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Mind–Body Health in Crisis: A Survey of How Students Cared for Themselves Amidst the COVID-19 Pandemic

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Abstract: The focus on college students' mental and physical health is steadily increasing with more students reporting concern and need for services. This study investigates the results of college students' utilization of mind–body health activities and services in the wake of COVID-19. As part of a larger research study on college wellbeing, a survey completed by 557 college students between May and August of 2020 assessed student's use of mind–body health strategies. To examine differences in mind–body health (MBH) service and activity usage before and during COVID-19 campus closures, paired *t*-tests were used, while one-way ANOVAs were used to determine differences based on demographic variables. Findings across MBH service and activity use during campus closures were variable, with use differing based on a variety of factors including gender, socioeconomic background, age, and race, as well as the participant's personal prior history of services. These findings provide insight into what services students accessed during the lockdown period to aid university health systems with recommended guidance and resources.

Keywords: COVID-19; mind–body health; higher education; college wellbeing

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1. Introduction

Mind–body health (MBH) is an integrative approach to understanding the reciprocal relationship between mental health, emotional states, and physical wellbeing. This interdisciplinary field combines insights from psychology and medicine to emphasize that mental and physical health are deeply interconnected. Historically, mind–body health has been recognized in various cultures and medical traditions. Ancient practices such as yoga, Tai Chi, and meditation have long emphasized the connection between mental and physical health [1]. Today, eleven mind–body health interventions are formally recognized (see Figure 1) [2].

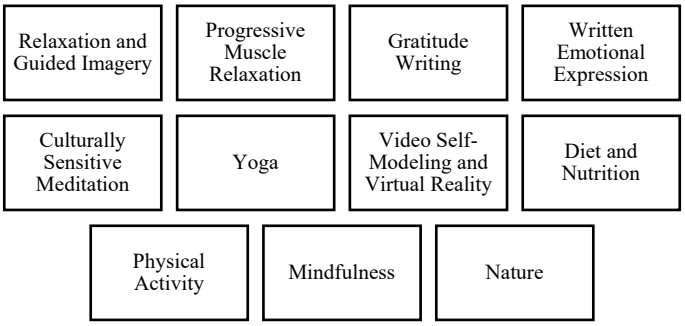

Figure 1. Mind–body health interventions as proposed by Maykel and Bray [2].

In recent years, there has been growing recognition of the importance of mind–body health. For college students, navigating this relation can be particularly challenging due to the unique stressors and lifestyle changes associated with higher education. Stress is a prevalent issue among college students, with academic pressures, social adjustments, and financial concerns contributing to high levels of anxiety. According to the National College Health Assessment [3], during fall 2023, over 77% of students reported experiencing moderate or high levels of stress, 28% reported experiencing chronic health conditions impacting their academic performance, and 45% reported inadequate amounts of sleep on weeknights. While students recognize that stress impacts their mental health, they may not fully grasp how chronic stress can also lead to physical health problems. Furthermore, research indicates that while students engage in various health-promoting behaviors, there is often a lack of integration between mental and physical health practices. For instance, Rodriguez-Romo and colleagues [4] highlight that students who engage in regular physical activity report better mental health outcomes.

1.1. COVID-19 Impact on College Students

The COVID-19 pandemic was a defining global event, reshaping nearly every facet of daily life for individuals across the world. Among the most affected populations were college students, whose educational experiences, mental health, and overall wellness were profoundly impacted.

During this time, students reported decreased amounts of physical activity [5–10]. In their examination of COVID-19's effects on physical activity behaviors, Barkley and scholars [11] specified significant decreases in physical activity for students who were more physically active prior to the lockdown. Many students also reported worse sleep quality, including restlessness at night [5,7,9,12]. Students endorsed increased phone use and screen time because of the stay-at-home orders [5]. Regarding nutrition, students noted poorer nutrition and weight fluctuations due to altered diets, exercise routines, or appetite [5,13].

College students' mental health was also impacted by the COVID-19 lockdown. Research suggests that many college students reported feelings of loneliness [12,13], with some findings suggesting female college students experienced more stress and loneliness than males [9]. Many students also reported increased anxiety and depression in the spring of 2020 [8,13–15]. Student stress levels also increased during this time [15,16]. Kim and colleagues [17] examined college student mental health before and during COVID-19, finding that more individuals met criteria for several diagnoses than before COVID-19. Major depressive disorder, bulimia nervosa, binge eating disorder, and alcohol use disorder were all more prevalent among college students in spring 2020 [17]. Overall, researchers observed a decrease in positive affect and an increase in negative affect among college students during the COVID-19 lockdown [9,10].

The effects of a global pandemic, spanning mental and physical health [5–13] posed concern both in the immediate outset [18] and the long-term [19], leading to a loss of higher education institutional services. These losses resulted in increased opportunity gaps amongst diverse racial, ethnic, and socioeconomic groups [20], as well as general negative experiences or significant trauma [21], as communities faced the residual effects of a total lockdown [22].

