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Differential Impacts of COVID-19 on College Student Tourism Jobs: Insights from *Vacationland*-Maine, USA

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Abstract: The COVID-19 pandemic has adversely affected all sectors including educational institutions transitioning from face-to-face to hybrid and virtual classes. Partial or full closure of tourism businesses has impacted college students' jobs within the college and/or outside in the business sector. For a tourism dependent economy such as Maine's, the impacts of COVID-19 have been severe, including lost job opportunities for students. Several studies have researched the impacts of COVID-19 on the physical, psychological, social, and mental health status of college students; however, few have addressed the impacts on college students' jobs. Thus, the purpose of this study is to understand how students at the University of Southern Maine (USM) have been impacted in their jobs by COVID-19 and to consider what stakeholders can do to support and rebuild the workforce. A quantitative survey was distributed to all USM undergraduate students (completed by 160) between 26 April through 6 May 2021. The study found that pre-COVID, 44% of student employment was in non-tourism, 25% in tourism, and 16% in USM work study, while 15% were unemployed. At the time of the survey, those proportions had shifted to 42% in non-tourism, 22% in tourism, 14% in USM work study, and 22% not employed with a significant increase in the non-employed student category. The study found that, initially, COVID-19 had impacted student employment in terms of changed responsibilities, reduced hours, job layoffs/losses, increased hours, and voluntary job loss. Students' current jobs (during the survey) were impacted in the form of changed responsibilities/jobs/locations and industries, including decreased hours. During the pandemic, students valued industry support such as enhanced cleaning/safety, flexible hours/time off, work from home, as well as academic support in terms of flexibility, emotional support, industry updates, and networking opportunities. The study recommends that stakeholders develop collaborative comprehensive emergency management plans (CEMPs) to mitigate disruptions such as COVID-19 and be prepared for future disasters of this nature.

Keywords: COVID-19; college students; pandemic impacts; student jobs; job support; outdoor recreation; tourism recovery/resiliency

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1. Introduction/Background

The emergence of the COVID-19 pandemic in December 2019 affected every aspect of life in all countries around the world. Highlighting the early impacts of the pandemic on tourism in April 2020, Gossling et al. [1] (p. 1) stated, "Unprecedented global travel restrictions and stay-at-home orders are causing the most severe disruption of the global economy since World War II." The Committee for the Coordination of Statistical Activities [2] states that globally, the equivalent of 255 million full-time jobs were lost in 2020 due to the pandemic, which is four times greater than the job losses during the 2009 financial

crisis, another global economic crisis that impacted the tourism and hospitality industry. It is well known that such restrictions immediately affected tourism and its systems/subsystems, including international and domestic tourism, day visits, air transport, public transport, accommodation, cafes and restaurants, meeting and conventions and sports tourism [3,4].

It has been noted that these impacts in the tourism and hospitality industry have been harsher on different groups of people, including women in the United States [5,6]. Research has shown that, since women make up the majority of workers in hospitality sectors, they have been affected to a greater extent by pandemic-related job losses [7–10], while working mothers in particular have reduced their hours or left jobs more frequently in response to COVID-19 [11]. While studies have suggested ways to mitigate this inequality [12,13], this research tangentially touches upon impacts of the pandemic on female students' employment while primarily focusing on the impacts of COVID 19 on USM student employment.

The United States declared the COVID-19 pandemic a national emergency on 20 March 2020 [14], followed by various levels of stay-at-home orders, social distancing, wearing of face masks, and other health and hygiene guidelines. These pandemic restrictions most negatively affected non-essential business operations, causing sharp cuts in workforce and in consumer spending [14]. While essential businesses such as supermarkets, convenience stores, pharmacies, hardware stores, and office supply stores remained open during high waves of COVID-19, online shopping increased exponentially, and many businesses in the tourism industry shut down and/or drastically changed their way of business to a takeout/low-touch model. In December of 2020, the US government began a massive vaccine rollout which countered the spread of the virus until variants such as Delta and Omicron came to dominate in the latter half of 2021. As of December 2021, various versions of COVID vaccines were validated for use by the World Health Organization (WHO) [15]. Despite all these efforts, according to updates from the New York Times (as of 11 May 2022), the number of reported COVID cases in the U.S. has reached 82, 145, 395 with 997, 481 deaths (single highest in any country). Further, the number of reported cases in Maine reached 252,653, with a total of 2330 deaths [16]. It is further reported that places including Hawaii, Maine, and Puerto Rico have recently surpassed the levels seen during last year's Delta surge.

1.1. Maine Tourism

This research focuses on college students' jobs in the Maine tourism industry as many of the front-line jobs in the industry are held by Maine college students. This statement is supported by the establishment of the Tourism and Hospitality program at USM in 2012 as a "direct response to needs expressed by leaders in Maine's hospitality industry" [17]. Vibrant tourism businesses in Portland, Maine such as hotels, restaurants, recreational businesses, and retail shops needed a workforce that could sustain their business and USM has been supporting local businesses by aligning its programs to meet their needs [18]. Tourism is one of Maine's largest industries, supporting more than 116,000 jobs, about 17% of total employment in the state, or one out of every seven jobs [19]. In 2019, tourists visiting Maine spent nearly $6.5 billion dollars [20] with more than 21.8 million overnight visitors spending one or more nights there. COVID-19 had a significant impact on Maine's tourism economy. During the pandemic in 2020, data from Maine's Office of Tourism showed that overnight tourists (residents and non-residents) decreased to 8.3 million, and spending decreased to about $4.8 billion, supporting only 90,600 jobs [21].

1.2. University of Southern Maine and COVID-19

Research is awash on the impacts of pandemic on colleges and universities including the shift to virtual learning and impacts on students' physical and psychological health [22–24]. The University of Southern Maine (USM), with campuses located in and around Portland witnessed the same impacts of the pandemic as experienced by other universities else-

where. As of October 2021, the University had a student population of around 8000 students including 5956 undergraduate and 2040 graduate students [25]. The average age of all undergraduate students (full- and part-time) is 24 [25]. USM has a significant non-traditional, first-generation student population, working part-time and full-time jobs. First-generation students are generally defined as those "whose parents did not graduate from a four-year college in the United States, or students whose parents completed their degrees as nontraditional students over the age of 25" [26] (p. 1). Some of the characteristics of first-generation students are that they are older than their peers, almost one-third of them have dependents, they are more likely to juggle part-time classes while having a full-time job, and their median parental income is lower compared with non-first-generation undergraduates. The percent of USM undergraduates' who live in college-owned, operated, or affiliated housing is small at 26%, while the percent of undergraduates who live off campus or commute is 74%. The commuter category includes students who commute from home and students who have moved to the area to attend college. Recognizing this significant non-traditional demographic in their population, USM has recently implemented the "USM Promise Program," which provides scholarships and "an array of enrichment opportunities and a network of support from peer and professional staff to help first-generation college students overcome common barriers and persist to graduation" [27].

1.3. Purpose of the Study

While there is some research on how COVID-19 has affected employment, there is not much on how it has specifically affected student employment nor much on its impact on specific groups of students. Taking into consideration the wider and lasting impacts of the pandemic on Maine's tourism economy, the main objective of this study was to understand how the employment of Maine college students in the tourism industry has been affected by COVID-19. This was explored through a confidential online student survey of USM students. The study had the following major research questions, which were broken down into survey questions as mentioned in the Methods Section. Survey questions were developed based on input from Maine tourism industry organizations and educational program leaders.

1. How have USM students' jobs in tourism and recreation industries compared to other sectors been impacted by COVID-19? and
2. What can the university and industry learn from this to support and attract back the workforce they lost?

2. Literature Review

2.1. COVID-19 and Worldwide Tourism Jobs

Travel and tourism remains one of the most affected industries in the world due to COVID-19. Tourism includes various service sectors such as lodging, food and beverage, events, attractions, adventure and outdoor recreation, entertainment, and transportation [28]. Declines in both international and domestic travel in 2020 and 2021 affected jobs and income in tourism and recreation nationally and globally. In 2020 the Committee for the Coordination of Statistical Activities [2] (p. 5) stated that "International tourism recorded its worst year ever on record; international tourism declined by 74 percent." The World Travel and Tourism Council (WTTC) notes a loss of around $4.5 trillion (in 2020) in the travel and tourism sector with the GDP contribution decreasing by 49.1% from the previous year [29]. The WTTC further stated that 62 million travel and tourism jobs were lost in 2020, a decrease of 18.5%. The United Nations World Tourism Organization (UNWTO) stated that compared with 1.5 billion international tourism arrivals in the world in 2019, there were only 381 million international tourist arrivals in 2020, which is a decline of 74% compared to pre-pandemic arrivals. Furthermore, the UNWTO estimated a loss of $1.3 trillion in international tourism receipts in 2020 [30].

2.2. COVID-19 and USA Tourism Jobs

In 2019, 79.3 million international visitors came to the USA creating 9.2 million jobs (5.9 million direct and 33.3 million indirect), contributing $233.5 billion in total travel and tourism related exports/earnings [31]. In 2020, the economic impact of the coronavirus pandemic on the travel sector in the USA was over $500 billion, and it is estimated that the travel industry will not recover to pre-pandemic levels until 2024 [14]. The authors state that "The Leisure & Hospitality (L&H) sector accounted for 11% of pre-pandemic employment in the United States, yet has suffered over one-third of all job losses. Approximately one-half of the 16.9 million jobs in the sector were lost in March and April 2020 alone" [14] (p. 12).

