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2 Policies and Social Media in 2021 and 2022

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21
22 **Discussion Points:**

- 23 ● How were medical students impacted during the COVID-19 pandemic in 2021 compared to 2022?
- 24 ● What are medical student's perspectives on COVID-19 restrictions and policies?
- 25 ● What sources did medical students use to obtain pandemic related information in 2021 and 2022?

26
27
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1 **ABSTRACT.**

2

3 **Background:** The COVID-19 pandemic affected medical students in several ways in 2021 and 2022. In
4 continuation of a previous study, this study sought to determine how the changing nature of the pandemic
5 affected medical students' knowledge, experiences, perspectives on the policies and resources differently in
6 2022 compared to 2021.

7 **Methods:** A qualitative study was conducted via open-ended journaling in 2021 and 2022. Participants were
8 recruited from medical students in the U.S. as well as in Central America and the Caribbean, who were
9 enrolled in a "Global Seminar for Health and Environment" seminar.

10 **Results:** A total of 142 and 72 responses were obtained in 2021 and 2022 respectively. Regarding the
11 COVID-19 policies, U.S. students were thankful for vaccinations and approved of initiatives in their region in
12 2021. Later, they were equally divided about region-specific pandemic policies. International students mainly
13 approved of the policies both years. Students consistently noted negative mental health impacts and difficulty
14 with social limitations. U.S. students noted decreased academic opportunities in both years while international
15 students noted family concerns in 2021. U.S. students held negative views about social media due to
16 fearmongering in 2021 and politicization in 2022. International students held neutral and/or positive views
17 about social media. U.S. students relied on the CDC as a source of information while international students
18 utilized the WHO.

19 **Conclusion:** U.S. students had a more negative outlook as the pandemic progressed. It is difficult to draw
20 comparisons within the international cohort due to limited responses obtained in 2022.

21

22 **Key Words:** COVID-19, Pandemics, Medical Students, Medical Education, Global Health, Policy, Vaccination,
23 Sources of Information, WHO, CDC, Social Medium (Source: MeSH-NLM).

24

1 INTRODUCTION.

2

3 With the progression of the COVID-19 pandemic, academic institutions adapted to changing guidelines in
4 order to reduce infections.¹ In 2021, 31,453,440 students across eight countries socially distanced
5 themselves, shifted to online learning, and remained in their homes due to the shutdown of academic
6 institutions.¹ Medical students in particular demonstrated growing rates of depression, deteriorating mental
7 health, suicidal ideation, anxiety, burnout, and fatigue.^{2,3} A survey-based qualitative study by Skoczek et al.
8 assessed how medical students in the U.S., Central America, and the Caribbean were affected during the
9 pandemic in 2021 and found that all medical students reported mental health impacts, and U.S. students
10 reported decreased academic opportunities and performance.⁴

11

12 Additionally, increased demands for vaccinations in 2021 brought new distribution challenges.⁵ Around the
13 same time, the U.S. political environment and policies changed with the election of a new President. From
14 November 2021 to January 2022, the global rate of COVID-19 infections declined from 20% to 5%, which was
15 attributed to an increase in vaccination rates, asymptomatic or milder cases, increased awareness, enhanced
16 prevention strategies, and growing immunity.^{6,7} In the U.S., January 2021 was the deadliest month of the
17 pandemic with a reported 3,200 daily COVID-19 related deaths.⁸ Later in April 2022, a declined rate of 425
18 cases daily were reported.⁸ Access to COVID-19 vaccination noticeably changed the course of the pandemic.⁹

19

20 Given the many changes that occurred between 2021 and 2022 related to vaccination distribution, disease
21 severity and mortality, political leadership, and national policy, we questioned how medical students, who
22 were identified as a vulnerable population during the pandemic, were affected differently in the two years.² We
23 refer to the 2021 and 2022 pandemic years as phase 1 and phase 2 of the study respectively. This qualitative
24 analysis was completed in continuation of the study by Skoczek et al., which focused on phase 1.

25

26 As osteopathic medical students, we wanted to investigate how our peers were impacted by the COVID-19
27 pandemic, in mind, body, and spirit. We questioned how the changing nature of the pandemic affected
28 medical students' knowledge, experiences, overall health, perspectives on the policies and resources
29 differently in phase 2 compared to phase 1. We hypothesized that the perception of the COVID-19 pandemic
30 and its effects on medical students has changed from 2021 to 2022 due to several factors including:
31 vaccinations, political environments, social media and restrictions.