1.2. College Students' Mind–Body Health Activities

Mind–body health practices are demonstrated in the literature to support both the physical and mental wellbeing of those who engage in them. Several strategies, such as meditation and yoga are commonly understood to boost mind–body health [23]. Yet, these widely known practices are far from the only activities that work to promote mental and physiological health. Research findings have shown that engaging in hobbies [24], interacting with animals [25], and socializing with others [26], for instance, work to improve mind–body health outcomes.

During the COVID-19 lockdown, college students engaged in a wide variety of mind–body health activities. Some endorsed participating in activities such as spending time with pets [16], cooking and baking [13], engaging in hobbies, and reading [27]. Others utilized campus support groups [5]. Familial support and quality time were also beneficial for many students [27]. Physical activities, such as running, yoga, Tai Chi, and other forms of exercise, were a large part of the lockdown for some students [27,28]. In a similar manner, students engaged in mindfulness and breathing practices, including meditation, imagery and visualization, and hypnosis [28].

1.3. University Supports

The COVID-19 pandemic has exposed and exacerbated financial vulnerabilities within higher education institutions. The immediate impacts were severe, with declines in revenue including tuition fees and on-campus housing as well as facility costs. Additionally, universities and colleges experienced increased costs in terms of technology and health requirements (e.g., installing HVAC systems, providing PPE) [29]. Colleges and universities have also faced an ongoing reduction in student enrollment alongside shifting student needs such as hybrid learning options, which impact sources of revenue traditionally relied on.

While immediate impacts have eased, long-term financial repercussions for higher education institutions resulting from COVID-19 remain [30]. Despite this, colleges and universities have risen to the challenge of supporting students' holistic wellbeing. To meet the needs of their student body, many colleges offer wellness programs and health education courses that address aspects of mind–body health. However, these programs vary widely in depth and effectiveness. Beauchemin and scholars [31] noted that students who participate in comprehensive wellness programs demonstrate a better understanding of mind–body health principles. Yet, a significant portion of students represented in the literature report that they had limited access to wellness programming. Yorgason and colleagues [32] examined supports that were in place for students long before COVID-19, revealing that 37% of students felt they did not have enough information to contact their campus health center, 30% did not know there were services at all, and 38% had heard that services existed but had no further information.

In response to the challenges posed by the pandemic, many colleges and universities implemented various measures to support students' wellbeing. For example, the University of Vermont's Wellness Environment program targeted improving overall wellbeing using education and a substance-free living environment [5]. When examining the effects of COVID-19 on college student wellbeing, Copeland and co-authors [5] found that this Wellness Environment program reduced the impact of COVID-19 on participating students' internalizing and attentional symptoms. Institutions also expanded their mental health services, including virtual counseling and support groups, and increased funding for mental health initiatives including campaigns to raise awareness about mental health and reduce mental health stigma.

1.4. Significance and Rationale

Now, several years post lockdown, COVID-19 continues to be an issue within society, on a national and global level, as scholars across various fields of study (e.g., health, economic, psychology, sociology) seek to understand the long-term impact of the both the collective and individual experiences of the pandemic.

The existing literature has enumerated the profound negative impact that the COVID-19 pandemic has had on college students. Thus, it is important to understand how college-aged students responded to such emergency events through a lens that emphasizes the ways in which this population may respond to future crises. While the challenges have been significant, the responses and adaptations made by institutions offer valuable lessons for the future. Colleges have, and will, continue to experience emergency situations resulting in abrupt changes. Moving forward, institutions of higher education must focus on building financial resilience through innovation and strategic planning of student-facing institutional support to ensure longevity.

It is a continual imperative for scholars to pursue knowledge about the subject to keep COVID-19 on the forefront of the minds of researchers, practitioners, and in this case, higher education personnel. It is through such scholarly pursuits that we can continue to support communities both in the aftermath of a difficult collective life event, and in the prevention of future difficulties. In short, in a "post-COVID" era, we can (and should) continue to use data collected during this time to reflect upon the experience and to guide future interventions [22]. By continuing to prioritize student support and embracing the lessons learned during this period, colleges and universities can better navigate future disruptions and foster a more resilient and supportive educational environment. The current study explores college students' mind–body health related activities. By analyzing student experiences, we can gain insights as to how effectively this demographic applies the principles of mind–body health and identify areas for potential improvement in health education and support.

1.5. Research Questions

The present study broadly investigated two areas. First, we examined the differences in students' use of mind–body health strategies and related services before and during COVID-19 lockdown orders. In line with this first area, we pursued the following research questions: (1) What are the trends in students' use of MBH strategies before and after COVID-19 campus closures? (2) What are the trends in students' off-campus and university-offered mental and physical health service utilization before and after campus closures?

The second area of investigation involved a post hoc examination of demographic group differences in the use of mind–body health related services before and after COVID-19 campus closures. The corresponding research questions were explored: (1) Are there differences in students' use of non-university services across demographic variables before and after campus closures? (2) Are there differences in students' use of university-based services across demographic variables before and after campus closures?

