

# The COVID-19 Pandemic, Undergraduate Students' Well-Being and Their Coping Strategies: A Scoping Review

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## Abstract

The COVID-19 pandemic has had a profound impact on the education sector worldwide, and on undergraduate students in particular. This Scoping Review seeks to unearth research examining the psychosocial impact of the pandemic on undergraduate students in the regions of North America, Latin America, and the Caribbean. Additionally, this review explores students' coping mechanisms as a means to guide researchers in conducting informed investigations and to allow institutions in making meaningful decisions to combat the effects of the pandemic and future disruptions. Despite the wealth of research on COVID-19, findings from this review show a notable scarcity of literature specifically focused on undergraduate students. Findings reveal a consensus among studies regarding increased stress, anxiety, and depression among undergraduate students. Coping strategies employed by students highlight possible challenges such as overuse of social media and substance use, but they also shed light on potential interventions including physical activities, emotional strategies, and social supports. Future research should focus on filling the gaps in the existing literature and assessing the efficacy of targeted interventions. By gaining a deeper understanding of undergraduate student experiences and identifying effective support mechanisms, we can enhance the overall well-being and academic success of students.

**Keywords:** pandemic, COVID-19, undergraduate students, well-being, mental health, coping strategies

## 1. Introduction

### 1.1 Background

The COVID-19 pandemic has brought about significant disruptions in the landscape of post-secondary education, particularly in the delivery of learning. Traditionally, educational institutions have heavily relied on face-to-face instruction as the primary method of knowledge dissemination. However, the emergence of COVID-19 necessitated swift adjustments to prevent the virus's spread, resulting in a sudden shift away from in-person instruction. This unprecedented change has profoundly impacted undergraduate students, who constitute the primary recipients of instructional services. Consequently, these students have faced increased academic-related fear and anxiety, compounding the already existing challenges posed by the pandemic itself. In this review paper, we investigate the repercussions of the pandemic-induced educational transformation, with a specific focus on its effects on undergraduate students' well-being. By examining various dimensions of this issue, we aim to provide valuable insights that may help to develop potential strategies to mitigate the adverse consequences and foster a more supportive learning environment during future disruptions and challenges.

Since the onset of the COVID-19 pandemic, researchers have been diligently exploring the diverse effects experienced by different segments of the population. A considerable volume of research has been conducted, evidenced by over 531,458 results retrieved from the Scopus database between March 2021 and April 2023, with projections for 2024 (Scopus search term: COVID-19 or pandemic). While most research has focused on the physical impact of the virus, numerous studies have consistently demonstrated the profound impact of the novel coronavirus (SARS-CoV-2) and its associated disease (COVID-19) on mental health and behaviour, leaving little doubt about the pervasive consequences (Browning et al., 2021). Among the affected populations, undergraduate students emerge as particularly vulnerable, grappling with uncertainties related to academic success, future

careers, and social interactions during their undergraduate experience (ibid). Hence, it is crucial for researchers to investigate the consequences of the pandemic specifically on this susceptible group. Browning et al. further emphasize the need for university administrators to comprehend the impacts of COVID-19 and the associated risk factors in order to effectively support students (Browning et al., 2021). Consequently, it is imperative to address the impact of the pandemic on this distinct population, implementing necessary mechanisms to mitigate the present and future repercussions of such extraordinary circumstances.

### *1.2 Purpose*

Arksey and O'Malley (2005) provide four key purposes for undertaking a scoping review: (1) examining the extent, range, and nature of research activity; (2) determining the value of conducting a comprehensive systematic review; (3) summarizing and disseminating research findings; and (4) identifying research gaps in the existing literature. Additionally, scoping reviews serve as an ideal tool to assess the breadth of available literature on a particular subject (Armstrong, Hall, Doyle, & Waters, 2011; Munn et al., 2018). This scoping review, therefore, aims to investigate the level of existing knowledge regarding the impact of the COVID-19 pandemic on undergraduate psychosocial well-being within the regions of North America, Latin America, and the Caribbean. By examining relevant studies, summarizing findings, and identifying coping mechanisms, the review aims to contribute to the collective understanding of this critical issue while pinpointing gaps in the current literature. The specific focus of this review lies in uncovering valuable insights into the well-being of undergraduate students, shedding light on their unique experiences and methods of coping during the pandemic.