32

1 **METHODS**

2

3 This qualitative and thematic study took place from February to May of 2021 and 2022. Prior to its start,
4 questions used within the study were developed by a panel of experts, including a retired CDC infectious
5 disease physician with 8 years of experience in Central America. U.S. and international physicians provided
6 content validity instrument items to match research objectives. For this study, participation was voluntary and
7 subjects were recruited from cohorts of medical students enrolled in a “Global Seminar for Health and
8 Environment” course. Eligible students maintained active enrollment at one of the following medical schools:
9 Edward Via College of Osteopathic Medicine (VCOM) campuses in the U.S. including in Virginia, South
10 Carolina, Auburn, and Louisiana and three international medical schools: El Instituto Tecnológico de Santo
11 Domingo in Dominican Republic, Universidad Evangélica de El Salvador in El Salvador, and Universidad
12 Tecnológica Centroamericana in Honduras. Facilitators at each medical school assigned a three-digit code to
13 each student which was used to retrieve the survey. Qualtrics, a web-based software, was used to collect
14 medical students’ perspectives on the following variables (main themes): COVID-19 policies, social media,
15 news outlets, and their knowledge of the pandemic.¹⁰

16

17 During the thematic analysis, responses from the four VCOM campuses were classified under “U.S.” and the
18 remaining responses were categorized as “international.” Responses to each individual question (main theme)
19 were tallied for both phases. Subtheme percentages for each question were calculated by tallying the
20 subthemes and dividing them by the total number of responses for each main theme (Table 1). Each data set
21 was blindly analyzed by two members of the study and compared with one another to ensure accurate
22 analyses. This study was approved by VCOM Institutional Review Board (Ref# 2020-013).

23

24

1 **RESULTS.**

2

3 Total responses obtained in 2021 and 2022 were 142 and 72 respectively. In 2021, there were 67 international
4 and 75 U.S. responses and in 2022 there were 7 international and 65 U.S. responses. **Table 1** shows major
5 themes studied in the two phases and subthemes found with percentages calculated for U.S. and international
6 responses.

7

8 **Perspective on Prevention Initiatives Taken in Respondent's Country**

9 When asked about students' perspectives on initiatives taken in their region, 34.9% of U.S. students in phase
10 1 reported appreciating vaccination availability and encouraging vaccination. Additionally, 30.2% approved of
11 the initiatives taken in their region as seen in **Table 1**.

12

13 "I think the US has done a fantastic job on vaccine distribution especially compared to other countries."
14 - U.S. 2021 response, subtheme #1

15

16 "I believe our country did a great job with the interventions that have been placed for this virus. I would
17 not change anything." -U.S. 2021 response, subtheme #2

18

19 In contrast, responses in phase 2 were divided with equal percentages of students disapproving (31.1%) and
20 approving (31.1%) of initiatives taken in their region (**Table 1**). The vaccination subtheme was found in phase
21 2 but it was not as prominent as phase 1. Additionally, the subtheme of a divided country noting better policies
22 needed in the southern states was mainly seen in phase 2.

23

24 "I am severely disappointed in the response from the U.S. As the country to always act/speak first in a
25 global issue, we were severely trumped by other countries." - U.S. 2022 response, subtheme #1

26

27 "The United States of America has been largely divided...I feel that Alabama has largely failed to
28 address COVID-19 with appropriate severity, especially when compared to non-Southern states such
29 as New York and Washington." -U.S. 2022 response, subtheme #4

30

31 International students generally approved of initiatives in their region with 68.5% reporting approval in phase 1
32 and 50.0% in phase 2 (**Table 1**).

33

34 "In El Salvador, the pandemic has been well controlled with different health measures that were
35 imposed from the beginning." -International 2022 response, subtheme #1

36

37 **Perspective on Prevention Initiatives Taken in Country Other than Respondents**

38 When asked about interventions taken in other countries, 2021 U.S. students either believed other countries
39 had stricter precaution (39.7%) or were unfamiliar with international policies (25.8%) (**Table 1**). Phase 2 followed

1 this same trend with 31.1% of students believing that other countries had stricter initiatives and 28.9% reporting
2 unfamiliarity with international initiatives (**Table 1**).