Important to note is that while around four million jobs were created or restored by August 2020, over one-quarter of workers remained unemployed in the leisure and hospitality (L&H) sector during 2020. Leisure and hospitality hiring decreased from 2 million new hires in June 2020 to just 600,000 new jobs in July 2020 [14]. In the lodging sector alone, 70% of hotel employees were laid off or furloughed, losing "more than $2.4 billion in earnings each week" [14] (p. 73). Furthermore, U.S. labor market shortages resulting from more resignations, more early retirements, women leaving the workforce to take care of children, and fewer immigrant "guest worker" visas have been highlighted as some of the factors contributing to an acute shortage in the U.S. workforce currently. How to get these workers back is an important question to which this research hopes to contribute.

The outdoor recreation industry is one of the largest economic sectors in the U.S. and makes up a significant part of the travel industry, generating 7.6 million jobs, $887 billion in consumer spending, $65.3 billion in federal tax revenue, and $59.2 billion in state and local tax revenue annually [32]. However, the contributions of outdoor recreation also seem to be affected by the pandemic. According to the Outdoor Industry Association [33], despite the challenges created by the pandemic, the outdoor recreation economy generated $689 billion in consumer spending and 4.3 million direct national jobs in 2020. On the positive side, a 2021 Outdoor Participation Trends Report by the OIA stated that in 2020, "53 percent of Americans ages 6 and over participated in outdoor recreation at least once" [34] (p. 1), which was the highest recorded participation rate. Remarkably, 7.1 million more Americans participated in outdoor recreation in 2020 than in the prior year as people needed an outlet for social connection and physical and mental health benefits. The Travel & Tourism: Impact of The Pandemic report stated that while most tourism activities were in decline in 2020, outdoor camping and recreation vehicle sales were high growth sectors as RV shipments in July 2020 were up by 53.5% from July 2019, and in June 2020 year-over-year RV sales were up by 10.8% [14]. Furthermore, the new trend for staycations, emerging due to people's avoidance of crowded destinations, favors wide open spaces, state, and RV parks [14]. This will have long-term implications for the U.S. travel economy, including the state of Maine, which has significant outdoor nature recreation opportunities for all types of visitors.

2.3. COVID-19 and Maine Tourism Jobs

Maine is a nature tourism destination. Maine tourism and hospitality had grown for 11 straight years before the pandemic. According to the Maine Office of Tourism [35] (2018), more than 20.5 million visitors spent one or more nights in Maine on tourism-related trips in 2018, spending over $4.7 billion. Gabe and Crawley [19] (2019) stated that Maine's "hospitality sector had a statewide economic contribution, including multiplier effects, of an estimated $6.9 billion in output, 79,000 full- and part-time jobs, and $2.2 billion in labor income" (p. 1). However, Gabe and Crawley [36] go on to state, "Employment in Maine's restaurants and lodging establishments decreased by 59 percent between February and April" (p. 3) of 2020. In their latest COVID-19 impact update, Gabe and Crawley [37] mentioned that, because of COVID-19, "The Maine hospitality sector will generate a 2020 statewide economic contribution—including multiplier effects— of an estimated $5.2 billion in revenue, 51,033 full- and part-time jobs, and $1.8 billion in labor income" (p. 1), which

means there will be around 28,000 fewer full and part-time jobs in Maine's hospitality sector in 2020 compared to 2018.

On the positive side, journalist Valigra explains, "After the state [of Maine] lifted restrictions, many hotels and restaurants saw business return to or even exceed pre-pandemic levels this summer (2021), but worker shortages continue to limit activities" [38] (p. 2). In particular, outdoor recreation related activities in Maine remained busier than ever during the summer of 2020 and 2021. Local press reported that the pandemic has spurred interest in outdoor activities such as bicycling, camping, hiking, and other sports [39] and shifted visitors to more rural inland nature-recreation regions [40]. Acadia National Park reported high numbers and broke record attendance numbers in 2021, even with a new reservation system restricting the amount of travel to attractions in the park [39]. There was a surge of recreational tourists in Maine going into the fall of 2021 as 667,392 visitors were recorded at Acadia National Park in September 2021 alone; this is part of almost four million visits in the first nine months of 2021 [41]. However, the workforce shortage has served as a bottleneck to tourism and recreation economic recovery, which needs to be tackled with proper strategies to entice the workforce back [41].

The latest data, however, suggest that it may take time for the U.S. outdoor economy to fully rebound. According to the U.S. Bureau of Economic Analysis (U.S. BEA), "The new U.S. data show that the outdoor recreation economy accounted for 1.8 percent ($374.3 billion) of current-dollar gross domestic product (GDP) for the nation in 2020" [42] (p. 1). For the state of Maine, outdoor recreation is a major attraction to visitors, and the total outdoor recreation value added in Maine in 2020 was $2.27 billion, with a total outdoor recreation employment of 28,368. The U.S. outdoor recreation employment declined by 17.1% and Maine outdoor recreation employment by 23.9% in 2020. The U.S. BEA explains that "outdoor recreation economy estimates were impacted by the response to the spread of COVID-19, as governments issued and lifted 'stay-at-home' orders [leading] to rapid changes in demand as consumers canceled, restricted, or redirected their spending" [42] (p. 1).

2.4. Employment during College Is Vital for Many Students

Student employment has long been a part of the higher education experience in the U.S. and is an effective tool for supporting students financially [43], especially non-traditional and first-generation students, of which Maine has a high number. Cheng and Alcántara [43] showed that the significance of student employment for college students grew from 45% to 56% from 1959 to 1986. Martinez et al. [43] found that the Federal Work Study (FWS) program, which was created by the Higher Education Act (HEA) of 1965 and was envisioned as a means to generate employment opportunities for college students, especially low-income students, supports students' academic achievement. As a result of this, many college students in the U.S. now engage in jobs while continuing their academic journey. Studies reported approximately 75% of dependent undergraduates and 80% of independent undergraduates worked while enrolled in college during 2003–2004 [44], including work-study jobs and off campus employment. Recent studies by Remenick and Bergman [45] affirm that a majority of students enrolled in two-year and four-year public institutions in the U.S. work at least part-time (81% of part-time students and 43% of full-time students) (p. 34). The importance of a job for college/university students seems to be vital as more and more students rely on work during their studies to support themselves and their families or to enhance their professional development. There is no study available on how many or what percentage of USM students work full- or part-time while in college; however, it is likely that the vibrant tourism and recreation and other allied industries in Maine support these students through jobs and internships to complete their studies.

2.5. COVID-19 Impacts on Student Employment

Several recent studies have indicated that COVID-19 has widely disrupted both work-study and off campus student employment. In a study (working paper series) of COVID-19

impacts on student experiences and expectations on higher education (undergraduate students) from Arizona State University (ASU), Aucejo et al. [46] revealed that the pandemic affected 13% of students in delaying their graduation; 40% in the loss of a job, internship or a job offer; and 29% in lessened expectations for earnings past age 35. Furthermore, the economic and health related disruptions triggered by the pandemic varied systematically by socioeconomic factors indicating the large (and heterogeneous) effects of the pandemic. The study added, "Working students suffered a 31% decrease in their wages and a 37% drop in weekly hours worked, on average" with around 61% of students reported to have a family member experiencing a reduction in income [46] (p. 3). Students' perceived probability of finding a job post-graduation decreased by almost 20%, and they expected that the pandemic will have a long-lasting impact on their labor market prospects.

Cohen et al.'s [47] study of COVID-19 related experiences and perspectives of full-time college students in the U.S. (in Spring 2020) regarding psychological and economic impacts found that students "who received financial aid for college were more concerned about COVID-19′s economic ... and emotional ... impacts on their lives than those who did not receive financial aid, but the daily responsibility impacts were relatively similar" [47] (p. 373). The study reported that most participants (61.7%) were employed in February 2020, but only 32.4% were currently employed in late April 2020. Furthermore, more than half (52.6%) of those employed in February 2020 were no longer employed in late April 2020, and of those who were employed in both February 2020 and late April 2020, 44.8% had their take-home pay decreased owing to the COVID-19 pandemic, the report added.

Wall's [48] study of COVID-19 impacts on postsecondary students in Canada revealed that the job loss and reduction in job opportunities due to the pandemic had significant impacts on student jobs and their academic success. The study stated that "among students aged 20 to 24, the employment rate fell by 23.6 percentage points, from 52.5% in February 2020 to 28.9% in April 2020" [48] (p. 3). This situation led to increased student concern about their growing student debt as "debt from student loans is common among students—half (50%) of postsecondary graduates had student debt at the time of graduation with a median debt of around $17,500" [48] (p. 3). As a result of COVID-19, students became increasingly worried about having to take more student loans to cover their current expenses, manage tuition, and cover accommodation for the upcoming term/s. Several scholars have conducted studies on these types of psychological impacts of COVID-19 [49–51]. The overall result of this research reveals there were many student hardships brought by COVID-19, including financial, and increased the potential risk of dropping out in the future.

