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# Disrupted Course Delivery in the Covid-19 Landscape: Consequences for University Student Stress and Mental Health

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*Disrupted Course Delivery in the Covid-19 Landscape; Consequences for  
University Student Stress and Mental Health*

by

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Portland, Oregon

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*Disrupted Course Delivery in the Covid-19 Landscape; Consequences for  
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**Abstract**

University students have experienced a massive disruption in the path to their academic goals. The Covid-19 pandemic has negatively impacted populations of students internationally. They have incurred physical and psychological distress. In this paper, the literature and data collected about how the pandemic affected the stress levels of students at universities will be analyzed and a recommendation for future research will be made. The purpose of this literature review is to analyze data and publications pertaining to the mental health and perceived stress of students resulting from Covid-19. There is an emphasis on the severity of the ways that their education and lives have been impacted by the global pandemic. This literature review aims to draw attention to the ways these changes have directly impacted university students' ability to maintain sound lives.

**Introduction/Background**

The novel coronavirus, or 2019-nCoV (Covid-19), first became an epidemiological area of interest in late December of 2019 when a cluster of pneumonia cases were reported in Wuhan, Hubei Province, China. It was not until January 7, 2020 that Chinese health authorities confirmed these cases of pneumonia were in fact cases of novel coronavirus, 2019-nCoV. The United States first discovered the spread to America through a case in Snohomish, Washington in late January of 2020 (Holshue 2020). Given the highly contagious nature and high transmissibility of the virus, schools, businesses, and workplaces were faced with turning to

remote methods while mask mandates and social distancing policies were rolled out around the world. Countries began closing their borders, and social activity internationally came to a halt. By February 2020, policies were put in place that halted face-to-face interaction, resulting in the expedited shift for universities to implement remote learning and online course delivery methods. This shift created an unknown online learning environment for more than eighty percent of university students (World Health Organization 2020).

The purpose of this literature review is to analyze data and publications pertaining to the mental health and perceived stress of students as a result of Covid-19. Most of the populations surveyed living through the current global pandemic have shown elevated levels of stress following the early waves and onset of Covid-19 in late 2019. The same populations can later be observed to display moderate levels of stress as the severity of the pandemic grows (Gamonal Limcaoco, et al. 2020). Most universities switched to an online delivery system, canceled campus activities, and a significant majority of academic institutions terminated courses entirely (Cao 2020). This left university students and instructors around the world to adapt to more than an interruption in their academic progress, mandating an entirely new realm of learning and teaching on significantly short notice. However, the pressure and expectation on students to succeed in their academic areas of interest still remained hyper present in their lives.

University students often experience elevated levels of stress due to the change in rigor when transitioning from high school, community college, or gap years to a four-year college. Common stressors that students face can include moving, living on or off campus, meeting new people, navigating financial aid, understanding their courses, and many others. The University of Calgary indicates that first year and transfer students would particularly be predisposed to additional stressors due to the experience of leaving home to attend their first term or semester

away from their comfortable environment and known support system. These first year and transfer students are a prime example of heightened levels of stress (Mackenzie 2021). However, these stressors are further exacerbated when students experience sudden unexpected changes like the ones brought forth resulting from the global pandemic.

## **Methods**

The search terms “students’ academic impact Covid-19,” “student stress Covid-19,” “stress in universities Covid-19,” and “Covid-19 perceived stress college students” were run through the article search engine via the Portland State University Library. These searches resulted in four articles that speak to the purpose of this literature review. Another search was conducted through PubMed, where the term “Covid-19 Mental Health College” and “University Stress Covid-19” yielded an additional two articles for inclusion. After accessing these articles, the search term “Covid-19 pandemic stress university” was used via Google Scholar, yielding an additional four sources. The ten articles selected for addition, were chosen after meeting the following criteria:

- The article was published in a peer-reviewed journal.
- The article was available in English, or to be translated to English.
- The article was published within the last 2 years.
- Data was collected from college students over the age of 18.
- Data was collected after the onset of the Covid-19 Pandemic, January 2020.
- The study meets one of the following:
  - Mental health data was collected and analyzed.
  - Perceived stress data was collected and analyzed.

- Data pertaining to the impact of the pandemic was collected and analyzed.

In this literature review, “stress” is attributed to stress perceived as a result of university changes that were implemented resulting from the pandemic. The “university changes” include alteration of course delivery methods, social isolation, financial barriers, and resource availability. “Resources” can include but are not limited to: writing centers, workshops, study spaces, food pantries, libraries, computer labs, connection to the internet, student health services, federal work study, and instructor availability. Losing access to these resources while experiencing disruptions to their education, contribute directly to elevated perceived stress levels.