3
4 "I admire Australia and New Zealand for the measures they took. They took COVID-19 very seriously
5 and did not allow anyone to enter or leave the country...which allowed the number of cases to remain
6 low and not super spread as they did here in the United States." -U.S. 2022 response, subtheme #1

7
8 In phase 1, an equal percentage (11.8%) of U.S. respondents felt there were either less precautions in other
9 countries, new ideas were developing in other countries, or that countries performed assessments to meet the
10 needs of that country (**Table 1**). In contrast, in phase 2, the idea that countries performed assessments to meet
11 the needs of that country grew to 24.4% of responses.

12
13 "There were many different ways that different parts of the world handled their situations. Some were
14 more strict, but necessary, while others were more lax." -U.S. 2022 response, subtheme #3

15
16 International students in phase 1, primarily held that countries performed assessments to meet the needs of
17 that country (38.3%) with reports of other countries having strict precautions (23.4%) coming in second (**Table**
18 **1**).

19
20 "I like how many countries adopted all the measures necessary swiftly with the support of their
21 government to avoid new infections. Thus, they managed to contain the virus and avoided major
22 losses." -International 2021 response, subtheme #1

23
24 Fifty percent of international students in phase 2 felt there were stricter precautions in other countries while 50%
25 indicated they were unfamiliar with other countries' initiatives (**Table 1**).

26
27 "I think that those countries that closed the entering of tourists to decrease the positive cases and
28 ordered their people to wear mask made the best decisions." -International 2022 response, subtheme
29 #1

30 31 **Beliefs, Knowledge, and Impact from COVID-19**

32 In phase one, 32.1% of international and 27.8% of U.S. students recognized the serious nature of COVID-19
33 (**Table 1**). A year into the pandemic, 40.0% of international and 30.4% of U.S. responses noted that students
34 had a good understanding of COVID-19 policies and prevention methods (**Table 1**).

35
36 "I still think that COVID-19 has been one of the worst viruses the world has ever experienced because
37 of its wide-reaching effects. These effects impact everyone regardless of if they have been infected or
38 not." - U.S. 2021 response, subtheme #1

1 “My knowledge has also increased about various symptoms or no symptoms that infected individuals
2 can present with.” -U.S. 2022 response, subtheme #1

3
4 Difficulty with managing social limitations were seen in 24.1% of U.S. phase 1 and 23.9% of U.S. phase 2 and
5 20.0% of international phase 2 responses (**Table 1**).

6
7 “It has been hard to live mainly in isolation for the past year. Not feeling comfortable hanging out with
8 friends in public is hard.” -U.S. 2021 response, subtheme #2

9
10 Another common subtheme was that students felt the pandemic impacted their education and academic
11 performance. This was seen in 24.1% and 26.1% of U.S. students in phase 1 and phase 2 respectively (**Table**
12 **1**).

13
14 “My education...was majorly affected as well with no anatomy labs and online lectures.” -U.S. 2021
15 response, subtheme #3

16
17 “I did not have certain shadowing opportunities I was planning to have, and I did not get to attend an
18 international missions trip.” -U.S. 2022 response, subtheme #2

19
20 In phase one, 19.6% of international students noted impacts on anxiety, emotional, and mental health (**Table**
21 **1**). In 2022, 40.0% of international students noted impacts on mental health. Of note, 23.2% of international
22 participants reported that COVID-19 impacted their family in 2021.

23
24 “My anxiety and panic have risen to such levels that it is hard for me to tolerate casual touch and
25 proximity. I don't remember the last time I hugged a friend.” -International 2021 response, subtheme
26 #3

27
28 “[COVID-19 has impacted me] emotionally and in my study methods. Everything became a disaster.” -
29 International 2022 response, subtheme #2

30
31 “My dad is a pilot who lost his job during the pandemic. Even though I'm in my last year of medical
32 school, since my university is private, I'm still paying so it's been a difficult time.” -International 2021
33 response, subtheme #2

34
35 **Social Media's Impact on the Perspective of COVID-19**

36 In phase 1, 29.4% of U.S. and 57.4% of international students held negative views on social media due to it
37 inciting fear in the general population (**Table 1**).