In another study of college students' concerns during the COVID-19 pandemic across seven countries (the U.S., the Netherlands, Ireland, South Korea, China, Malaysia, and Taiwan), Hawley et al. [4] reported major student concerns in education, safety, mental health, employment stability/finances, uncertainty about the future, and relationships. The study reported that, "The pandemic created instability related to students' present employment prospects and finances" [4] (p. 16) and affected their payment of tuition through work. They also faced job losses or work-hour reductions and were concerned about whether they would get employed in their respective fields following graduation. Students also expressed concern relating to future uncertainty as they commonly asked, "When would things return to normal?" [4] (p. 16).

It can be seen from a range of studies that COVID-19 has had multiple negative impacts on university students and their employment throughout the world. These impacts included losses of jobs, internships, or job offers; decreases in wages and work hours; increased student loans to cover current tuition and accommodation expenses; and increased potential for dropping out. Other long-term impacts were observed in the studies which included delaying graduation, expecting to earn less post-graduation, uncertainty about the future and relationships, and mental health and psychological impacts.

2.6. COVID-19 Impacts on College Students' Tourism Employment at USM, Maine

As discussed above, while the tourism and recreation sector were severely affected by the pandemic locally, nationally, and globally, there have also been impacts on student employment in U.S. colleges/universities and in other parts of the world, which seems to be having a negative effect on student success in college. It is thought that many front-line workers in hospitality are younger, college-aged students, and likely disproportionately affected by layoffs, which will be investigated in this study. The spread of COVID-19 imposed several social, economic, psychological, and health-related challenges for college students and hit the tourism industry particularly hard. These challenges are studied in this research from USM students' perspectives to add insights into not just the impacts of the pandemic on students' job but their perception of support or lack of support during this time. This information can inform tourism industry employers on potentially retaining and attracting them back. This information could also inform policy around public health as well as informing University administration and programs on how to support working students during the COVID-19 pandemic.

3. Materials and Methods

In order to explore how COVID-19 impacted both tourism and recreation jobs among University of Southern Maine (USM) students, a survey of students took place just prior to the end of the 2021 spring semester. The survey asked students to report the industry they were working in at the onset of COVID-19 using one of four categories provided *(USM, tourism/hospitality/recreation, non-tourism/hospitality/recreation, and not employed)*. Those students employed at the onset of the pandemic were then asked to select all the ways in which their employment was initially impacted by COVID-19. The survey also asked respondents about the industry in which they were currently working using the same four categories and then asked currently employed students about the impacts of COVID-19 on that employment. Additionally, respondents employed currently or prior to COVID-19 were asked about the ways their industry supported them during the pandemic.

At the end of survey, an open-ended question asked students if they wanted to add anything, including COVID-19 impacts on their past/current/future employment and lessons learned, etc. Finally, the survey collected demographic information, including data related to students' education to see if groups of people were affected differentially (See Appendix A for survey questions).

The survey instrument was reviewed and approved by the University's Institutional Review Board (IRB) for distribution through a university listserv including all undergraduate students currently enrolled at the University of Southern Maine. It was subsequently programmed into Qualtrics, an online survey platform. The survey was launched on April 26th by the listserv's moderator and went to approximately 6000 USM undergraduate students. The survey was sent again on May 3rd and May 6th. In addition, faculty from the Tourism and Hospitality Department and the Recreation and Leisure Studies program sent email reminders to their students, asking them to complete the survey. A total of 160 students, about 3% of the listserv's population, completed the survey. The data from these records were analyzed using SPSS 27. The chi-square test for association was used to identify significant differences between demographic and industry sub-populations. If the expected counts were too small to generate reliable chi-square probabilities and both the dependent and independent variable were dichotomous, Fisher's exact test was conducted instead. Short, one-to-two sentence responses were received from 32 students regarding the open-ended question and are presented in the results and discussion where appropriate.

4. Results

4.1. Participant Demographics

As detailed in Table 1, the students who completed the survey were mostly female, aged 18 to 30, white, commuters, were neither caretakers nor 1st generation students and were at various points in their degree (2, 4, and 6+ years being the highest categories reported).

Table 1. Participant demographics denoted in percentage.

Demographic	Response	Percent
Gender (98% responding)	Male	33%
	Female	65%
	Other	2%
Age (99% responding)	18–30	76%
	31–45	13%
	46–60	9%
	≥60	2%
Race (95% responding)	White	85%
	Persons of Color	15%
Commuter/Residential (100% responding)	Commuters	84%
	Residential	16%
Parenting & Caretaking for Family (100% responding)	Yes	16%
	No	84%
First Generation Students (99% responding)	Yes	36%
	No	64%
Years as a Student (98% responding)	One year	18%
	Two years	20%
	Three years	17%
	Four years	20%
	Five years	4%
	Six years	20%
Major * (98% responding)	Arts, Humanities, & Social Science	19%
	Business	11%
	Health/Nursing	17%
	Human/Public Services	14%
	Science & Technology	21%
	Tourism/Recreation	11%
	Other/Undeclared	7%

* See Appendix B for list of majors.

4.2. Employment Industry of USM Undergraduate Students

The survey included two questions about their employment industry: one for the employment industry at the onset of COVID-19 and another about the student's current employment industry. All respondents replied to both industry questions. As displayed in Table 2, results show that one-quarter (or 25%) of USM students were employed in the tourism industry at the onset of the pandemic while 60% were employed in non-tourism (which includes those working at USM) and 15% listed not-employed. For current employment industry, student employment shifted to more unemployed. The survey asked students to report the type of industry in which they were currently employed (as opposed to where they were at the beginning of the pandemic restrictions in March 2020). All respondents did so. The largest response was reported in *non-tourism/USM* jobs, at 56% (a 4% decrease); followed by *tourism* jobs, at 22% (a decrease of 3%); and *not employed*, at 22% (a 7% increase).

Table 2. Employment status.

Employment	COVID-19 Onset Employment (n = 160)	Current Employment (n = 160)
Tourism	25%	22%
Non-tourism	44%	42%
USM	16%	14%
Not employed	15%	22%

While analysis did not find employment industry at onset of COVID-19 to be correlated with any specific demographic or student characteristics, there were significant differences between current employment industry and respondent characteristics. As shown in Figure 1, current employment varied by residential status with 47% of commuter students reported working in *non-tourism*, compared to 20% of residential (on campus) students. Conversely, only 10% of commuter students reported that they worked at *USM*, compared to 36% of residential students, χ^2 (3, n = 160) =16.907, p = 0.001. Not surprisingly, students living on campus are more likely to work for *USM* or not work, whereas commuters are more likely to have a job outside of *USM*.

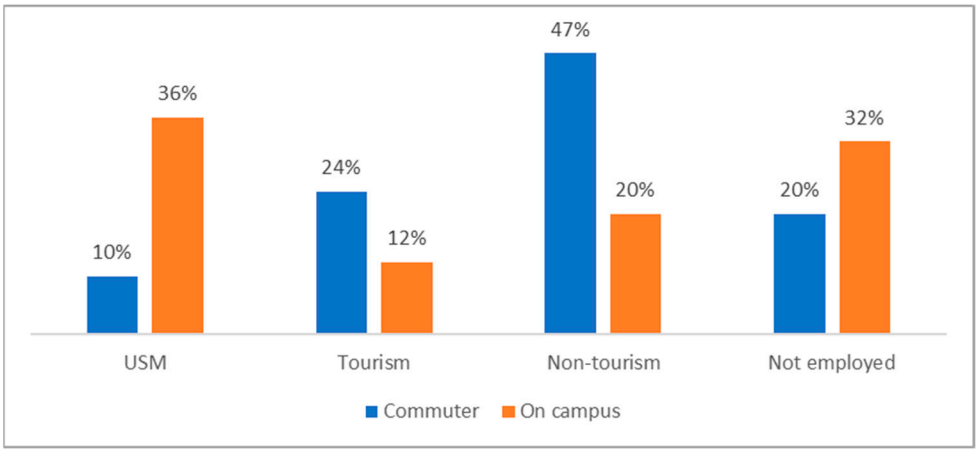

Figure 1. Residential status by current employment.

Of those employed, the distribution of industry types also varied significantly by pa-rental status with non-parents being more likely to work in the *tourism* industry than parents. As shown in Figure 2, 32% of non-parents were more likely to work in *tourism* compared to only 9% of parents, χ^2 (1, n = 125) = 4.735, p = 0.030.

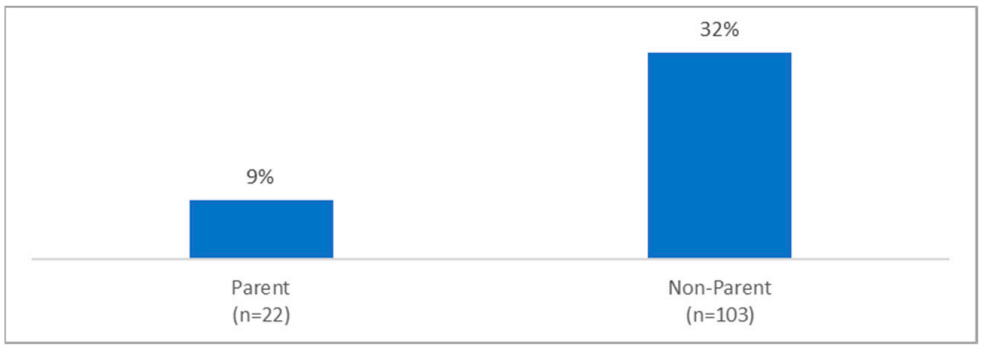

Figure 2. Currently in tourism by parental status.