There were no limitations placed on screening criteria in terms of a maximum age, transfer status, major, or program pathway. The variety in demographics allows a greater breadth of expressed data that better reflect the universities as whole institutions.

**Table I:** articles included and their respective retrieval processes.

Title	Author	Year	Journal	Searched	Search Term	Date Retrieved
E-learning: Depression, anxiety, and stress symptomatology among Lebanese university students during COVID-19 quarantine	Fawaz, et al.	2020	Nursing Open	Portland State University’s Library Database	"students’ academic impact Covid-19" and “student stress Covid-19”	4/5/2022
The psychological impact of the COVID-19 epidemic on college students in China	Fang, et al.	2020	Psychiatry Res.	Portland State University’s Library Database	"students’ academic impact Covid-19" and “student stress Covid-19”	4/5/2022
Perceived Stress Among Students in Virtual Classrooms During the COVID-19 Outbreak in KSA	Alateeq, et al.	2020	Journal of Taibah University Medical Sciences	Portland State University’s Library Database	“stress in universities Covid-19”	4/5/2022
Anxiety, Worry and Perceived Stress in the World due to the COVID-19 Pandemic, March 2020 Preliminary	Gamonal Limcaoco, et al.	2020	The International Journal of Psychiatry in Medicine	Portland State University’s Library Database	“Covid-19 perceived stress college students”	4/5/2022

Results						
College Students' Stress and Health in the COVID-19 Pandemic: The Role of Academic Workload, Separation from School and Fears of Contagion.	Yang, et al.	2021	PLoS ONE	PubMed Access via the Portland State University Library	"Covid-19 Mental Health College" and "University Stress Covid-19"	4/8/2022
Anxiety, depression, and stress prevalence among college students during the COVID-19 pandemic: A systematic review and meta-analysis	Wang, et al.	2021	Journal of American College Health	PubMed Access via the Portland State University Library	"Covid-19 Mental Health College" and "University Stress Covid-19"	4/8/2022
A repeated cross-sectional survey assessing university students' stress, depression, anxiety, and suicidality in the early stages of the COVID-19 pandemic in Poland	Debowska, et al.	2020	Psychological Medicine	Google Scholar	"Covid-19 pandemic stress university"	5/31/22
Examining Anxiety, Life Satisfaction, General Health, Stress and Coping Styles during COVID-19 Pandemic in Polish Sample of University Students	Rogowska, et al.	2020	Psychology Research and Behavior Management	Google Scholar	"Covid-19 pandemic stress university"	5/31/22
Investigating Mental Health of US College Students During the COVID-19 Pandemic: Cross-Sectional Survey Study	Wang, X., Hedge, H., et al.	2020	Journal of Medical Internet Research	Google Scholar	"Covid-19 pandemic stress university"	5/31/22
COVID-19 pandemic: Mental stress, depression, anxiety among the university students of Bangladesh	Sifat, Ridwan	2020	International Journal of Social Psychiatry	Google Scholar	"Covid-19 pandemic stress university"	5/31/22

## Limitations

The ten articles that have met the criteria aforementioned are limited in quantity due to a few factors. The novel coronavirus is a recent discovery that was found within the last two years. Initially researchers were determined to investigate the virus itself and gain a solid understanding

of the mechanisms of transmission. The effects that the virus had on populations was prioritized by researchers before looking toward other areas of study. The majority of research conducted pertaining to Covid-19, in general, examines the impact the virus has on physical health and the degree of contagion associated with it. There are far fewer studies examining the mental health outcomes of those who have had their lives impacted by the Covid-19 pandemic.

Additional limitations to research are attributed to the specific demographic of “university students” that was chosen. This limits population data in most published research, because the chosen articles exclude the general public. There are many publications that collect and analyze mental health data from populations that are not currently in college, but the aim of this literature review is to analyze mental health data of university students. While this research on a broader scale is important to understand the ways that the majority of the population could benefit from public health initiatives and policies, this literature review is geared toward understanding the impacts on college students.

Given that the onset of the pandemic has occurred within the last two years, there is no reason to suspect limitations exist that are attributed to outdated information. Two of the ten articles were published in 2021, while the eight others were published in 2020. The low number of articles available that fit criteria for inclusion could be attributed to evolving research interests in other areas surrounding the Covid-19 pandemic. Students are beginning to return back to in-person course delivery methods as of late 2021, and the attention of researchers is shifting to impacts of long-Covid. Specific articles analyzing university students' mental health and perceived stress seem to dissipate after 2020 and even further throughout 2021. With broader search terms that excluded phrases such as “university students,” “students’ academic impact,” and “universities” would have likely yielded a greater number of articles for inclusion. Using a

different database that included more broad studies, such as Google Scholar, seemed to populate a greater number of articles per search term than the previously used library database.