38

1 "They have presented the topic in an informative but slightly drastic way...sometimes I feel that news
2 outlets incite more fear to their viewers rather than educating them." -U.S. 2021 response, subtheme
3 #1
4

5 Beyond this, 25.5% of U.S. students in phase 1 held a negative view of social media due to false or political
6 information on COVID-19 or the vaccine (**Table 1**).

7
8 "There is so much false news about the vaccine right now." - U.S. 2021 response, subtheme #2
9

10 While 10.6% of international students in phase 1 also held a negative view of social media due to false or
11 political information, another prevalent subtheme among these students was positive views on social media due
12 to its ability to spread useful information (12.8%) as seen in **Table 1**.

13
14 "We have been actively informed by the news about COVID-19 in our country thanks to the platforms
15 of our health institutions." -International 2021 response, subtheme #2
16

17 When examining the subthemes among U.S. students, the primary subtheme of negative views about social
18 media due to inciting fear (29.4%) in phase 1 switched to negative views due to false or political information on
19 COVID-19 or the vaccine (51.1%) in phase 2. The second most prevalent subtheme for U.S. students in phase
20 2 was neutral, sharing both positive and negative views about social media (28.8%) (**Table 1**).

21
22 "Many people are against the vaccine and continue to post false articles that display the "negative
23 consequences" of the vaccine." -U.S. 2022 response, subtheme #1
24

25 "While some of the information put out on social media in my region was accurate and helpful, there
26 was a lot of misinformation being spread." -U.S. 2022 response, subtheme #2
27

28 Finally, 40.0% of international students in phase 2 held a negative view of social media due to false or political
29 information (**Table 1**). Beyond this, in phase 2, an equal percentage of international students held the view that
30 social media was negative due to inciting fear (20.0%), positive due to spreading useful information (20.0%),
31 and neutral (20.0%) (**Table 1**).

32
33 "Some social media spread a lot of disinformation about COVID-19, so people were scared about some
34 things about the virus. I always try to read trustworthy media, scientific articles, or magazines." -
35 International 2022 response, subtheme #1
36

37 **Sources of Information Utilized**

38 In phase 1, most U.S. students indicated they relied on the CDC (89.7%) and the WHO (63.7%) to learn about
39 the pandemic. In phase 2, 88.7% of U.S. students indicated using the CDC followed by 7.5% of students that
40 reported using social media (**Table 1**).

1
2
3
4
5
6

International students during both phases reported WHO as the primary source of information. This was seen in 69.4% of phase 1 and 60.0% of phase 2 responses. Beyond this, 44.6% of international students in phase 1 relied on social media compared with 0.0% in phase 2. The second most common source of information used in phase 2 was tied with 20.0% of respondents indicating the CDC or the National Ministry of Health.

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1 DISCUSSION.

3 Perception on COVID-19 Policies and Intervention

4 A year into the pandemic, with more knowledge about the virus and vaccination availability, students'
5 perspectives on the initiatives taken in their regions changed between the two phases.⁷ While the majority of
6 U.S. students reported approval of the policies in their region phase 1, the second phase lacked a unanimous
7 response. This could be due to the presence of political division around COVID-19 in 2022. The vaccination
8 subtheme may have been more prominent in 2021 due to political changes in the U.S. contributing to hopes
9 that vaccinations can end the pandemic. Reports of the country being divided and southern states needing
10 better policies were prominent in phase 2 only. According to Stoto et al., "a narrative of two Americas"
11 emerged in summer 2021 with high demand for COVID-19 vaccination seen in some areas and vaccine
12 hesitancy and opposition seen in others.¹¹ Stoto et al. reported that compared to the rest of the U.S., southern
13 parts of the country had higher mortality rates and noted that 62% of the south's death rate was avoidable.¹¹
14 This finding supports criticism found in phase 2 responses and was attributed to differences in mask usage,
15 social distancing, and school attendance policies between the states.¹¹

16
17 In both phases, the most common subtheme for international students was approval of policies and initiatives
18 within their regions. Prior to distribution of COVID-19 vaccinations, countries in Latin America were significantly
19 impacted by the pandemic but noted improvements in containment of the virus after vaccination availability
20 increased.¹² Both phases were conducted after availability of vaccines, which explains the positive views of the
21 international students.