4.3. Initial Impact of COVID-19 on Employment

The second survey question asked respondents to select all the ways in which their employment was impacted by COVID-19 at the outset of the pandemic using six responses as well as an "other" response. The response category with the greatest number of responses was *task, responsibility, or focus change*, with almost a third (32%) of the responses followed by other categories as depicted in Figure 3. This shows the pandemic had a significant impact on student jobs.

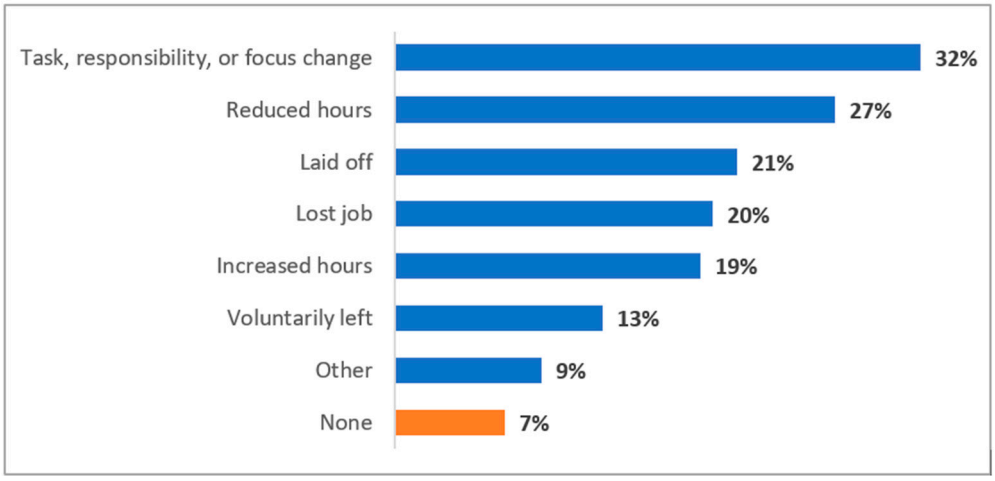

Figure 3. Pre-COVID impact on employment (n = 133).

In their open-ended responses, three students expressed difficulties finding jobs. One student "applied everywhere all first and second semester with no luck and very little money", another student decided to pursue a master's degree for stability with a concern for future jobs, and the third student stated, "There was nobody hiring for jobs that I was qualified for because so many businesses had shut down." Furthermore, one student mentioned COVID-related financial stress and three others mentioned mental stress. These statements from students complement survey results that COVID-19 created significant financial difficulties and mental stress. However, there were a few students who identified COVID-19 as an opportunity. One student reported replacing a job at which they were overworked and undercompensated with a job that paid more. Another student reported enjoying working from home but stated a desire to be in the office at least two or three days a week once COVID-19 ended.

4.4. Movement between Industries

Because the survey asked students to report data from two points in time, it was possible to track respondents' movement between industries (Figure 4). The majority, 72%, remained in the same category, whether they were in *tourism*, *non-tourism*, or *unemployed*. Smaller proportions, 13% moved into *unemployment*; 9% into *non-tourism*; and 6% into *tourism jobs*. Thus, most remained in the same industry, and the biggest movement was to unemployment, but there was a larger movement into non-tourism jobs than into tourism jobs.

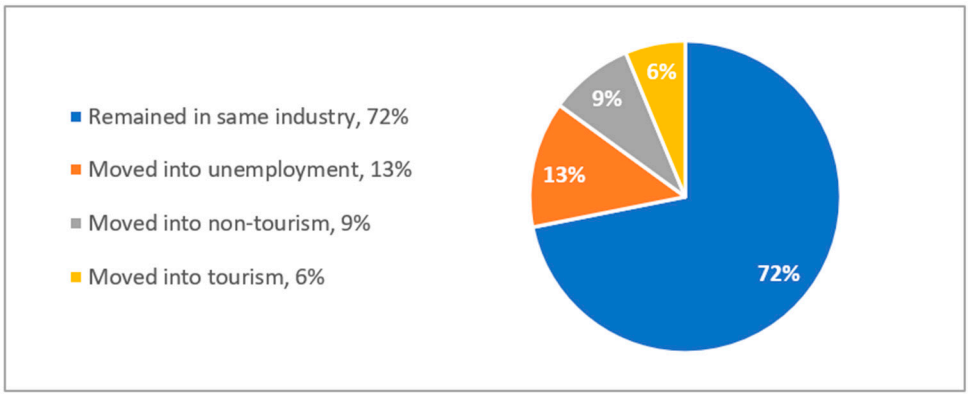

Figure 4. Movement between industries (n = 160).

4.5. Impact of COVID-19 on Current Employment

The survey asked respondents to select all the ways in which their current employment changed due to COVID-19 using six responses as well as an "other" response. Ninety-nine percent (99%) of currently employed respondents answered this question. As shown in Figure 5, the response category with the greatest number of responses was *changed responsibilities within job*, with over a third (35%) of the responses. This was followed by *changed jobs*, at 31%, and *decreased hours*, at *26%*. Additional response categories are depicted below.

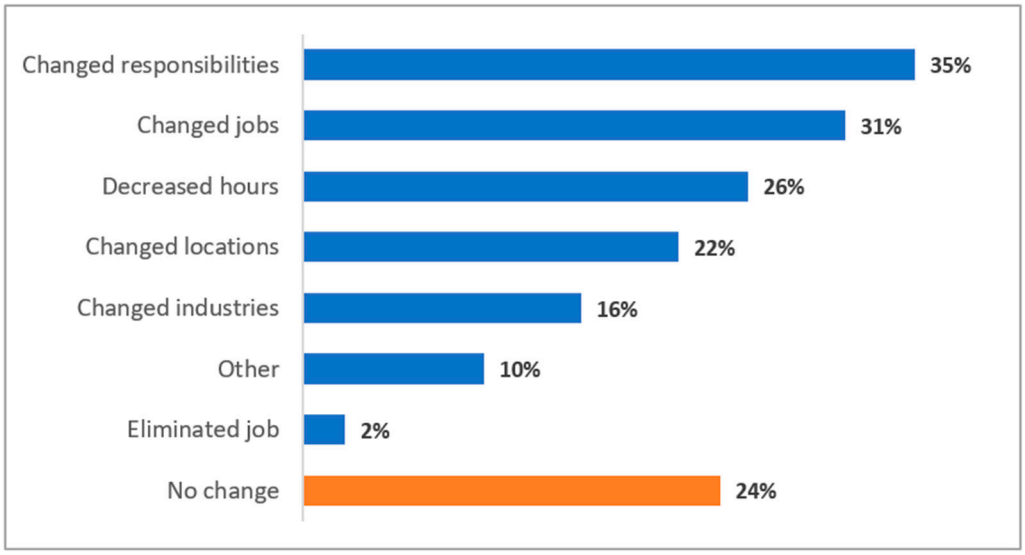

Figure 5. COVID-19 impact on current employment (n = 124).

While these impacts appear consistent across industry types, they did fluctuate by gender, age, and parental status as shown in Figure 6. Most significantly, 43% of females reported *changed responsibilities within job*, compared to 21% of males, χ^2 (1, n = 118) = 5.779, p = 0.016 (note: respondents who reported their gender as "other" (n = 3) or preferred not to answer (n = 2) were not included). Only 14% of parents reported *changed jobs*, compared to 35% of non-parents, χ^2 (1, n = 124) = 3.937, p = 0.047. Likewise, only 5% of parents/primary caregivers reported *changed locations*, compared to 25% of non-parents, p = 0.043 (Fisher's exact test, 2-sided). Respondents aged 18 to 30 had a significantly higher rate (32%) of *decreased hours* than those aged 31 and over (7%), χ^2 (1, n = 124) = 7.069, p = 0.008. Thus, it appears that women experienced the highest impact to their jobs through changes to their responsibilities. Non-parental, younger, college age students were also impacted disproportionally with *decreased hours* and *changed locations*.

4.6. Planned Employment over Summer/Fall

The survey asked students whether or not they planned to be employed over the summer or fall using one of the three categories provided, and all responded. For this grouping, the distribution was 88% *yes, definitely* and 12% *no/maybe*. Figure 7 details these results.

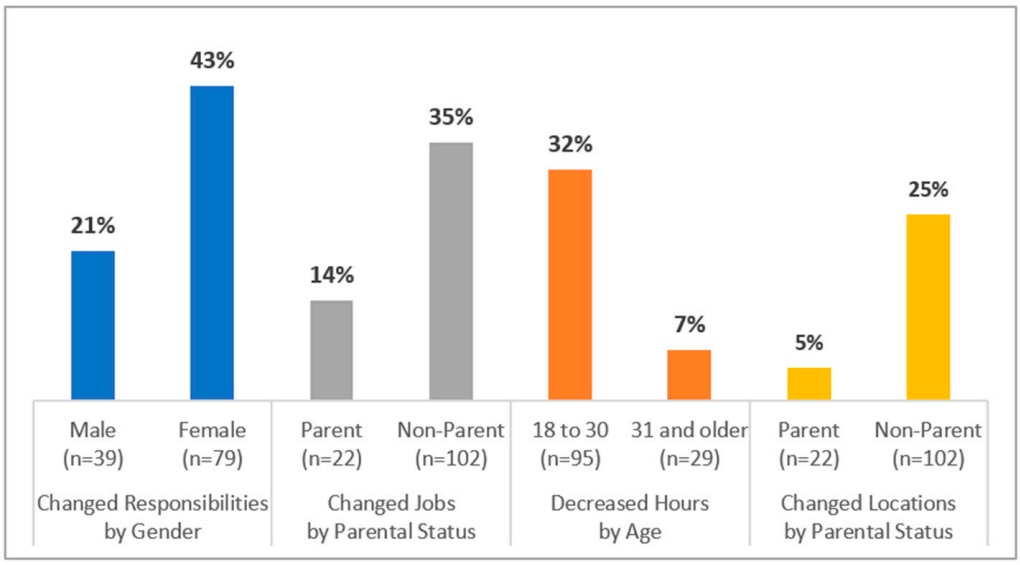

Figure 6. COVID-19 impact on current employment by demographic attribute.