Other limitations exist in these studies as nearly all fail to address health disparities and inequities that currently exist within specific demographics and marginalized communities. However, this could be due to the fact that most of these articles were conducted outside of the United States where demographic data is less or more diverse depending on the area. Again, articles that did include recognition of health and racial disparities did not center around mental health and university students simultaneously. While a few of the studies collected demographic information within their chosen questionnaires, the demographic information was not used to address inequities in place.

## **Literature Review**

As Covid-19 is a recent phenomenon, research surrounding impacts felt by university students has entirely been conducted within the last two and a half years. Each of the researchers seemed to have concern for university students, as their research questions centrally revolved around the impact of the pandemic on the lives of university students. The studies primarily use surveys to identify students' perceived stress. Most researchers collected data through use of questionnaires like the Perceived Stress Scale (PSS). This is typically measured through the most widely used test, being the PSS (Cohen 1994). Use of the PSS has been shown to be a valid and reliable source for collecting information (Kocalevent 2007). Using an online questionnaire such as the PSS allows students to participate without putting their health at risk. Although research surrounding the Covid-19 pandemic is still somewhat in its infancy, understanding the long term

effects of the impacts is essential. Current studies on the impact the pandemic has had on university students barely scratch the surface.

Research conducted in 2021 by Chunjiang Yang reported that college students specifically indicated multiple areas of stress that negatively affected their physical and psychological health due to factors resulting from the pandemic. This includes separation from school, fear of contagion, and academic workload (Yang 2021). The impact on the stress felt radiates to other areas of life, and is not exclusive to the world of academia. Students are experiencing a massive impact on their academic progress, internships, volunteer work, research, and their work and family lives.

Simulating classrooms through online learning platforms has become standard but has involved a large adjustment period. Instructors have moved toward Zoom, D2L, Canvas, and other apps and websites in order to offer students the ability to continue their higher education. However, instructors and students alike have had to overcome a learning curve. They have been required to learn how to navigate these programs on top of their already rigorous academic interests. This has created an overwhelming amount of information for both parties (Kataoka 2017). Although learning may be more accessible by offering online courses to some communities, most university students are accustomed to in person delivery methods and having the ability to access resources directly on campus. Stripping students of these resources can feel shocking and overwhelming (Laffier 2019). The shift can require students to acquire new technology like web cameras, laptops, software, and other expensive necessities for remote learning and engagement (Zeng 2019). This creates inaccessibility in the form of financial barriers for students that are already paying tens of thousands of dollars to attend school. Students experiencing a course delivery shift will continue facing adaptability and accessibility

issues, all while enduring isolation from their peers. Although this shift decreases the likelihood of contracting Covid-19 or potentially passing it to susceptible populations, a study conducted by Mirna Fawaz noted that the shift increases students' susceptibility to developing stress disorders and depression. She goes on to explain that “social isolation and reduced activity can intensify procrastination and feelings of worthlessness. The conditions may exacerbate anxiety and depression” (Fawaz 2020).

From the onset of the pandemic, literature speaks to suggest the outcome of increased stress and worsening mental health across universities due to the pandemic. A systematic study exploring the perceived stress among virtual classrooms found that after an initial transition to an online learning platform, 85.2% of surveyed students experienced high to moderate stress regularly (Alateeq 2020). In a similar study surveying satisfaction with implementation of e-learning, results indicate nearly 50% of the sampled students were dissatisfied and 28% were indifferent. With only 23% of those surveyed expressing satisfaction amidst the shift, it is evident that e-learning is severely affecting the student population's ability to thrive (Fawaz 2020). These articles contribute to a thematic experience that people in higher education are collectively experiencing. With these formative college experiences being ripped away from students, this paper is an intention to review studies that examine the stress and mental health outcomes of students that are enduring the Covid-19 pandemic.

The majority of the articles chosen are international studies that are conducted in other high-income countries outside of the United States. Understanding the worldwide effect of the pandemic on students' mental health and perceived stress is a topic of interest. These studies have shown repeatedly that stress levels are elevated among university students. The typical experience of attending university is unique to each student, and may be similar in specific

regions. However, the trend of worsening mental health and increased stress levels of college students in each of the studies emphasizes the negative impact the pandemic has had internationally. While two articles were researched in Poland and three in China, the data within the five seemed unanimous in their findings of heightened anxiety and stress. Recognizing the vast differences in cultures between countries actively contributes to the researchers' interpretations of the results and their suggestions for further research. In areas like Poland, they may be better prepared and equipped for remote learning as they experience more extreme winter climates than areas like Portland, OR. Because of this, students in those areas may be more accustomed to having remote courses due to a higher frequency of snow days, and in turn feel a more mild stress response as opposed to moderate to severe stress during classroom transitions.