2. Materials and Methods

2.1. Participants

Undergraduate student participants were sampled from four-year colleges and universities located in the United States. Recruitment materials were disseminated through university and college listservs, digital communication platforms, and learning management systems (LMS). Survey respondents were encouraged to share study information with their peers; thus, a convenience snowball sampling recruitment procedure was employed in addition to the sampling techniques. Inclusion criteria required respondents to select "yes" to the following question: 'Are you a current undergraduate student at a Four-Year Public or Private Institution of Higher Education in the United States of America?'. To incentivize participation, respondents were eligible to enter a random drawing for USD 20.00 gift cards. Contact information related to incentivization procedures was collected separately from study data to maintain participants' anonymity. University names were not collected.

2.2. Data Collection Procedures

This study was approved through the University of Connecticut Institutional Review Board under protocol #X20-0088. Participants accessed and completed informed consent documents and study measures via a weblink embedded in the recruitment materials. Data were collected from May 2020 to August 2020. A total of 726 individuals consented to participate; however, a number of participants did not complete all study measures. Data on response rate are presented in the results section of this manuscript.

2.3. Measures

Data were collected through researcher-developed questionnaires delivered via a university-hosted online survey platform. To support evidence of validity, items on researcher-developed questionnaires were created in collaboration with content experts

and refined using a cognitive interview technique. No additional information on validity was collected on these items as they assessed use, rather than measuring a construct.

2.3.1. Demographic Information

Respondents provided demographic information along a number of variables on a researcher-developed demographic questionnaire. Information on age, gender, race, ethnicity, and socioeconomic status was collected for analysis in the current study.

2.3.2. Service Usage Questionnaire

Data on participants' use of mental health, physical health, and physical exercise services were collected through a two-part, researcher-developed, service usage survey. In the first portion of the service usage survey, respondents provided information on their frequency of use for each service type and service provider (university or non-university) for each service type before their campus closed due to COVID-19. In the second part of the service usage survey, respondents provided information on their post-campus closure frequency of use for each service, service provider (university provided remote services or non-university services), and their frequency of use of services that they had not received before (Table 1, Supplemental Materials). All questions were assessed on a five-point Likert scale: "Never, Rarely, Sometimes, Usually, Always".

Table 1. Survey questions: service usage.

Before campus was closed due to COVID-19
How often did you use any mental health.esources on campus (e.g., individual or group counseling, organized stress relief activities, etc.)?
How often did you use any physical health resources on campus? (e.g., Doctors/Physicians, Nutritionists, etc.)?
How often did you use any physical exercise resources on campus (e.g., Fitness Centers, Athletics, etc.)?
How often did you use any non-university mental health resources?
How often did you use any non-university physical health resources (e.g., Doctors/Physicians, Nutritionists, etc.)?
How often did you use any non-university physical exercise resources (e.g., Fitness Centers, Athletics, etc.)?
Since campus has been closed due to COVID-19
How often have you used any mental health resources offered remotely through your university?
How often have you used any university-based mental health resources offered remotely that you have never received before?
How often have you used any non-university mental health resources?
How often have you used any non-university mental health resources that you have never received before?
How often have you used any physical health resources offered remotely through your university (e.g., Doctors/Physicians, Nutritionists, etc.)?
How often have you used any university-based physical health (e.g., Doctors/Physicians, Nutritionists, etc.) resources offered remotely that you have never received before?
How often have you used any non-university physical health resources (e.g., Doctors/Physicians, Nutritionists, etc.)?
How often have you used any non-university physical health (e.g., Doctors/Physicians, Nutritionists, etc.) resources that you have never received before?
How often have you used any university-based physical exercise resources offered remotely (e.g., Fitness Centers, Athletics, etc.)?
How often have you used any university-based physical exercise resources (e.g., Fitness Centers, Athletics, etc.) offered remotely that you have never received before?
How often have you used any non-university physical exercise resources (e.g., Fitness Centers, Athletics, etc.)?
How often have you used any non-university physical exercise resources (e.g., Fitness Centers, Athletics, etc.) resources that you have never received before?

2.3.3. Mind–Body Health Strategy Use Questionnaire

Participants provided information on their use of MBH strategies before and after campus closures on a researcher-developed questionnaire. To complete the Mind–Body Health Strategy Use Questionnaire, respondents selected which, if any, of the following MBH strategies they had used before campuses closed: meditation, yoga, gratitude writing, guided imagery, written emotional expression, mindfulness, muscle relaxation, diet/nutrition, and physical activity. Respondents who had not used any MBH strategies selected "none". Participants then selected which of the nine MBH strategies, or none, that they used after campus closures.

2.4. Analyses

Data were analyzed through SPSS Statistics for Windows, version 28.010 [33]. The researchers considered the data as interval, thus following the assumption that using parametric tests for Likert-type data were permitted. To evaluate the trends in students' (1) use of MBH strategies before and after campus closures and (2) off-campus and university-offered mental and physical health service utilization before and after campus closures, paired samples *t*-tests were used. A one-way analysis of variance (ANOVA) was employed to investigate differences across demographic variables in students' use of (1) non-university services before and after campus closures and (2) university-based services before and after campus closures.