### *1.3 Review Questions*

Our objective was to conduct a scoping review of prospective studies on well-being in undergraduate students during the COVID-19 pandemic, including mental health, quality of life outcomes, and coping strategies employed. The review set out to address the following key questions:

- How has the well-being/mental health of undergraduate students changed during the COVID-19 pandemic?
- What coping strategies did undergraduate students employ during the pandemic?
- To what extent does the current research capture the psychosocial impact (as opposed to physical impact) on undergraduate students?
- What other gaps exist in the current literature?

Additionally, this review was interested in any identification of potential risk factors related to the mental health impacts of the pandemic on undergraduate students.

## **2. Methods**

### *2.1 Definition of Terms*

**COVID-19:** For the purpose of this review COVID-19 and pandemic are used interchangeably and refer to the period between March 11, 2020 and April 30, 2022, in which instruction took place mainly in the online modality for colleges and universities.

**Undergraduate students:** Refers to the students who are engaged in learning towards an Associate or Bachelor's degree at a tertiary institution. Typically, these students are 17 years or older. Note that this review will not include students in medical schools.

**Well-being:** Well-being is usually synonymous with quality of life (Valla, Telle Hjellset, Cvancarova Småstuen, & Sparboe-Nilsen, 2023). However, for the purposes of this review, well-being specifically refers to psychological well-being and in particular, symptoms such as stress, anxiety or depression.

**Coping strategies:** Hu and Sun (2023) interchange the terms coping strategies and coping style as well as coping mechanism. They refer to it as a; "habitual strategy used by individuals to deal with and manage stressful events". This is the context in which this term is used in this review.

### *2.2 Concept*

The overarching concept of this scoping review is the well-being of undergraduate students. Specifically, the review sought to uncover the matter of undergraduate students' well-being during the period of the lockdown of the COVID-19 pandemic. This scoping review summarizes and synthesizes the results of studies investigating mental health and quality of life in undergraduate students and the coping strategies they employed.

### *2.3 Context*

The review included research conducted on undergraduate students in North America, Latin America, and the

Caribbean specifically during the period of the pandemic lockdown.

#### *2.4 Condition/Domain Being Studied*

The review sought to scope studies which examine well-being, mental health and health-related quality of life in undergraduate students and the coping strategies employed.

#### *2.5 Participants/Population*

College and university students, specifically undergraduate students. Only undergraduate students with a non-clinical focus were eligible for inclusion.

#### *2.6 Source of Evidence, Screening and Selection*

##### *2.6.1 Database Search Strategy*

The following databases were searched systematically: Scopus, PubMed/MEDLINE, PsycINFO and ERIC. Reference lists from relevant studies and review articles were also screened for further suitable publications. The literature searches were conducted using a combination of terms regarding the population (e.g., “college students”, “university students” “undergraduates”), the disease outbreak (e.g., “COVID-19”, “pandemic”) the mental health outcomes (e.g., “mental health”, “well-being”, “depression”, “anxiety”, “stress”) and the regions (e.g., “America”, “Canada”, “Caribbean”, “United States”).

##### *2.6.2 Types of Evidence Sources*

The study sources included all existing primary data available on the subject of the COVID-19 pandemic and its impact on undergraduate students’ well-being/mental health. These include both longitudinal studies and case studies within academic journals or in pre-print. Note that systematic reviews and scoping reviews were not considered.