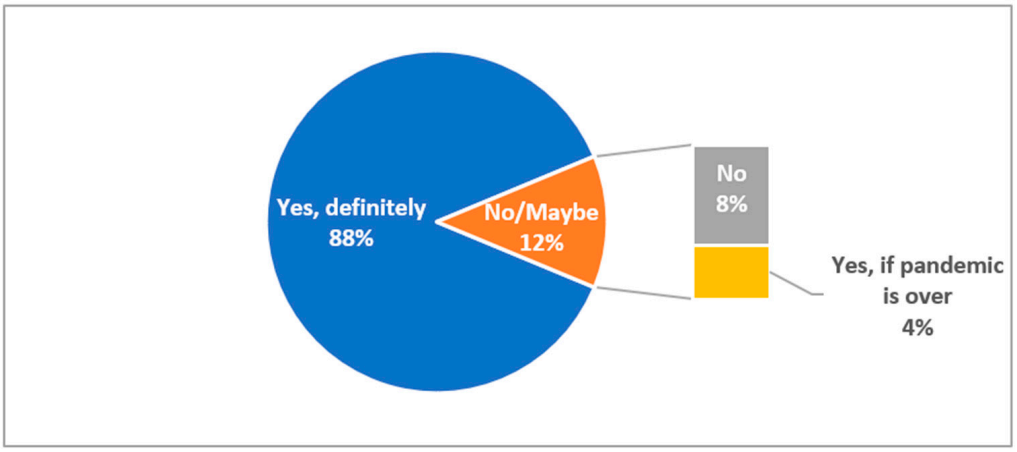

Figure 7. Planned employment over summer/fall (n = 160).

The *yes, definitely* category fluctuated based on pre-COVID employment, with students who were not employed at the onset of the pandemic having a significantly lower rate (71%) than those in *non-tourism* (88%) and *tourism* (98%), χ^2 (2, n = 160) = 9.752, p = 0.008. These findings are detailed in Figure 8. While future employment plans were not correlated with current employment nor any demographic characteristics, if a student was *not employed* at the beginning of the pandemic, they were less likely to indicate they definitely planned to get a job in the summer, but most who already had a job planned to work, especially those in *tourism*.

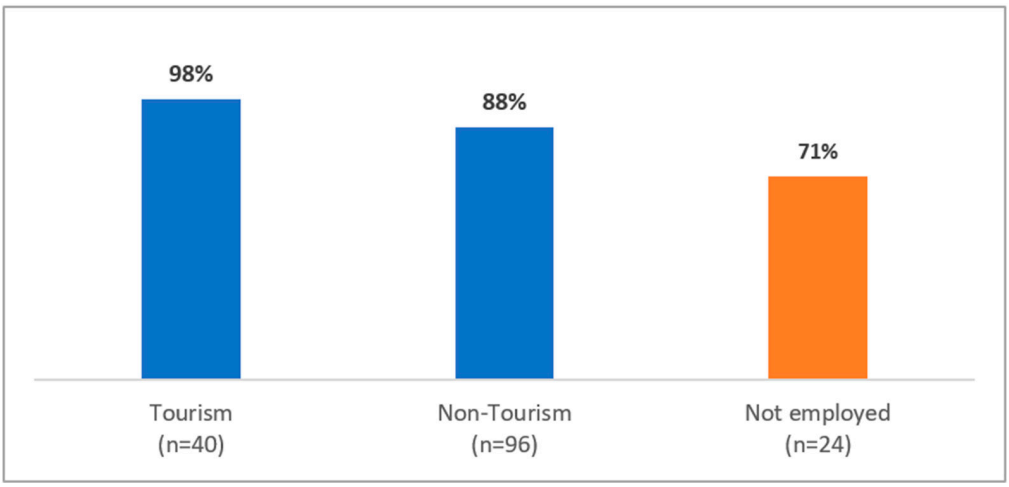

Figure 8. Definitely planning to work over summer/fall by pre-COVID employment.

4.7. Incentives for Working in the Tourism Industry

The survey asked respondents to select all incentives that did or would encourage them to work in the tourism industry using five responses as well as an "other" response. As shown in Figure 9, the incentive category with the greatest number of responses was *higher pay*, with over half (55%) of the responses followed by other categories presented below with further explanations. The rates with which respondents reported the various incentives varied by demographic and employment characteristics.

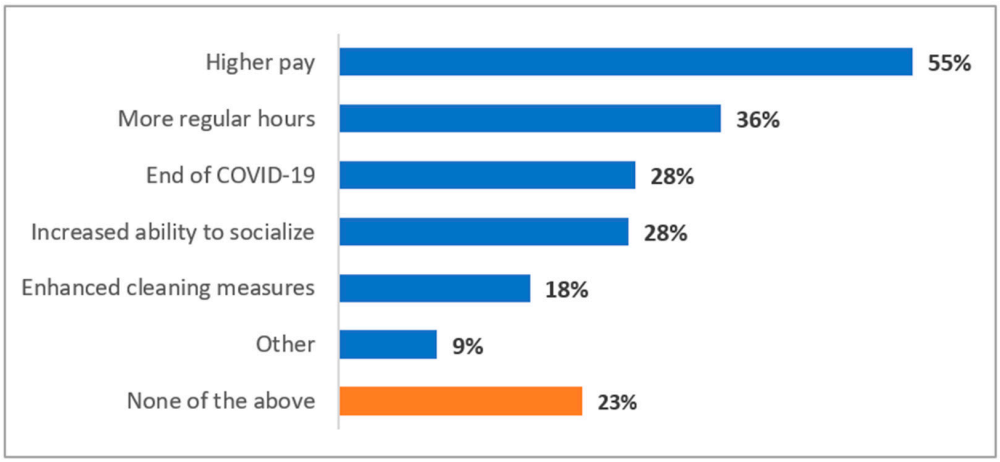

Figure 9. Tourism industry incentives (n = 159).

To detail further, differential impacts of incentives were observed on students which varied by age, race, -residential status, and number of years in college. For example, the majority of students aged 18 to 45 (59%) reported *higher pay* as an incentive, compared to only 22% of those aged 46 and older, χ^2 (1, n = 158) = 8.496, p = 0.004. Similarly, 62% of respondents who had been in school for 1 to 4 years selected *higher pay*, compared to 34% of 5 or more years, χ^2 (1, n = 157) = 9.123, p = 0.003. Further, 41% of respondents aged 18 to 45 reported *regular hours* as being an incentive to work within the tourism industry, while no respondents (0%) aged 46 and older identified this as an incentive, χ^2 (1, n = 158) = 11.782, p = 0.001. Additionally, 40% of white students selected *regular hours* as an incentive to work within the tourism industry, twice the rate (20%) with which people of color selected it as an incentive, χ^2 (1, n = 159) =4.333, p = 0.037. In the category of *end of COVID-19* as an incentive, comments by a student that "lack of childcare/school for my kids (at present) has been the biggest obstacle to returning to work" shows direct and related impacts of COVID-19 on jobs and family.

Another category, *increased ability to socialize and interact with others*, varied by residential status and number of years as a student. Almost half (48%) of residential students selected this as an incentive, compared to 24% of commuter students, χ^2 (1, n = 159) = 6.124, p = 0.013. Students who had been pursuing their degree for 1 to 2 years were more likely (38%) to select *increased ability to socialize and interact with others* than those in school for 3 or more years (22%), χ^2 (1, n = 157) = 5.115, p = 0.024. In the category of *no incentive*, nearly one-third of respondents (32%) employed in *non-tourism* at the onset of the pandemic reported that nothing would compel them, compared to those working in *tourism* and *not employed*, at 13% and 8%, respectively, χ^2 (2, n = 159) = 9.271, p = 0.010. Likewise, nearly one-third of respondents (31%) employed in *non-tourism* currently reported that nothing would compel them, compared to those working in *tourism* and *not employed*, at 11% and 15%, respectively, χ^2 (2, n = 159) = 7.244, p = 0.027. This shows *tourism* workers display more inclination to work despite COVID compared to other employees. Further, rates for *no incentive* also varied by age and number of years as a student. Students aged 31 and older selected *no incentive* at a significantly higher rate (41%) than respondents aged 18 to 30 (18%), χ^2 (1, n = 158) = 8.952, p = 0.003. Similarly, students pursuing their degree for 5 or more years selected *no incentive* at a significantly higher rate (39%) than those who had been a student for 1 to 4 years (17%), χ^2 (1, n = 157) = 8.543, p = 0.003.

