSYCHOLOGY was adequate
Mark only one
o       Strongly disagree
o       Disagree
o       Neutral
o       Agree
o       Strongly agree

21. The coverage of the subject RESEARCH METHODOLOGY was adequate
Mark only one
o        Strongly disagree
o        Disagree
o        Neutral
o        Agree
o        Strongly agree

22. The coverage of the subject COUNSELLING PSYCHOLOGY was adequate
Mark only one
o        Strongly disagree
o        Disagree
o        Neutral
o        Agree
o        Strongly agree

23. Overall, there were significant gaps in my learning
Mark only one
o        Strongly disagree
o        Disagree
o        Neutral
o        Agree
o        Strongly agree

D. Remedial Learning

24. I would like remedial/extra classes
Mark only one
o        Yes
o        No
o        Maybe

25. I would like to have guided/mentored self-study
Mark only one
o        Yes
o        No
o        Maybe

26. I would like to do additional internships or practicum
Mark only one
o        Yes
o        No
o        Maybe

27. It would be nice if the university provided us free tuition for the remedial learning
Mark only one
o        Yes
o        No
o        Maybe

E. Career Plans

28. What was your reason(s) for joining the course?
Check all that apply
o        Interest in the subject
o        Peer influence
o        Family/ teacher influences
o        Good job prospects
o        You feel like you can help people through this field
o        The course was easily accessible
o        You had a family or friend struggling with a mental illness

29. If you are planning on pursuing a master's degree, what specialization will you consider?
(If 'Other', please specify)
Check all that apply
o        Clinical psychology
o        Counselling psychology
o        Organizational psychology
o        Forensic psychology
o        Educational psychology
o        Other

30. What would you like to work as? (If 'Other', please specify)
Check all that apply
o        Counsellor/Therapist
o        Clinical psychologist
o        Psychology professor/teacher
o        Forensic psychologist
o        Researcher
o        Social Worker
o        Other

 31. Do you think there are any significant changes in the field of psychology after the Covid-19 pandemic? What changes have you observed? (If 'Other' please specify)
Check all that apply
o        Increased need for psychologists
o        New focus on subject matters like career counselling, trauma counselling etc.
o        Prevalence of mental illness has increased
o        Increased public awareness of mental health and counselling
o        Other

32. How have your perceptions of the field of psychology and counselling changed between starting the course and completing your degree?

33. Have your perceptions of yourself changed as an aspiring professional in the field, between starting the course and completing the degree? If so, how?

34. Have your perceptions of the field of psychology and counselling changed because of the Covid-19 pandemic? If so, how?

35. Have your perceptions of your future career changed because of the Covid-19 pandemic? If so, how?

F. Closing questions

36. Are you happy that you took up psychology? If yes, why?

37. Are there any special groups that you are planning to work with? (E.g. children, married couples, families...)

38.  Should there be any other subjects added to the course? (If 'Other' please specify)
Check all that apply
o        Expressive arts therapy
o        Multi-cultural psychology
o        Life skills and well-being
o        Other

39. On a scale of 1 to 10, what would you rate the course?
o        1
o        2
o        3
o        4
o        5
o        6
o        7
o        8
o        9
o        10

Comments