##### *2.6.3 Screening and Selection*

The scoping review was conducted and reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Studies identified from the literature search were screened in two steps. In the first step, titles and abstracts (if available) were screened for eligibility by one reviewer, and those that clearly do not meet the inclusion criteria were excluded. Documents from the initial database search were exported to COVidence, where duplicate studies were removed and the remaining documents were screened based on the exclusion criteria. Following screening within COVidence, the remaining documents were exported to Zotero for full-text review and further screening/extraction.

##### *2.6.4 Extraction and Inclusion*

In a second screening step, reviewers together screened the full texts of potentially eligible articles based on the inclusion and exclusion criteria. If one study was deemed eligible by one reviewer but not by the other, discrepancies were discussed until a consensus was reached, involving a third party if necessary. A standardized data extraction form was developed and utilized by the reviewers using data from studies that were to be included in the review. The extracted information included: the first author, year of publication, research question, study design, country, setting (e.g. from which study, general or other population), time periods of data collection (and whether there were pandemic restrictions at that time), number of participants, sample characteristics (e.g., age, gender distribution), outcome assessment, statistical analysis and results. One reviewer extracted all study data using the extraction form. A second reviewer then verified the data extraction, correcting or adding information where necessary.

##### *2.6.5 Inclusion and Exclusion Criteria*

This review included original longitudinal/prospective studies conducted in North America, Latin America, and the Caribbean. These primarily included cohort studies that commenced after March 11, 2020 (i.e., the date the WHO declared a pandemic).

Studies were included if:

- They were in English
- They had been published since March 11, 2020
- They were original studies
- The population was within North America, Latin America or the Caribbean
- The population was only undergraduates

- They examined the mental health experiences of the students as well as their coping strategies during the pandemic
- The full text was available

Studies were excluded if:

- They were not from North America, Latin America or the Caribbean
- They were thesis or dissertations
- They did not report original data
- They examined the effect of an intervention on mental health/quality of life but without reporting sub-group results for the control group
- The population included clinical students
- They only reported outcomes that are clinical diagnoses, hospitalization rates, etc.
- They examined age cohorts outside the undergraduate age groupage
- The results from the same study/population had been published in duplicate. In this case, we would exclude the study that provides the least information regarding our research question.
- It was not in English
- The full text was not available

### 3. Results

#### 3.1 Selection of Literature

Of the four databases searched (Scopus, PubMed, PsycInfo and ERIC) 98 documents were identified. The results from this initial search are shown in Table 1.

Table 1. Number of documents retrieved from databases

Database	Number of Documents Retrieved
Scopus	37
Pubmed	23
PsycInfo	23
ERIC	15
Total	98

The identified documents were then exported to COVIDENCE for screening, where 16 duplicate studies were removed, and a further 35 were removed as irrelevant based on the exclusion criteria. The remaining 47 documents were exported to Zotero for full-text review. Of this number, 38 were excluded for reasons outlined in Table 2.

Table 2. Reasons for study exclusion

Reason for Exclusion	Number of Studies Excluded
Full text not available	4
Includes graduates	5
Includes clinical students	2
Did not include all the inclusion criteria	3
Includes other samples outside of undergraduates	5
From other geographical areas	6
Thesis/ dissertation	4
Other, including conference papers	9
Total	38

Of the nine remaining studies, seven were from the United States and two from Canada. While there were no corresponding studies included from the Caribbean or Latin America, it should be noted that two studies out of Latin America were initially identified in the database search, however, they were eliminated due to full-text

unavailability and focus on subject matter. A full overview of the identification, screening and inclusion is shown in Figure 1.