4.8. Industry Support during COVID-19

The survey asked respondents to select all the ways their industry supported them during the COVID-19 pandemic using nine responses as well as an "other" response. The category with the greatest number of responses was *enhanced cleaning/safety measures*, with 41% of the responses, followed by *flexibility* at 36% and other categories as depicted in Figure 10. One student expressed the feeling that they were "fortunate to work for a place that allows for great employee flexibility" and another student emphasized the need for second shift or night shifts regardless of the COVID-19 situation.

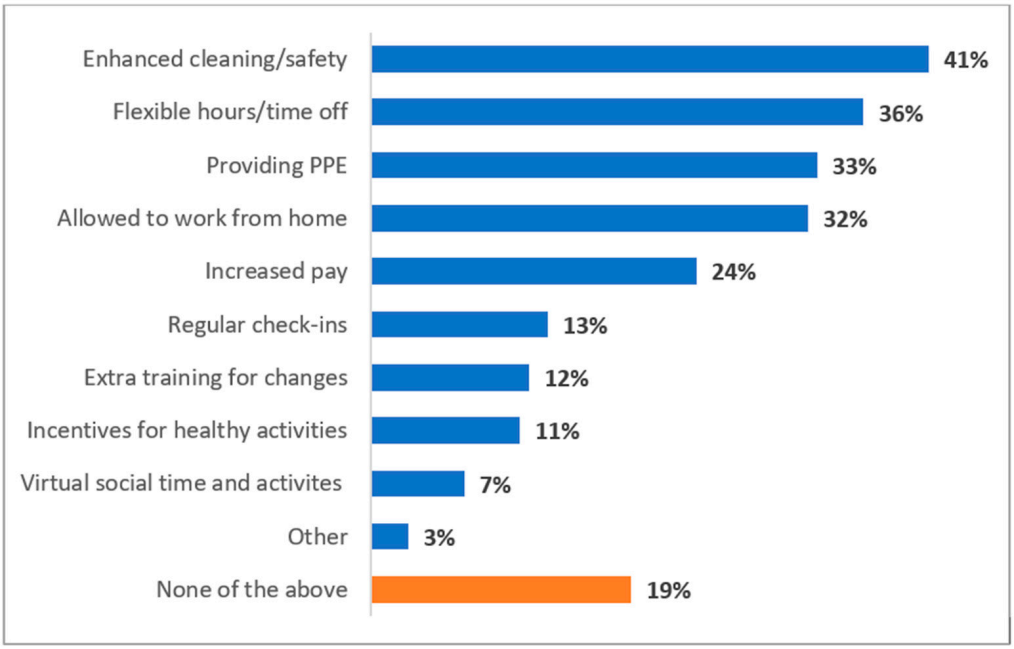

Figure 10. Industry support during COVID-19 pandemic (n = 146).

In order to explore the current support by industry, an additional variable was computed to capture respondents' most recent employment. Those currently employed were recoded according to their current employment industry, and those not currently employed were recoded according to pre-COVID industry. The largest job category of this new

variable was *non-tourism*, (including USM) at 65%, followed by *tourism*, at 26%, and *not employed*, at 9%. Results are shown in Table 3.

Table 3. Most recent employment industry type.

Industry Type	Most Recent Employment (n = 160)
Tourism	26%
Non-tourism	48%
USM	17%
Not employed	9%

Only one type of industry support, *allowed to work from home*, varied significantly by most recent employment industry type (Figure 11). While 32% of students reported this type of support, 67% of those most recently employed at *USM* reported being *allowed to work from home*, compared to 34% of those most recently employed in a *non-tourism* industry, and 7% of those most recently employed in the *tourism* industry, χ^2 (2, n = 146) = 26.861, $p < 0.001$ (Note: Respondents whose most recent employment is *not employed* (n = 24) were not included). Since many hospitality jobs cannot be performed from home, this pattern makes sense.

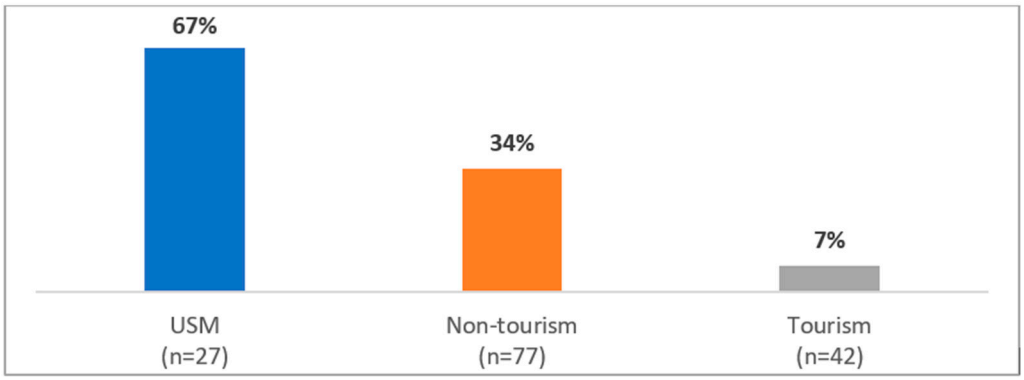

Figure 11. Work from home by most recent industry type (n = 146).

4.9. USM Support during COVID-19

The survey asked respondents to select all the ways the University supported them during the COVID-19 pandemic using seven categories as well as an "other" response. Ninety-eight percent (98%) of respondents answered this question. As shown in Figure 12, the support category with the greatest number of responses was *academic support* (35%), followed by *flexibility* (29%), but the highest overall category was no support (39%). This leaves room for improvement at the University level in terms of supporting students during a time of crisis.

In their open-ended responses at least three students credited virtual classes as flexible University support. One student complained about not having a remote option for an in-person class. At least five students appreciated flexible/accommodative and good advising support from faculty and made statements such as "She is not my [faculty] advisor, yet is extremely responsive and proactive" and, "USM handled the pandemic pretty well and the professors were kind and accommodating". However, one student who lost a work-study position, expressed disappointment stating, "I reached out (to USM) for help and was simply told to seek another work study position."

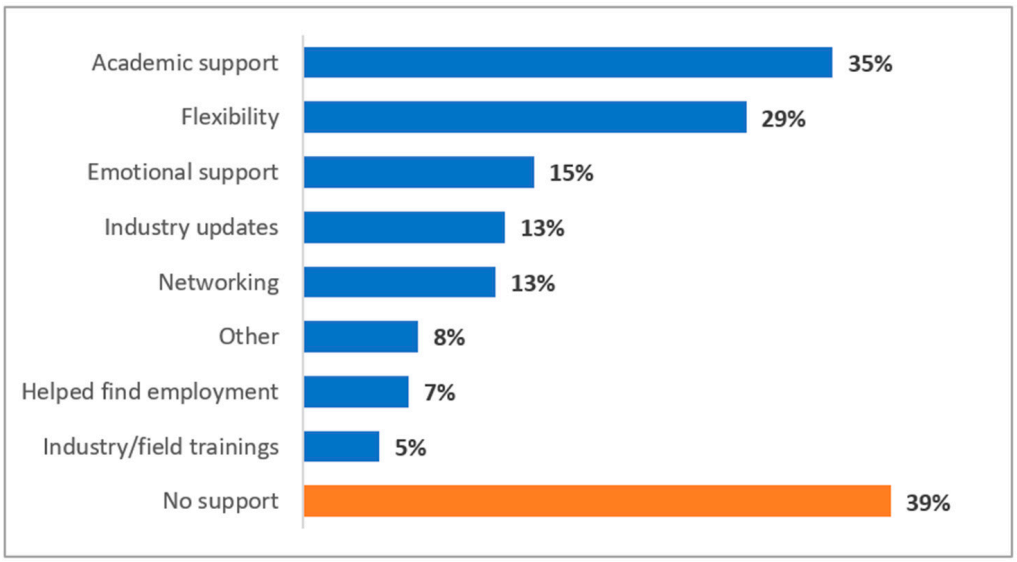

Figure 12. USM support during COVID-19 (n = 157).

While the overall rate of students noting *help find employment during pandemic* as a support from the University was 7%, the rate for students majoring in the *Tourism & Hospitality and Recreation & Leisure Studies program* was 24%, compared to 5% for those in all other majors, p = 0.021 (Fisher's exact test, two-sided). Results are detailed in Figure 13.

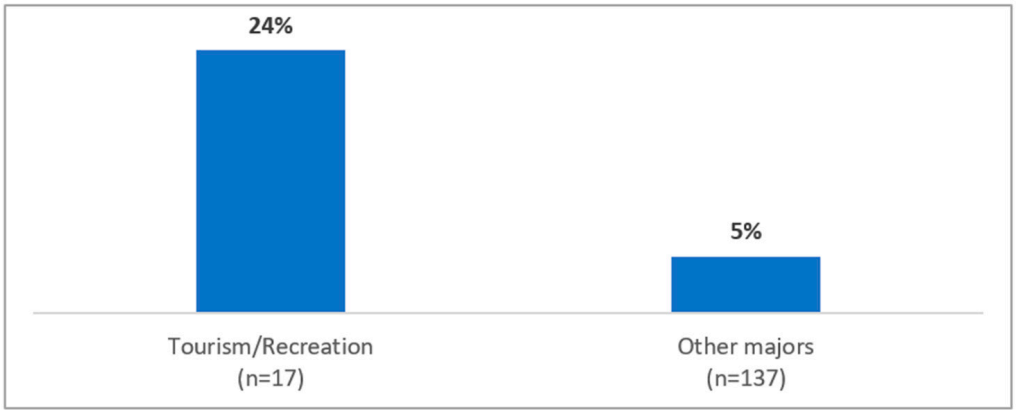

Figure 13. Help finding employment by type of major.