3. Results

3.1. Demographic Results

Demographic markers were collected from participants regarding their age, gender, race, ethnicity, and income (see Table 2). These markers help us to understand the nature of the sample for inferences and generalizability purposes.

Table 2. Respondent demographic data.

Demographic Variables	Total Number	Percentage
Age		
18	76	13.6%
19	104	18.7%
20	129	23.2%
21	102	18.3%
22	30	5.4%
23	10	1.8%
24	5	0.9%
25+	8	1.4%
Missing/did not respond	93	16.7%
Gender		
Male	95	17.1%
Female	366	65.7%
Non-Binary or Fluid Gender/Gender Non-Conforming	7	1.3%
Transgender	2	0.4%
Missing/Did not respond	92	16.5%
Race		
American Indian/Alaskan Native	2	0.4%
Asian	104	18.7%
Black or African American	26	4.6%
Native Hawaiian or Other Pacific Islander	1	0.2%
White	275	49.4%
Multi-racial	30	5.4%
Prefer not to answer	26	4.6%
Missing/did not respond	93	16.7%

Table 2. *Cont.*

Demographic Variables	Total Number	Percentage
Ethnicity		
Hispanic/Latin Origin	56	10.1%
Not Hispanic/Latin Origin	405	72.7%
Missing/Did not respond	96	16.3%
Income		
Less than USD 20,000	45	8.1%
USD 20,000 to USD 34,999	34	6.1%
USD 35,000 to USD 49,999	25	4.5%
USD 50,000 to USD 74,999	43	7.7%
USD 75,000 to USD 99,999	48	8.6%
Over USD 100,000	166	29.8%
Prefer not to answer	196	35.2%

Gender totals may add up to more than 557 as respondents had the option to "check all that apply".

3.2. Overall Before and After Campus Closure Activities

To determine the impact that campus closures had on students' MBH-related activities, data from the Mind–Body Health Strategy Use Questionnaire and Service Use Questionnaire were evaluated. Responses from pre-campus closures and post-campus closures were compared to provide information on reported differences during COVID-19 lockdown orders and to evaluate for any trends in MBH strategy use across campus closure status.

3.2.1. Use of Mind–Body Strategies Before and After Campus Closures

A total of 556 individuals responded to the MBH Strategy Use Questionnaire and frequency data on the use of MBH strategies before and after campus closures are presented in Figure 2. Regardless of campus closure status, the most popular strategy was physical activity (77%), followed by diet and nutrition (66%). Paired sample *t*-tests were used to evaluate differences in MBH strategy use before and after campus closures (See Table 3). Of the total group, there were no significant differences in the number of strategies used before and after campus closure ($t(555) = 1.75$, $p = 0.081$, Cohen's $d = 0.074$). When examining the group of respondents who endorsed using one or more MBH strategies before closures, results were significant with small effects and demonstrate an overall reduction in mean strategy use from 3.04 pre-campus closure to 2.80 post-campus closure ($t(436) = 3.15$, $p = 0.002$, Cohen's $d = 0.151$).

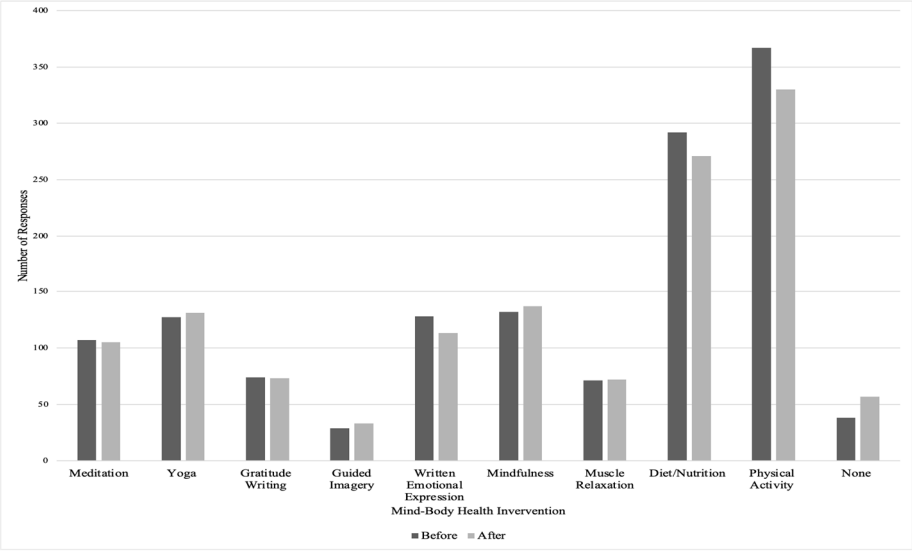

Figure 2. Mind–body health strategy use.

Table 3. Mind–body health strategy usage.