22
23 Most U.S. students in both phases consistently reported feeling there were stricter precautions taken in other
24 countries. This belief could be attributed to the increased availability of epidemiological statistics showing top
25 performing countries (i.e. countries with lower mortalities) having longer lockdowns.¹² From March to August
26 2020, the U.S. had the highest case rate and number of deaths globally.¹³ This might imply a level of bias among
27 U.S. students but it might also suggest U.S. students felt the impact of the worse disease statistics.

29 Beliefs, Knowledge, and Impact from COVID 19

30 From the onset of the pandemic, medical students consistently noted that social limitations were difficult to
31 manage, including restrictions on mass gatherings and reduced contact with peers.¹⁴ Although social media
32 had been incorporated into the healthcare community in unique ways, concerns specific to medical students
33 included lack of family interactions at major milestones and living in isolation during their education.¹⁵ U.S.
34 medical students were consistently worried about the impact of the pandemic on their education and
35 academic opportunities, noting concerns about missed in-person anatomy labs, shadowing opportunities, and
36 missed experiences in global healthcare through international mission trips. Though these concerns are
37 specific to the experience of a medical student, a study conducted by Biver et al. found that students in all
38 disciplines had difficulties in managing their resources and engaging in self-regulated learning.¹⁶ U.S. and
39 international students shared a belief that COVID-19 is a serious disease and reported being confident in their
40 knowledge about the virus. One cross sectional study found that when asking students basic scientific

1 questions about the virus, over 86% of them recognized main symptoms and basic treatment.¹⁷ Interestingly,
2 a study completed in Turkey in 2020, found that clinical students were found to have higher knowledge levels
3 and a slightly more positive attitude about the virus than preclinical students.¹⁸ International students in our
4 study noted increased levels of anxiety, emotional, and mental health concerns associated with the pandemic
5 in 2021 and 2022. O'byrne et al. found that these concerns may be attributed to transitions associated with
6 online learning and testing and concerns about family members.¹⁹ Of note, international students in phase 1
7 shared concerns about the impact the virus had on family members.

8 9 Perspective on Social Media's Impact on COVID-19

10 When asked about the impact of social media on perspectives of COVID-19, U.S. and international medical
11 students in phase 2 shifted toward a negative view with the primary reason being its political nature. This shift
12 might be due to the growing divide between far-left and far-right political parties.²⁰ In one study, the two political
13 extremes led to severe criticism of the government, which fostered distrust of public health authorities, including
14 decisions related to COVID-19 and vaccines.²⁰ While this might account for the negative view related to politics,
15 other negative views might be due to growing online misinformation. One study in Taiwan found a significant
16 negative relationship between "fake news" and vaccination doses administered.²¹ The idea of fake news has
17 yet to be fully developed though many studies suggest that fake news or misinformation is due to cultural factors,
18 marketing incentives, and poor legal supervision.²² Additionally, other studies attribute negative effects of social
19 media to the overwhelming amount of information available leading to panic transmission, manipulations, and
20 unverified data.¹⁵ Regardless of the reason for negative views, several studies indicate that health organizations
21 should have created and promoted more shareable graphics and/or information to reduce misperceptions.²³
22 While the 2022 U.S. students primarily demonstrated a negative view on social media, some 2022 international
23 students considered social media to be a positive and/or beneficial way to spread information. This might be
24 due to ease and ability to rapidly share data, interact with other healthcare professionals, and increase
25 awareness of COVID-19.¹⁵

26 27 Sources of Information

28 The majority of U.S. students consistently reported using the CDC while international students primarily relied
29 on the WHO during both phases. These differences might be due to the mission of each of these organizations.
30 The CDC is primarily there to "protect America from health, safety and security threats, both foreign and in the
31 U.S."²⁴ In contrast, the WHO is a United Nations organization that serves in a global health capacity, reaching
32 many nations.²⁵

33 34 Limitations

35 The 2022 survey was severely limited by the number of responses received. We were particularly limited in
36 comparing our international data collected in phase 2 to phase 1. This might have been potentially due to the
37 declining severity of COVID-19 or changes in staff facilitators at each campus. Additionally, there was a
38 measurement bias as participants had diverse backgrounds and may not have spoken English as a first
39 language.