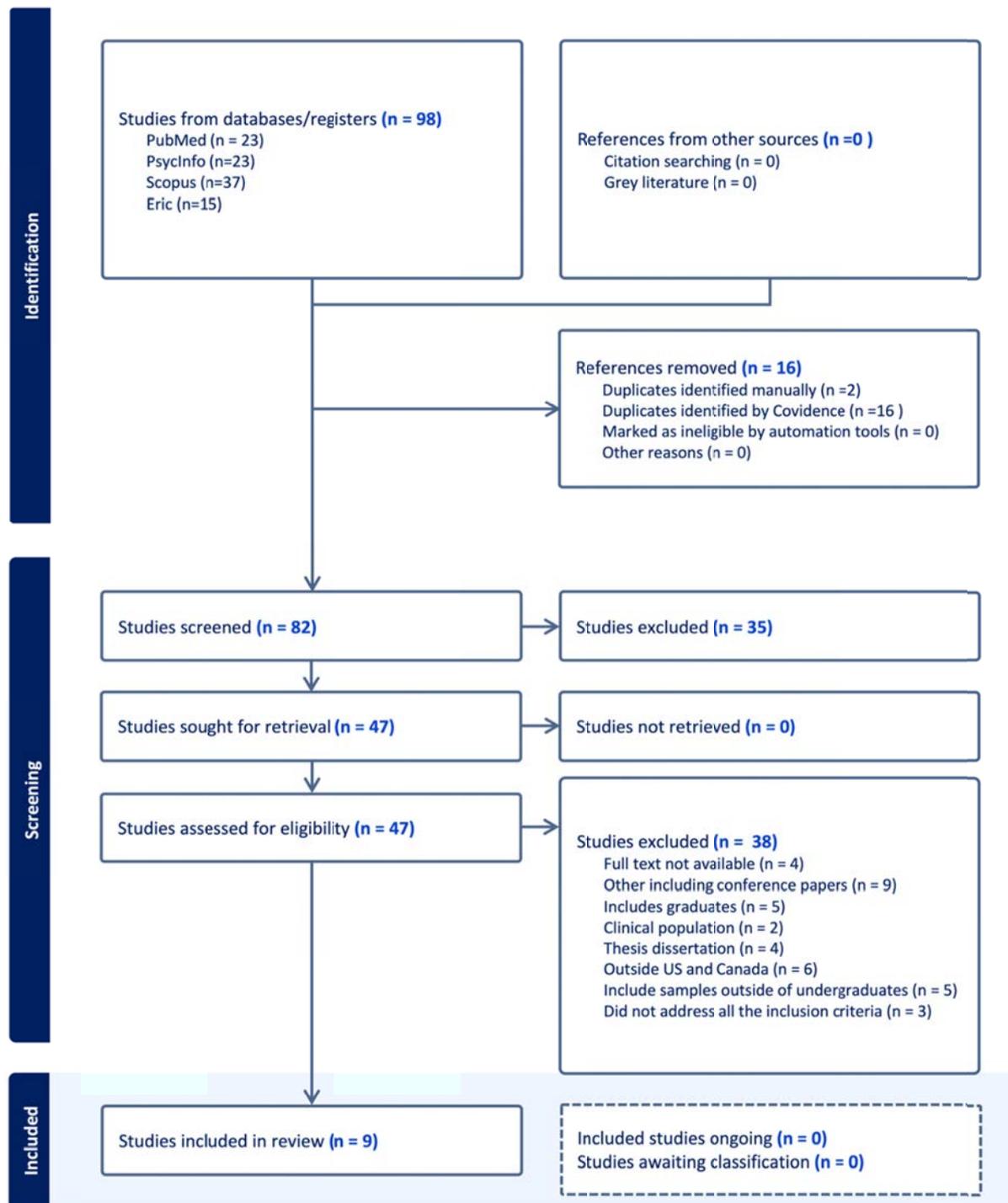


Figure 1. PRISMA table of studies retrieved

The remaining studies included two mixed methods studies, two qualitative and seven quantitative studies. For these included studies, all agree that the pandemic presented a mental health challenge of some sort for students, as the pandemic presented a disruption in the usual day-to-day activities of the students. To explore the impact identified in the studies, the findings from this scoping review are synthesized and presented in a narrative manner

under the themes determined for the scoping: well-being/mental health and coping strategies.