	Before	After	*t*(*df*)	*p*	Cohen's *d*
MBH Strategy Usage	***M***	***M***			
Total Group	2.39	2.28	1.75 (555)	0.081	0.074
Used MBH Strategies Before Closure	3.04	2.80	3.15 (436)	0.002 *	0.151
Did Not Use MBH Strategies After Closure	0.00	0.36	−4.09 (118)	<0.001 *	−0.375

Paired Samples *t*-test. Alpha = 0.05. * Denotes statistically significant finding.

Responses generated from the individuals who did not report the use of MBH strategies prior to campus closures revealed significant increases in strategy use after closure with small to medium effects ($t(118) = -4.09$, $p < 0.001$, Cohen's $d = -0.375$). However, frequency data show that this increase was due to a small number of individuals who went from using no strategies pre-closure to several strategies post-closure. Of the individuals who did not endorse the use of MBH strategies pre-closure, 17% endorsed using one or more strategies after campuses had closed.

3.2.2. Service Usage Before and After Campus Closures

To evaluate service usage, paired samples *t*-tests were used. When looking at service utilization during the closures in comparison to student usage reported before the pandemic, decreases in usage were noted across all domains (Table 4), significantly decreasing for university-based resources for mental health services with medium to large effects ($t(463) = 12.13$, $p < 0.001$, Cohen's $d = 0.563$), physical health ($t(462) = 14.78$, $p < 0.001$, Cohen's $d = 0.687$), and physical exercise ($t(459) = 30.16$, $p < 0.001$, Cohen's $d = 1.406$). Furthermore, a trend of decreasing use continued for across non-university resources for mental health services with small effects ($t(473) = 2.45$, $p = 0.015$, Cohen's $d = 0.112$) and physical health ($t(473) = 10.29$, $p < 0.001$, Cohen's $d = 0.473$), while no changes were noted in non-university-based physical health service usage ($t(471) = 0.684$, $p = 0.494$).

Table 4. Mind–Body Health use since campus closure.

	Before	After	*t*(*df*)	*p*	Cohen's *d*
Service Type	***M***	***M***			
Mental Health Remotely Through University	1.89	1.33	12.13 (463)	<0.001 *	0.563
Physical Health Remotely Through University	2.16	1.38	14.78 (462)	<0.001 *	0.687
Physical Exercise Remotely Through University	3.67	1.50	30.16 (459)	<0.001 *	1.406
Mental Health Non-University	1.97	1.87	2.45 (473)	0.015 *	0.112
Physical Health Non-University	2.95	2.30	10.29 (473)	<0.001 *	0.473
Physical Exercise Non-University	2.38	2.33	0.684 (471)	0.494	0.032

Paired Samples *t*-test. Alpha = 0.05. * Denotes statistically significant finding; 1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Usually, 5 = Always.

To assess the impact that new, post-campus closure virtual/remote offerings had on students' use of MBH-related services, analyses were conducted on data from participants who responded that they had not used mental health, physical health, or physical exercise services before campus closures. Findings suggested that across university and non-university resources, for students who had never used MBH-related services before, there was a significant increase with a small effect for all services (Table 5). Among university-offered services, significant findings were observed across mental health ($t(221) = 2.15$, $p = 0.016$, Cohen's $d = 0.144$), physical health ($t(158) = 2.21$, $p = 0.014$, Cohen's $d = 0.175$), and physical exercise ($t(44) = 2.28$, $p = 0.14$, Cohen's $d = 0.340$). This pattern persisted for resources outside of campus as well, with effect increases noted for mental health ($t(247) = 3.85$, $p < 0.001$, Cohen's $d = 0.245$), physical health ($t(73) = 2.81$, $p = 0.003$, Cohen's $d = 0.326$), and physical exercise ($t(168) = 3.29$, $p < 0.001$, Cohen's $d = 0.253$).

Table 5. New Mind–Body Health Use, Never Received Before Since Campus Closure.

	Before	After	*t*(*df*)	*p*	Cohen's *d*
Service Type	***M***	***M***			
Mental Health Remotely Never Received Before Through University	1.00	1.05	2.15 (221)	0.016 *	0.144
Physical Health Remotely Never Received Before Through University	1.00	1.06	2.21 (158)	0.014 *	0.175
Physical Exercise Remotely Never Received Before Through University	1.00	1.20	2.28 (44)	0.14 *	0.340
Mental Health Never Received Before Non-University	1.00	1.12	3.85 (247)	<0.001 *	0.245
Physical Health Never Received Before Non-University	1.00	1.16	2.81 (73)	0.003 *	0.326
Physical Exercise Never Received Before Non-University	1.00	1.15	3.29 (168)	<0.001 *	0.253

Paired Samples *t*-test. Alpha = 0.05. One sided *p* values were used because the "before" data always indicated "never" as the response. * denotes statistically significant findings; 1 = never; 2 = rarely; 3 = sometimes; 4 = usually; 5 = always.