1 Conclusion

2 From 2021 to 2022, the global response to the pandemic shifted due to increasing access to vaccinations,
3 social media, and political and national restrictions. During this time, medical students changed perspectives
4 about prevention strategies, personal and family impacts, social media, sources of information, and social
5 opportunities. In general, phase 2 medical students indicated that while they had more information on the
6 pandemic, the pandemic itself had become more political and still limited future opportunities. Further
7 research might indicate whether these fears of lost opportunity remain in the future careers of medical
8 students. Learning about the differences in pandemic's impact on medical students in 2021 compared to 2022
9 and students' insights on the initiatives taken in their regions during the COVID-19 pandemic can potentially
10 help inform academic institutions and policymakers regarding medical students' concerns, perspectives and
11 experiences during the pandemic.
12

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1 SUMMARY - ACCELERATING TRANSLATION

2
3 **Title:** Impact of the COVID-19 Pandemic on Medical Students and Students' Perspectives on COVID-19
4 Policies and Social Media in 2021 and 2022

5
6 **Background:** Medical students are a vulnerable population, and they were affected in several ways during the
7 COVID-19 pandemic in 2021 and 2022. A previous study found that U.S. and international medical students
8 reported mental health impacts, and U.S. students reported decreased academic opportunities and
9 performance in 2021. With the progression of the pandemic, students had to adapt to changes in guidelines in
10 their academic institutions and regions. From 2021 to 2022, knowledge of the virus increased, COVID-19
11 vaccinations became more readily available and COVID-19 mortality rate overall decreased. Additionally, there
12 were changes in the political environment of the U.S.

13
14 **Aim:** Given the changes that occurred between 2021 and 2022 affecting factors such as vaccination distribution,
15 disease severity and mortality, political leadership, and national policy, we questioned how medical students
16 were affected differently during the two years.

17
18 **Methods:** We electronically surveyed medical students in the United States (Louisiana, Virginia, Alabama, and
19 South Carolina) and in El Salvador, Honduras and Dominican Republic. Survey results were collected in 2021
20 and 2022. We were specifically interested in finding how the pandemic personally impacted medical students,
21 their knowledge about the virus, their thoughts on public health policies in their region compared to other states
22 or countries, sources they used to get information about the pandemic, and thoughts on how social media
23 spread pandemic related information. When analyzing the responses, we developed concise subthemes
24 summarizing the nature of the students' opinions.

25
26 **Results:** A total of 142 and 72 responses were obtained in 2021 and 2022 respectively. Students in both years
27 reported that pandemic-induced social limitations were difficult to manage. Further, international students during
28 both years reported a negative impact on their mental health. U.S. students noted decreased academic
29 opportunities in both 2021 and 2022 while international students noted concerns about impacts on family in
30 2021. Regarding COVID-19 policies and restrictions, most U.S. medical students reported being thankful for
31 vaccination and approved of initiatives taken in their region in the 2021 survey. In the 2022 cohort, there was
32 an equal mixture of U.S. students who disapproved of the policies in their region and those who approved of
33 them. Most international students reported approval of policies in their region in both years. In 2021, when asked
34 about the impact of social media, U.S., as well as international students, held negative views of platforms
35 primarily due to its role in inciting fear. In 2022, U.S. students had negative thoughts due to social media's
36 political nature while 2022 International students held neutral and/or positive views of social media. Regardless
37 of the year, most U.S. students relied on the CDC as a source of information while international students tended
38 to turn to the WHO.

1 **Conclusion:** The lives of U.S. and international medical students were impacted by the pandemic in both years.
2 In general, phase 2 medical students believed that while they had more information about the virus, the
3 pandemic had become more political and still limited future opportunities. Due to the limited number of students
4 participating in 2022, particularly international students, it is difficult to determine the changes and impacts
5 caused by the pandemic from 2021 to 2022. Further research might be warranted to determine whether these
6 fears of lost opportunity remain in the future careers of medical students.

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1 FIGURES AND TABLES.