Additionally, while the overall rate of students saying the University *provided opportunities to make connections/networking* during the pandemic was 13%, again the rate for students majoring in the Tourism & Hospitality and Recreation & Leisure Studies program was significantly higher at 29% compared to 11% for students in all other majors p = 0.049 (Fisher's exact test, two-sided). These results are shown in Figure 14. Further investigation into what these programs did to make students in those majors feel more supported might inform future attempts to support students across other programs.

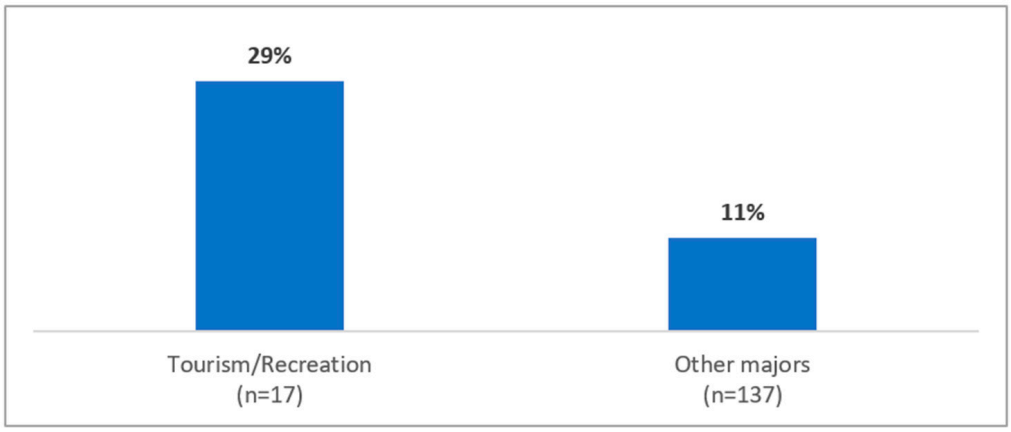

Figure 14. Networking opportunities by type of major.

5. Discussions

The results from the study suggest that tourism in Maine, "Vacationland", remained one of the dominant sectors for student employment at the University of Southern Maine during the COVID-19 pandemic. One-fourth of employed students at USM who took the survey were in the *tourism* industry. This is almost double the normal employment rate in Maine, adding support to anecdotal evidence that the relatively high number of front-line, entry-level jobs in the tourism industry are held by younger college-age employees. This study suggests that tourism in Maine remains one of the dominant sectors for student employment, and any disruption in the flow of tourists due to COVID-19 or any other factors can be expected to produce a subsequent disruption in student employment as well as a disruption to Maine's economy. Several studies have emphasized the role played by Maine's tourism and hospitality industry in creating jobs and stimulating Maine's economy [19–21].

This study also found that the initial impacts of COVID-19 on student employment (at the outset of the pandemic) took different forms, such as *task, responsibility, or focus change*; *reduced hours*; *layoffs*; *job loss*; *increased hours*; and *voluntary leaving*. The findings suggest the tourism industry in Maine needs to remain flexible in accommodating employees' concerns if the industry wants to remain resilient and have a workforce to support it. A study by Aucejo et al. [46] found that because of the pandemic, "students suffered a 31% decrease in their wages and a 37% drop in weekly hours worked, on average" (p. 3). Furthermore, the study stated that the pandemic substantially reduced students' labor-market prospects post-graduation including a reduction in their expected earnings. In an open-ended response, a student stated that he/she had decided to pursue a master's degree since it provided stability at an uncertain time but explained further that he/she was "certainly thinking about how COVID is going to impact future employment." Highlighting the early impacts of the pandemic in the U.S. accommodation sector, Gossling et al. [1] reported (citing McKinesy and Compancy [52]), "that jobs in the accommodation and food services sector account for over 20% of all vulnerable positions, i.e., jobs that are subject to furlough, layoffs, or being unable to work as a result of social distancing" [1] (p. 9). This is how the findings of this study corroborate the current phenomenon of tourism and hospitality jobs in the U.S. and around the globe.

The status of student employment changed over the year between the pre-COVID period (prior to March 2020) to the study period (during April–May 2021). Students in *tourism* jobs decreased from 25% to 22%, those in *non-tourism* jobs decreased from 60% to 56%, while the proportion of those *unemployed* increased from 15% to 22%. Unemployment increased overall for students employed in both tourism and non-tourism jobs during this time. At least three students in their open-ended responses confirmed they had difficulty finding jobs as so many businesses had shut down. College students are seeking work opportunities to support their study-related expenses [43]. Similar to this study, Wall's

study [48] of postsecondary students in Canada found that COVID-19 has had strong impacts on their summer jobs or work during their studies, which remains one of their major sources of income. Findings such as these suggest that disasters that affect jobs, such as COVID-19, pose a great threat to student retention and enrollment in colleges and universities. Furthermore, Gabe and Crawley's [36] findings, which state that, due to the severe impacts of the pandemic, employment in "Maine's restaurants and lodging establishments decreased by 59 percent between February and April [of 2020]" (p. 3) compared to the U.S. hospitality employment decline of 49 percent (during the same time of February–April 2020), support the findings of this study. Impacts such as these can have short- and long-term implications on USM students' academic and professional plans which may require a separate study.

The study asserted other differential impacts of COVID-19 on student jobs. Commuter students seemed to work more in *tourism* (47%) compared to residential students (20%) and less at *USM* (10%) compared to residential students (36%). This is an important point to emphasize—that commuter students might be more affected by the pandemic and hence experience more changes in jobs, which may warrant further study for a more in-depth understanding. Furthermore, at 32%, non-parents were more likely to work in *tourism* than parents. This makes sense as many of the tourism jobs are weekends/evenings/seasonal which could be harder for those with parenting/caretaking responsibilities.

The study findings also revealed the movement of respondents between industries during COVID-19. This research showed that most working students remained in the same industry with the biggest movement being to *unemployment*, indicating most student employment change occurred not between industries but by employment status. Other studies highlight individual and contextual factors as reasons for job change following the pandemic-created disruptions, which include workplace revamping to accommodate social distancing, telecommuting, virtual meetings and conferences, job eliminations, work from home options [53], and booming of online businesses/home delivery services. These trends leave room for attracting these former employees back to work.

USM students who work indicated there were several changes at their jobs; the largest percentage (35%) modified what they did through *changed responsibilities*, 31% noted *reduced hours*, and 26% *changed locations*. It was shown that women were disproportionately impacted in their jobs as evidenced by a significantly higher rate of *changes to their job responsibilities*. Non-parental, younger, college-aged students had higher rates of impact in *decreased hours* and *changed locations*. This sets the foundation for research into why these patterns exist. It can be suggested that younger students likely had less time on the job and might be the first to have to accept new assignments and locations. However, the reasons why females reported *job responsibility changes* at a significantly higher level requires further research. Overall, findings from this study support recent research from Canada on the financial impacts of the pandemic on postsecondary students, which states, "among students aged 20 to 24, the employment rate fell by 23.6 percentage points, from 52.5% in February 2020 to 28.9% in April 2020" [48] (p. 3).

While future employment plans of USM students were not correlated with current employment nor any demographic characteristics, if a student was *not employed* at the beginning of the pandemic, they indicated they were less likely to get a job in the summer of 2021. However, most students who already had a job planned to continue to work, notably those employed in *tourism*. The response category of *definitely planning to work over summer/fall* was highest among those employed in *tourism* (98%), followed by those *in non-tourism* (88%), and those who were *not employed* (71%). These facts suggest the resilient nature of travel, hospitality and leisure/recreation industry over other sectors including the commitment and loyalty of their college-student staff. For example, the U.S. Bureau of Labor Statistics Employment Statistics reported that in January 2022 there was a national employment net change of 2.356 million jobs in the leisure and hospitality sector compared to the same period of 2021 [10] which was remarkably higher than other sectors such as

mining, logging, manufacturing, and construction which also witnessed a positive growth during that period.

When trying to determine what would entice student workers into staying or going into tourism jobs, the incentive category with the greatest number of responses was *higher pay*, with over half (55%) of the students indicating this as a response. This was followed by *more regular hours* (36%), *end of COVID-19* (28%), *increased ability to socialize or interact with others* (28%), *enhanced cleaning/public health measures* (18%), and *other* (9%). Twenty-three percent (23%) of respondents selected *none of the above*. This indicates that higher pay is more likely to attract younger workers.

Forty-one percent (41%) of respondents aged 18 to 45 reported *more regular hours* as being an incentive to work within the tourism industry, while no respondents (0%) aged 46 and older identified this as an incentive. Why younger students feel more incentivized by regular hours compared to older people should be investigated further. A common practice remains that younger students or employees who just begin the job start with a minimum pay.