3.3. Non-University Service Usage Before and After Campus Closures

One-way ANOVAs were conducted to determine differences by demographic variables in the use of all non-university services. The analysis of non-university mental health resource use before and after campus closures showed no differences in terms of race ($F = 1.02$, $p = 0.414$) or socioeconomic status ($F = 1.05$, $p = 0.389$). However, significant findings with a small effect were indicated for age ($F = 2.31$, $p = 0.026$, $\eta 2 = 0.035$) and a small effect indicated for gender ($F = 3.40$, $p = 0.034$, $\eta 2 = 0.015$). Interestingly for gender, use went down for both women and men and increased for the gender non-binary group from before ($M = 2.80$, $SD = 2.05$) to during lockdown ($M = 3.00$, $SD = 1.58$). The extreme differences in sample sizes for these gender groups are likely responsible for this finding. For age, the group that experienced the largest decrease were 19-year-old students between before ($M = 2.09$, $SD = 1.40$) and during lockdown ($M = 1.65$, $SD = 1.18$).

No differences were noted from before to during campus closure when considering students' use of non-university physical health resources (e.g., medical providers), with similar patterns observed across gender ($F = 0.84$, $p = 0.433$), socioeconomic status ($F = 1.17$, $p = 0.323$), race ($F = 1.81$, $p = 0.095$), and age ($F = 1.87$, $p = 0.073$). Similar findings were noted for non-university physical exercise resources before and during campus closures, with non-significant findings across socioeconomic status ($F = 1.75$, $p = 0.108$), race ($F = 1.37$, $p = 0.223$), and age ($F = 1.48$, $p = 0.174$). There was a significant effect noted for gender ($F = 3.07$, $p = 0.047$, $\eta 2 = 0.014$), with a small effect on drops in service usage reported for women and men before ($M = 2.76$, $SD = 1.36$) and during lockdown ($M = 1.70$, $SD = 1.14$), as well as for women before ($M = 2.25$, $SD = 1.30$) and during lockdown ($M = 1.67$, $SD = 1.17$), while results for the gender non-binary group remained relatively constant. Again, the sample size of the non-binary group was very small, and while traditional statistics would suggest removing this small sample from the study, we feel that the removal erases these students' experiences.

3.4. University-Based Service Usage Before and After Campus Closures

One-way ANOVAs were conducted to determine differences by demographic variables in the use of all university-based services (Table 6). Pivoting to resources offered by universities, for mental health resources provided remotely through universities, race revealed a significant finding, albeit with a small effect size ($F = 2.25$, $p = 0.038$, $\eta 2 = 0.030$), with the largest decreased service use noted for Black students before and during campus closures ($M = 2.08$, $SD = 1.26$; $M = 1.35$, $SD = 0.89$) and similarly before and after for White students ($M = 1.83$, $SD = 1.00$; $M = 1.18$, $SD = 0.69$), as well as the group who preferred not to answer. No effects were noted for gender ($F = 2.53$, $p = 0.081$), age ($F = 1.20$, $p = 0.300$), or SES ($F = 0.69$, $p = 0.656$).

During the pandemic, universities altered their services to offer remote options, including offering physical health resources (i.e., telehealth). Despite this addition, at the outset of the pandemic there were no changes in use reported across group demographics, with all non-significant findings for gender ($F = 0.68$, $p = 0.509$), socioeconomic status ($F = 1.01$, $p = 0.418$), race ($F = 1.68$, $p = 0.125$), and age ($F = 1.16$, $p = 0.326$).

Table 6. Service type usage by demographic variable.

	Gender		Race		Age		Socioeconomic Status	
Service Type	***F***	***p***	***F***	***p***	***F***	***p***	***F***	***p***
Mental Health, Remotely Through University	2.53	0.081	2.25	0.038 *	1.20	0.300	0.69	0.656
Physical Health, Remotely Through University	0.68	0.509	1.68	0.125	1.16	0.326	1.01	0.418
Physical Exercise, Remotely Through University	2.40	0.092	1.59	0.149	3.09	0.003 *	2.71	0.014 *
Mental Health, Non-University	3.40	0.034 *	1.02	0.414	2.31	0.026 *	1.05	0.389
Physical Health, Non-University	0.84	0.433	1.81	0.095	1.87	0.073	1.17	0.323
Physical Exercise, Non-University	3.07	0.047 *	1.37	0.223	1.48	0.174	1.75	0.108

One-way ANOVA. Alpha = 0.05. * denotes statistically significant findings.

Finally, when considering the advent of new university-based physical exercise options offered during the pandemic, many of which were novel online workout classes, there was a marked significance and a small decreasing effect in terms of age ($F = 3.09$, $p = 0.003$, $\eta 2 = 0.047$) as well as a small effect in terms of socioeconomic status ($F = 2.71$, $p = 0.014$, $\eta 2 = 0.036$). For socioeconomic status (SES), students in families with an income over USD 100,000 reported the largest drop in service usage from pre-pandemic to post-lockdown ($M = 4.12$, $SD = 1.12$; $M = 1.48$, $p = 1.06$). For age, those under 24 years (i.e., typical college age) reported more usage of on-campus services before lockdown, where older students reported lower use of those services before the pandemic, with no use during lockdown ($M = 1.75$, $SD = 1.165$; $M = 1.00$, $SD = 0.00$). No significant findings were noted for gender ($F = 2.40$, $p = 0.092$) or race ($F = 1.59$, $p = 0.149$).