### *3.2 COVID-19 and Mental Health*

Within the included studies, the consensus is that COVID-19 has negatively affected the mental health of undergraduate students. Specifically, researchers noted decreased perceived well-being (MacDonald & Murphy, 2022), an increased level of anxiety (Akeman et al., 2022; Biber, Melton, & Czech, 2022; Eden, Johnson, Reineke, & Grady, 2020; McDonald & Murphy, 2022; Son, Hedge, Smith, Wang, & Sasangohar, 2020), increased depression levels (Akeman et al., 2022), and gender differences in the level of anxiety and depression exhibited, where females reported higher levels of anxiety and depression (Akeman et al., 2022, Prowse et al., 2021; Wolfe, 2021). Factors relating to the increase in anxiety and depression varied, two main themes included anxiety over the uncertainty related to the ongoing pandemic as well as fears about falling performance standards as a result of the lack of interaction between students and instructors.

### *3.3 Coping Mechanisms*

A variety of coping mechanisms were reported which can be categorized as physical, emotional, social and substance use. The physical strategies described were limited, primarily consisting of exercise (McDonald & Murphy, 2022; Prowse et al., 2021) and sleeping (Prowse et al., 2021).

Emotional means included the cultivation of dispositional gratitude and positive emotions (Biber et al., 2022; Eden et al., 2020; Wolfe, 2021). Both Biber and Wolfe noted a positive correlation between positive emotions and coping, as well as a negative relationship between positive emotions and anxiety and depression. Other emotional means noted as effective included counselling (Son et al., 2020), cultivation of hope (Eden et al., 2020), and self-disclosure (Zhen, Nan & Pham, 2021).

Social coping mechanisms varied greatly, possibly due to the varied social isolation experienced by students. One common social coping mechanism was the use of social media (Callaghan, Drysdale, & Lee, 2021; Eden et al., 2020; Prowse et al., 2021; Zhen et al., 2021). Prowse et al. found a gender difference in this use of social media, finding that more females relied on this particular method of coping, noting that this is in line with research showing increased social media use in females in general. Prowse et al. also note that, while individuals may use social media as a method of support, excessive use has been linked to lowered mental health and academic performance. Another important social coping strategy identified was the dependence on parents, other relatives, and peers for support (Callaghan et al., 2021; McDonald & Murphy, 2022; Prowse et al., 2021; Son et al., 2020; Zhen et al., 2021). This strategy could also involve social media, where Callaghan et al. reported that one of the avenues of support utilized was to exchange advice with others on social media. This type of interpersonal interaction was deemed to be effective in mediating the negative effects of the pandemic on students.

The final major coping strategy used by students was substance use. While there was variation in the classes of substances used, alcohol was the main substance of choice (Akeman et al., 2022; Prowse et al., 2021). The Akeman study examined the use of alcohol pre-pandemic and the possible impact on students' mental health during the pandemic. They found that those who used less alcohol pre-pandemic were able to engage in more active coping strategies during the pandemic, however, the study did not delineate these strategies. Other substances used included vaping (Prowse et al., 2021), cannabis (McDonald & Murphy, 2022; Prowse et al., 2021) and binge eating (Prowse et al., 2021). Prowse and colleagues examined the gender differences in substance use but did not find a significant difference by gender.

### *3.4 Interventions*

Studies included in this review emphasize the importance of interventions to assist students in order to return to pre-pandemic levels of normalcy with respect to undergraduate students' mental health. Akeman et al., (2022) suggested counselling for the students. Other authors suggest the cultivation of traits such as optimism and gratitude, as these were found to be highly effective in mitigating the mental health effects of the pandemic, primarily because they allowed the individuals to develop their own coping strategies and levels of tolerance (Prowse et al., 2021; Wolfe, 2021). What is evident is that there is still a need for support coming out of the pandemic and that the well-being and academic success of students may depend on the implementation of effective interventions.