2

3 Table 1. A Comparison of Themes from Medical Student Journal Entries in 2021 and 2022

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Table 1: A Comparison of Themes from Medical Student Journal Entries in 2021 and 2022							
Major Theme	Location	2021 Subthemes and % of Responses		2022 Subthemes and % of Responses			
		Subtheme	%	Subtheme	%		
Perception on COVID-19 in Respondent's Own Country/ Region	United States	1. Thankful for vaccination/encourage it	1. 34.9%	1. Disapproval of policies or initiatives	1. 31.1%	2. Approval of policies or initiatives	2. 31.1%
	International	2. Approval of policies or initiatives	2. 30.2%	3. Thankful for vaccination/encourage it	3. 26.7%	3. Divided country. Better policies needed in U.S. southern states	4. 17.8%
Perception on COVID-19 Policies and Intervention from Countries other than Respondents'	United States	3. Disapproval of policies or initiatives	3. 14.3%	4. Approval of policies or initiatives	1. 50.0%	2. Good initiatives but would have placed more restrictions	2. 50.0%
	International	1. Stricter precautions that are harmful, political, or only concerned about economic impact	1. 39.7%	2. Stricter precautions that are harmful, political, or only concerned about economic impact	1. 31.1%	2. Others or unfamiliar	2. 28.9%
Beliefs, Knowledge, and Impact from COVID 19	United States	2. Other or unfamiliar	2. 25.8%	3. Countries performed assessments to meet the needs of the country	2. 28.9%	3. Other countries developing new ideas	3. 24.4%
	International	3. Less precautionary due to less vaccines or delays in prevention actions	3. 11.8%	4. Other countries developing new ideas	4. 11.1%	5. Less precautionary due to less vaccines or delays in prevention actions	5. 4.4%
Perspective on Social Media's impact on COVID-19	United States	4. Other countries performing assessments to meet the needs of the country	4. 11.8%	5. Stricter precautions that are harmful, political, or only concerned about economic impact	1. 50.0%	2. Other or unfamiliar	2. 50.0%
	International	5. Countries performed assessments to meet the needs of the country	5. 11.8%	1. Countries performed assessments to meet the needs of the country	1. 38.3%	2. Stricter precautions that are harmful, political, or only concerned about economic impact	2. 23.4%
Sources of Information	United States	1. Recognized that COVID-19 is a serious disease	1. 27.8%	2. Stricter precautions that are harmful, political, or only concerned about economic impact	3. 17.2%	3. Other countries were innovative during the COVID-19 pandemic	3. 19.6%
	International	2. Social limitations were difficult	2. 24.1%	3. Other countries were innovative during the COVID-19 pandemic	4. 14.9%	4. Less precautionary due to less vaccines or delays in prevention actions	4. 8.5%
SOURCES OF INFORMATION	United States	3. Impacted education and learning experience	3. 24.1%	4. Less precautionary due to less vaccines or delays in prevention actions	5. 8.5%	5. Other or unfamiliar	5. 8.5%
	International	1. Recognized that COVID-19 is a serious disease	1. 32.1%	1. Good understanding of COVID-19 policies and prevention methods	1. 30.4%	2. Decreased academic opportunities and performances	2. 26.1%
Sources of Information	United States	2. Family impacted	2. 23.2%	3. Social limitations were difficult	3. 23.9%	3. Social limitations were difficult	3. 23.9%
	International	3. Anxiety, emotional, and/or mental health impact	3. 19.6%	1. Good understanding of COVID-19 policies and prevention methods	1. 40.0%	2. COVID-19 impacted mental health	2. 40.0%
Sources of Information	United States	4. Negative, due to inciting fear	4. 17.6%	3. COVID-19 impacted mental health	3. 20.0%	3. Social limitations were difficult	3. 20.0%
	International	5. Neutral(states positives and negatives or neither)	5. 7.8%	1. Good understanding of COVID-19 policies and prevention methods	1. 40.0%	2. COVID-19 impacted mental health	2. 40.0%
Sources of Information	United States	1. Negative, due to inciting fear	1. 29.4%	2. COVID-19 impacted mental health	2. 40.0%	3. Social limitations were difficult	3. 20.0%