3.5. Summary of Results

Regarding use of strategies, findings suggested that undergraduate students who engaged in mind–body health strategies prior to the pandemic decreased in their use. On the other hand, a small group of students who had never used mind–body health strategies before began using at least one strategy during the lockdowns. Specifically, we found variability between different demographic groups (i.e., gender, race, age, SES). Not surprisingly, there was an increase in use of non-university services after campus closures (i.e., students no longer residing on campus).

4. Discussion

4.1. Importance of Mind–Body Health

The present study sought to consider the extent to which undergraduate students used (1) mind–body health (MBH) strategies before and during lockdown, as well as (2) MBH-related services before and during lockdown.

The novelty of the present study highlights the immediate concerns of college students in the outbreak of the pandemic and the services they quickly sought to care for themselves in a time of crisis. The findings also provide a breakdown of the results based on several student background variables, highlighting that much of the pandemic's impact on caring for the mind and body varied across groups for this population. The wide lens of holistic wellbeing taken by the researchers highlighted the importance of listening to the experience of wellness and self-care across various dimensions at a time when physical and mental health were imminently threatened. Practically speaking, these findings will be assistive for institutions of higher education to guide their planning for what interventions may be most assistive for a generation of students who value holistic wellbeing.

4.2. Use of Mind–Body Strategies and Related Services Before and After Campus Closures

Interestingly, initial findings exploring the use of strategies revealed non-significant differences overall, yet upon further review, were deemed consequential, revealing that for individuals who were well immersed in mind–body health before the pandemic, their use of strategies decreased during the lockdowns. Surprisingly, findings also highlighted that for a group of individuals with no use of mind–body health strategies before the pandemic,

their use actually increased during the lockdowns. This finding was likely skewed by a group of people who experienced massive shifts in strategy usage in altering from no MBH strategy use to using several strategies. Similarly, decreases in the utilization of university offered and non-university physical exercise, physical health, and mental health services were noted for the overall group. However, when examining outcomes from respondents who endorsed never having accessed mental health, physical health, or physical exercise resources prior to COVID-19 lockdown orders, significant increases were found across all areas from pre- to post-campus closure. These findings may illustrate the extra time students had with the transition to online learning and reduced social opportunities, the new focus or outlook on health and wellbeing amidst a public health crisis, or the wide access to free or low-cost services via online fitness. Taken together, many of these findings align with the prior research, suggesting that the pandemic led to various changes in health behaviors from an individual's pre-lockdown baseline [5,7,9,16].

Additionally, the findings highlight that many students accessed MBH-related services pre-pandemic, particularly attention to physical activity and diet/nutrition. These initial findings likely reflect a "constant", perhaps specifically around age, which may impact the overarching common theme noted in the findings. Author and scholar Dr. Jean Twenge [34], posits that common value systems present (and are often ingrained) within generational norms can come into play when overlapping patterns within a particular age group, such as these, are observed. Thus, common findings around use may reflect a generational, or age-related, overlap in values that span across various demographic groups, such as gender, race, or socioeconomic status. With most of the participants' ages resting within the "Gen Z" generation (born 1995 to 2012), values such as self-care are often identified as critical within this group [34,35]. Therefore, the initial finding regarding a lack of group differences may suggest similar patterns of use when related to service use across the mind–body continuum of care.

4.3. Specific Use by Demographic Group

In general, during the initial lockdown phase of the pandemic, use of many mind–body health services (i.e., physical health, physical exercise, mental health) decreased. This pattern was observed across settings (university and non-university), as businesses (i.e., gyms, workout classes) and medical providers closed their doors or pivoted to offer services in a distanced manner. Critical themes are revealed from these findings, suggesting that specific demographic groups were at risk for decreased access to services across various spheres of mind–body health, most notably those who identify within a gender non-binary group for mental health care access. While the number of respondents in this group were small, their feedback did echo findings posed elsewhere in the research, highlighting the difficulty for gender non-binary individuals to access quality care [36], with those barriers to care further exacerbated during the pandemic [37] as well as impacting mental health rates [38]. These findings alone continue to highlight the issues within access to quality care for gender minority groups, especially in states of crisis.

Furthermore, the findings also revealed differences in service utilization based on age for university mental health and physical health services, and in one case, income level, specifically for physical exercise at the university level. Regarding SES, students who reported higher incomes (i.e., USD 100,000 or more) appeared to utilize the university-based services for exercise opportunities and reported the largest drop in service utilization post lockdown. Scholars have reported that students from the middle and upper classes have benefited in the present academic system, often utilizing resources on campus, and using advocacy skills to connect themselves with resources [39], where students from lower SES groups may be working, or not be as aware of potential resources, especially if they are a first-generation college student [40].