## **4. Discussion**

The current research landscape regarding the psychosocial impact on undergraduate students during the COVID-19 pandemic is limited, with a predominant focus on physical health rather than psychological well-being. While the psychological effects often outweigh the physical ones, they are less recognized and studied (Valla et al., 2023). This sentiment is echoed by numerous studies included in this review, emphasizing the need to consider

students' quality of life within a bio-psycho-social context, highlighting the significant impact of the COVID-19 pandemic on undergraduate students. The scarcity of literature specifically addressing the well-being and coping strategies of undergraduate students in North America, Latin America, and the Caribbean underscores the need for further research in these regions. Expanding the scope of investigations to include institutional reports and additional databases could provide valuable insights into the unique challenges and coping mechanisms employed by undergraduate students in these regions.

Findings from this review emphasize the negative effects on students' well-being, with increased stress, anxiety, and depression consistently reported. This underscores the importance of recognizing and addressing the psychosocial impact of the pandemic on undergraduate students. The need for additional resources and services to address the mental health repercussions of the disease have been emphasized previously (Valla et al., 2023). While counselling has been suggested by one study as a potential intervention (Akeman et al., 2022), logistical and financial barriers may hinder its widespread implementation. Other authors propose fostering traits that enable individuals to develop their coping strategies and resilience levels (Prowse et al., 2021; Wolfe, 2021). The identification of various coping mechanisms in this review sheds light on possible adaptive strategies and interventions. Physical coping mechanisms, such as exercise and sleep, highlight the importance of maintaining a healthy lifestyle to manage stress and promote well-being. Encouraging students to engage in regular physical activity and prioritize sufficient sleep can have positive effects on their mental health. Emotional coping strategies, including cultivating gratitude, positive emotions, and hope, emerge as effective tools for students in managing their mental well-being. These findings highlight the potential benefits of incorporating positive psychology interventions and emotional regulation techniques into support programs for undergraduate students. The role of social support in mitigating the negative effects of the pandemic is also evident from the identified coping mechanisms. Social media, despite its potential drawbacks, serves as a platform for students to seek and exchange support, advice, and information. However, it is crucial to educate students about the potential pitfalls of excessive social media use and promote healthy online habits. Institutions could also consider implementing peer support programs and facilitating virtual or in-person social gatherings to promote a sense of belonging and community. Lastly, the prevalence of substance use as a coping strategy among undergraduate students during the pandemic warrants attention. The increased alcohol consumption observed suggests a potential risk to students' health, mental health and well-being. It is crucial to provide students with alternative coping mechanisms and raise awareness about the potential negative consequences of excessive substance use.

In conclusion, the findings of this review emphasize the significant mental health implications of the COVID-19 pandemic for undergraduate students. Furthermore, understanding the psychosocial impact, gender differences, and coping mechanisms employed by students provides valuable insights for developing tailored interventions and support systems. Investigating the success of such interventions would provide valuable insights and guidance for future disruptions, and by addressing the unique challenges faced by undergraduate students, institutions can potentially foster resilience and promote the well-being of this vulnerable population during and beyond the pandemic.

## 5. Limitations

It is important to note that a quality assessment of the included studies' methodologies was not conducted in this scoping review. Future studies should consider conducting such assessments to enhance the rigour and reliability of the research. Additionally, evaluating the cultural appropriateness of measures used in studying undergraduate well-being during disruptive events is crucial to ensure the development of culturally appropriate interventions and the acquisition of relevant data.

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### Authors contributions

H. E. Brown and M. McKibbon were responsible for the study design and analysis. H.E. Brown developed the manuscript, and M. McKibbon and A. M. Todd revised it. All authors read and approved the final manuscript.

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Obtained.

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**Data sharing statement**

No additional data are available.

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