Every study analyzed indicated a higher perceived stress for students after the onset of the pandemic. Each article attributed these results to various aspects of the repercussions of Covid-19. In a systematic review of a combined 436,799 college students, studies found the population had a “prevalence of anxiety, depression, and stress of 29% (95% CI, 19–25%), 37% (95% CI, 32–42%), and 23% (95% CI, 8–39%), respectively,” (Wang 2021). More than half of the students participating in virtual coursework in KSA expressed moderate stress levels after their university was shut down (AlAteeq 2020). While these two studies did not indicate precisely in what ways the lives of students are affected, Chunjiang Yang investigated how many students identified with specific stressors. “Academic workload, psychological separation from school, and fear of contagion were positively associated with the perceived stress and negatively associated with physical and psychological health. In addition, perceived stress is a key mechanism in the relationships between [psychological and physical health]” (Yang 2021).

The ten articles selected were conducted by scientists of various backgrounds. While most of these authors have multiple publications with terminal degrees in concentrations like public health, epidemiology, and psychology, there are students who have written their first publication on the topic, as they understand the experience of being a university student throughout the highs and lows of the pandemic. This could make research thorough or specific if the researcher has a goal in mind about applications for the data.

## **Discussion**

University students face many barriers on their journeys through their programs, and each of them have unique challenges in their daily lives. With surmounting evidence of the negative implications on students that the Covid-19 pandemic has created, understanding ways to better support students is necessary. After more than a year of exclusively online course delivery methods, the state of Oregon lifted many Covid-19 related restrictions by July 2021 as more immunizations were completed. Because the Pfizer vaccine has been entirely approved by the FDA, and over 70% of adults in Oregon aged 18 and up are now fully vaccinated in the state, university students have begun another massive and impactful transition to a hybrid or fully in person course delivery method (Clark 2021).

The trajectory of research surrounding Covid-19 appears to be analyzing the long-term effects that the virus may have on individuals who have been exposed. Other research continues to explore the impact felt by communities on a larger scale. While understanding the longer term and more widespread effects that Covid-19 has on physical health, the mental health of students can also be negatively affected long term. Students' mental health is at stake and can rapidly begin to deteriorate if they are unable to find the support and resources they need. Further

research focused on the long term implications of interrupted university is necessary to provide students with resources that can best benefit them.

Students are experiencing inconsistencies in their academic journeys and are faced with high stress disruptions to their courses. With the course delivery methods changing from one term to the next, understanding the impact this has on students will allow better resources to be provided for them. Further research is needed to establish potential health disparities and inequities that exist within the student population pertaining to pandemic related causes. A cohort study would be beneficial, as continuous surveys of a student population would provide qualitative and quantitative data to evaluate specific stressors for students. Within the surveys, including questions pertaining to socioeconomic status, gender, and race/ethnicity are important and will help shed light on specific groups that experience a greater perceived level of stress. Half of the collected literature included in review did not include demographic information or analyze potential disparities felt by the communities. Marginalized communities face a severely impacted level of stress following the outbreak of Covid-19. Because of this and many health inequities already in place, this is an important factor to include in the recommended future study (Khalatbari-Soltani 2020).

There is potential for further research in suggested trends from the study completed by AlAteeq, as they found that college students identifying as female had higher perceived stress levels (AlAteeq 2020). Students that identify as female have been found to sleep on average less than those who identify as male, potentially even less when stress levels are elevated (Lee 2013). Within the articles, there was also no demographic data on sexual orientation. This alienates a large community that offers a unique perspective within the student population. Research has suggested that discriminatory attitudes toward the LGBTQ+ communities have increased within

the pandemic recession, and students are incurring that stress while accompanied with disruptions to course-delivery methods (Mattei 2020).

## **Conclusion**

The literature suggests relationships between stress and students who identify as female. Further research is needed to establish this relationship and to identify characteristics that contribute to this suggestion. Furthermore, research exists that indicates demographic data would benefit additional analyses, as identifying health disparities would allow changes to be made to make online courses more accessible. Some marginalized community demographics were not included in this literature, and establishing those findings could indicate trends of significance. There are resources that marginalized populations would benefit from, that can be better utilized if further research is conducted.

Further research on the impacts of course disruptions due to the Covid-19 pandemic are needed due to limitations of the research and findings that have come to light in the last two years. Collecting continued information on students' perceived stress will allow researchers insight as to how long term stress can affect students in their futures beyond the disruption of the pandemic. Continued research of university students' perceived stress will allow universities to implement better instructional and transitional strategies. In addition, universities can provide resources where they are needed within specific communities to mend disparities and inequities systemically in place.

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