Finally, some age-related themes emerged, with students of the "traditional" college age (i.e., 24 years and younger) reporting more service utilization for physical exercise services on campus. Students, especially younger students, accessed physical health

resources on campus, such as gyms, exercise classes, or outdoor programming at the highest rates. When the lockdown occurred, and those services transitioned to online classes, students reported less use. It also may be that during this time, other resources were available, with fitness companies offering free access to fitness videos and training apps during the COVID-19 lockdown.

4.4. Practical Applications

The findings suggest a constant emphasis placed on health, regardless of demographic background. As Generation Z reports high values placed on self-care, placing an emphasis on holistic mind–body health care continues to be relevant in this college-going population, regardless of various demographic factors. In other words, belief in self-care and work–life balance is woven into the fabric of the generation, with value placed on health and wellbeing [34]. For colleges engaged in planning out programming and services, this generation of learners (now more than ever) places high importance and personal value on wellbeing, which was evident in this research, even in a crisis circumstance.

Findings also show that students' service utilization differed based on their age, race, socioeconomic background, and gender. Institutions of higher education should be aware of these nuances in designing programming targeting groups that may be more at-risk for accessing services, especially during periods of crisis. This may include targeted outreach within the LGBTQIA+ community (specifically gender minority groups, as suggested by the findings in the current study), connecting students of non-traditional college age with campus resources by emphasizing that services are for all students, knowing which groups of students may be relying more on campus resources based on their knowledge/familiarity with higher education supports, and what groups might need additional supports to connect with resources [41].

4.5. Limitations

Scholars often have "hindsight" moments, where looking back there are changes that they wished to make during their initial research process. After designing and releasing a survey amidst the outbreak of COVID-19 and lockdown orders, in reflection, the team wishes that we had asked respondents what services they felt students "needed" when their campuses closed, as perhaps the services identified by the team were incomplete or varied from university to university. Furthermore, considering instrumentation, we recognized that we left some variables in continuous format instead of a "check all that apply" format (e.g., age) to allow for more robust data analysis. Additionally, not all items on the survey were mandatory; thus, the researchers had to identify (and later grapple with) missing data, which impacted the total number of responses for certain items. Alongside these "hindsight" realizations was also the need for the inclusion of additional mind–body health measures such as a measure of stress levels as well as a coping skill measure, which likely would have yielded relevant information.

Additionally, use of a convenience sampling method for data collection has limitations for a non-representative sample. Thus, these findings may not be generalizable to all students within the United States, and certainly not globally.

Finally, an additional limitation includes the fact that very few respondents identified as transgender and/or gender non-binary. Thus, given the limited number of respondents identified within the survey, we were unable to run more nuanced, meaningful analyses on the gender variable. Instead, the team has to rely on the gender binary for many of the analyses, a less preferred approach of analysis. More targeted sampling procedures to promote the inclusion of gender minority groups would have been important to understand the lived experiences of gender-diverse students.

4.6. Future Directions

The present study explored the findings of a nationwide survey administered during the wake of be COVID-19 pandemic shutdowns (May to August 2020). Information

regarding student experience was collected from a large group of undergraduate students regarding their use of mind–body health services and strategies, as well as and their use of around mind–body health strategies before and during the initial outbreak of the COVID-19 pandemic in the US. Although the researchers hope it is unlikely that another pandemic will occur in the coming future, we strongly feel that these data are incredibly meaningful when identifying how universities can respond to holistic student health needs during periods of crisis. Furthermore, data attesting to this period of time are incredibly rare given the crisis experience and pause on many forms of research and scholarship during the initial outbreak. In sum, attention to the voices of this time and collective experience continues to deserve to be analyzed to capture that moment and to inform future interventions based on crisis experiences.

5. Conclusions

Presently, current college students are those who were in middle school during the initial COVID-19 lockdown. Given gaps in education [20] and personal development [8,13–15], current college students may require similar services and support as their crucial formative years were spent home-bound. Even though we may consider ourselves to be in a post-pandemic world, it is vital to understand the lasting and long-term impacts of COVID-19 to ensure that institutions of higher education provide appropriate and tailored services, accommodating the needs of a generation uniquely impacted by a pandemic in their formative years. The practical implications of this work highlight the continued need for holistic assessment of, and intervention for, student wellbeing [19]. For college campuses, given the ever-increasing mental health needs of students on campus, college health providers may benefit from providing clients sustainable approaches to bolster their wellbeing including diet, exercise, and mental wellness. College campuses may also consider adding supports within college counseling and health centers around mind–body health services (such as mindfulness meditation classes, de-stressing workshops, as well as consider the grander importance of on campus resources such as gyms, fitness classes, and nutritional supports) in long term planning for institutional growth [31,32].

In response to experiencing a worldwide pandemic, there have been increased reports of mental and physical health concerns across age groups and generations (i.e., Gen Alpha, Gen Z) [34], who are, or are soon to be, bound for college. Knowing this upcoming transition, we feel these data will be a useful tool to support universities and college-based health providers identify the needed (and utilized) services to support holistic student wellness during times of stress and crisis given the unique needs of these students [42].

Supplementary Materials: The following supporting information can be downloaded at: https://www.mdpi.com/article/10.3390/covid4110128/s1.

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