	International	2. Negative due to false or political information on COVID-19 or the vaccine	2. 25.5%	1. Good understanding of COVID-19 policies and prevention methods	1. 40.0%	2. COVID-19 impacted mental health	2. 40.0%
Sources of Information	United States	3. Neutral(states positives and negatives or neither)	3. 21.6%	2. COVID-19 impacted mental health	2. 40.0%	3. Social limitations were difficult	3. 20.0%
	International	4. Others, non-specified	4. 17.6%	1. Good understanding of COVID-19 policies and prevention methods	1. 40.0%	2. COVID-19 impacted mental health	2. 40.0%
Sources of Information	United States	5. Positive, spreads useful information and prevention efforts	5. 7.8%	2. COVID-19 impacted mental health	2. 40.0%	3. Social limitations were difficult	3. 20.0%
	International	1. Negative, due to inciting fear	1. 57.4%	1. Good understanding of COVID-19 policies and prevention methods	1. 40.0%	2. COVID-19 impacted mental health	2. 40.0%
Sources of Information	United States	2. Positive, spreads useful information and prevention efforts	2. 12.8%	2. COVID-19 impacted mental health	2. 40.0%	3. Social limitations were difficult	3. 20.0%
	International	3. Negative due to false or political information on COVID-19 or the vaccine	3. 10.6%	1. Good understanding of COVID-19 policies and prevention methods	1. 40.0%	2. COVID-19 impacted mental health	2. 40.0%
Sources of Information	United States	4. Neutral(states positives and negatives or neither)	4. 10.6%	2. COVID-19 impacted mental health	2. 40.0%	3. Social limitations were difficult	3. 20.0%
	International	5. Others, non-specified	5. 8.5%	1. Good understanding of COVID-19 policies and prevention methods	1. 40.0%	2. COVID-19 impacted mental health	2. 40.0%
Sources of Information	United States	1. CDC	1. 89.7%	2. COVID-19 impacted mental health	2. 40.0%	3. Social limitations were difficult	3. 20.0%
	International	2. WHO	2. 63.7%	1. Good understanding of COVID-19 policies and prevention methods	1. 40.0%	2. COVID-19 impacted mental health	2. 40.0%
Sources of Information	United States	3. Social Media	3. 41.2%	2. COVID-19 impacted mental health	2. 40.0%	3. Social limitations were difficult	3. 20.0%
	International	4. Scientific Journals	4. 30.1%	1. Good understanding of COVID-19 policies and prevention methods	1. 40.0%	2. COVID-19 impacted mental health	2. 40.0%
Sources of Information	United States	5. Regional/State/Municipal Health Systems	5. 23.6%	2. COVID-19 impacted mental health	2. 40.0%	3. Social limitations were difficult	3. 20.0%
	International	6. National Ministry of Health	6. 6.8%	1. Good understanding of COVID-19 policies and prevention methods	1. 40.0%	2. COVID-19 impacted mental health	2. 40.0%
Sources of Information	United States	7. Other	7. 1.5%	2. COVID-19 impacted mental health	2. 40.0%	3. Social limitations were difficult	3. 20.0%
	International	1. WHO	1. 69.4%	1. Good understanding of COVID-19 policies and prevention methods	1. 40.0%	2. COVID-19 impacted mental health	2. 40.0%
Sources of Information	United States	2. Social Media	2. 44.6%	2. COVID-19 impacted mental health	2. 40.0%	3. Social limitations were difficult	3. 20.0%
	International	3. CDC	3. 42.9%	1. Good understanding of COVID-19 policies and prevention methods	1. 40.0%	2. COVID-19 impacted mental health	2. 40.0%
Sources of Information	United States	4. National Ministry of Health	4. 35.7%	2. COVID-19 impacted mental health	2. 40.0%	3. Social limitations were difficult	3. 20.0%
	International	5. Regional/State/Municipal Health Systems	5. 25.0%	1. Good understanding of COVID-19 policies and prevention methods	1. 40.0%	2. COVID-19 impacted mental health	2. 40.0%
Sources of Information	United States	6. Scientific Journals	6. 14.3%	2. COVID-19 impacted mental health	2. 40.0%	3. Social limitations were difficult	3. 20.0%
	International	7. Other	7. 1.8%	1. Good understanding of COVID-19 policies and prevention methods	1. 40.0%	2. COVID-19 impacted mental health	2. 40.0%

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