Students who had been pursuing their degree for one to two years were more likely (38%) to select *increased ability to socialize and interact with others* than those in school for three or more years (22%). This is likely due to the fact these first and second year students are the youngest workers in the survey and are perhaps more likely to value socializing and is worth investigating further.

Keeping student employees safe and being flexible in offering work hours appear to be the things employers did that made students feel most supported during the pandemic. This is something employers should keep in mind when trying to attract this workforce back. While working from home was a significant way students employed at USM or in non-tourism jobs felt supported, it was not a frequently cited support for those in tourism jobs, likely due to the nature of the industry, where mostly in-person service is required.

Finally, of the ways students felt supported by the University, *academic support, flexibility, emotional support, industry updates,* and *networking* were most valued. Survey results were complemented by open-ended responses with at least three students mentioning virtual classes as examples of flexible university support. Five students commented that they appreciated the support of faculty in terms of flexibility, accommodation, and good advising. However, 39% of students said they did not feel supported at all. This indicates room for improvement within the University. Study programs that students listed as having the highest rates of support are suggested as a way to replicate and better support students in other programs. Students from Tourism & Hospitality and Recreation & Leisure Studies majors indicated significantly higher support from these programs in keeping their connection to industry throughout the pandemic than students from other majors at USM.

Since a significant percentage of students appreciate various supports provided by USM during the pandemic, the findings from this study can be related to a comprehensive global study (of 30,383 students from 62 countries) by Aristovnik et al. [54], which examined perceived levels of support provided by different institutions (i.e., government, universities, banks, and hospitals). The authors [54] found that "Teaching staff and universities' public relations offered students the most important support at the university during the pandemic" (p. 22) which was "around 53%" [54] (p. 14) in North America and Europe and stood second only to hospitals with two-thirds of support. It seems encouraging that USM is performing its role well in supporting students during the pandemic which is comparable with other higher education institutions in Europe and North America; USM support was well over 61% when all support categories were combined. However, a significant percentage of students (39%) stated that they received no supports from USM, which underscores the need for institutions of higher education, such as USM, to have resiliency policies and strategies to build a more disaster-resistant university (DRU), similar to those utilized by businesses [4]. As established in Kapucu and Khosa's study [55], and strongly recommended by Hawley et al. [4], institutions of higher education need to be resilient to disasters by developing a "culture of preparedness, with specific aspects including all-hazards comprehensive emergency management plans (CEMPs), continuity planning to

avoid disruption of services" [4] (p. 13). This culture would seem to be highly relevant to USM and other tourism businesses in countering the negative impacts of disasters including COVID-19. Development and implementation of such disaster resistant policies and strategies could equip University staff to avoid disruption of services and to support students through jobs, community partnerships, and other means during hours of crises.

6. Practical Implications

Massive vaccination against COVID-19 in the U.S., including booster doses, has brought about significantly positive changes in the daily lives of U.S. citizens, including academic institutions and business sectors, such as tourism/recreation and hospitality. Disruptions further fueled by new COVID-19 variants such as Delta and Omicron continue, coupled with travel advisories and restrictions affecting the flow of travel movement and business operations. Furthermore, the economic, social, and psychological impacts of COVID-19 seem likely to affect people's lives in the U.S. and around the world in the future, too. In this context, the findings from this study based on USM students' tourism jobs seem to have both short-term and long-term implications for college students in general and USM students in particular.

This study suggests short-term and long-term policy and business implications for Maine tourism and academic institutions juxtaposed with related past and current studies. For example, in an April 2020 survey by The Harris Poll [14] of adults regarding anticipated changes in their travel and vacationing after the pandemic was over and things returned to normal, 31% replied it would mostly be the same, 36% replied it would be somewhat different, and 33% indicated it would be very different. In a study relating to the future/growth potential of outdoor recreation, Craig and Karabas [56] found, "Active leisure travelers report more post-COVID-19 glamping trip plans (45.9%) than hotel/resort trip plans (24.7%)" and "Active travelers report plans for more than twice as many post-COVID-19 glamping trips than they took in 2019 (21.4%)" (p. 253). Findings from surveys and studies such as these provide an early indication as to where the travel and tourism/recreation industry in Maine needs to make adjustments to accommodate such shifts in consumer demands. Possibly, findings of this study may provide some insights to the Maine Office of Tourism, Department of Inland Fisheries & Wildlife, Department of Agriculture, Conservation and Forestry, and Department of Transportation to further facilitate their cooperation and partnership in promoting outdoor recreation opportunities in Maine thereby enhancing the sustainability and resiliency of tourism operations and development [57,58].

As discussed earlier, leaders and educators in higher education institutions would benefit from developing comprehensive emergency management plans (CEMPs) to mitigate such disruptions at present and be prepared for future disasters [4]. Furthermore, differential impacts of the pandemic on students suggest varying implications. The study suggested that younger white students felt incentivized by *more regular hours* compared to older students and people of color, showing a relationship between age and race. Further, *increased ability to socialize and interact with others,* was preferred more by residential students and students pursuing their degree for one to two years compared to commuter students and students in school for three or more years. Further, *tourism* workers showing more inclination to work despite COVID compared to other *non-tourism* employees suggests the gravity tourism workers seem to put on their job supposedly guided by the spirit of service and hospitality. This is how the study has both immediate and long-term implications, and we recommend that tourism policy makers, tourism operators, and USM educators in Maine refer to the findings of this study in their future policy decisions to better facilitate and motivate students in their current studies, jobs, and in providing support for jobs or creating and expanding such support networks. Consideration to individual preferences and differences relating to race, age, gender, residential status, and number of years in college could be some new strategies to facilitate and motivate student employees in times of crises while respecting existing legal policy frameworks.

Other studies (e.g., [1,23]) have found that online/virtual teaching and work from home are the new disruptions to teaching–learning and workplace experiences, including organizing conferences and meetings. At least five students in this study appreciated virtual classes and flexible/accommodative and good advising support from faculty during the pandemic favoring such new disruptions in teaching–learning. Furthermore, this study presents a strong case to all stakeholders to be resilient and adaptive to new demands created by the technology and staff and to remain relevant in the current competitive business scenario whether running an academic institute or a tourism business. The COVID-19 pandemic has proven that there are different ways of doing businesses including teaching differently and efficiently through the adoption of digital learning, which students appreciated as academic support and flexibility.

7. Limitations

This study included only full-time students in spring 2021 (not in fall or summer). Since the impacts of COVID-19 have remained throughout all semesters over two years, covering the impacts of COVID-19 over one semester may not represent the overall scenario of job impacts on USM students. Furthermore, this study focused on exploring the impacts of COVID-19 on students' tourism-related jobs and economic activities. Future studies may incorporate additional aspects such as social, psychological, mental health, uncertainty about the future, and relationships as covered in other studies (e.g., [4]) to obtain a broader picture.

Though the distribution of the survey, via listserv, allowed researchers to reach their target audience, the method had some limitations. First, researchers had little control over the timing of the emails, and due to a delay in deployment, the emails went out much later in the semester than expected. Second, researchers had little control over the overall content of the emails, and as a result the announcement inviting students to take the survey was one of many end-of-semester announcements. These factors likely contributed to the low 3% of survey completion rates. Hence, future researchers would be well advised to cover two or more semesters and to include sociological psychological and other aspects to determine the broader impacts on student employment. Distribution of the survey over a period of at least a month with at least two reminders may enhance the participation of students. The third limitation of the study was that it employed quantitative survey methods primarily with only one open-ended question. Adding qualitative in-depth interviews in future studies would contribute to bringing participant's deeper perceptions and concerns regarding the impacts of the pandemic on student jobs to light.

8. Conclusions

This study explored COVID-19 impacts on college students' jobs and specifically on how impacts varied between the tourism and recreation sector and other sectors. The study employed a confidential online survey of all USM undergraduate students in April–May 2021 with one open-ended question. It was found that while more students became unemployed, a significant majority remained in the same industry and that the largest impact was a change in responsibilities at the job. Despite this change, almost all who worked in the *tourism* industry still planned to do so in the summer of 2021. This study found that initial impacts of COVID-19 on student employment were seen in various ways and affected different groups of student employees differently, and most significantly among commuters, younger students, and women. Further, it was interesting to find the differential impacts of incentives on students which varied by age, race, residential or commuter status, number of years in college and by gender in some instances. Appreciation by students of the shift to virtual classes, and flexibility to work schedules were important findings worth consideration by prospective employers. The findings of the study suggest the tourism industry in Maine needs to remain flexible in accommodating student employees' concerns and needs, with higher pay and by showing concern for employee safety with enhanced public health measures as a good way to attract and retain

employees. By situating the findings of this study within past and current trends in the tourism and hospitality industry, the study made recommendations for higher education institutions and businesses. Crises management and resiliency policies and strategies are suggested while embracing innovation and flexibility. These measures hold short- and long-term implications for the sustenance of tourism in general and the Maine tourism and hospitality industry in particular. Without applying such measures, academic institutions which are facing major, unprecedented disruptions from the pandemic due to low student enrollment may face bigger challenges in the future. Furthermore, the study findings offer some recommendations for tourism businesses to address acute workforce shortage created by the ongoing pandemic.

Author Contributions: The idea for the research came from T.M., T.B.D. And T.M. both conceptualized the research paper including the survey design. R.D. and T.W. developed the survey tool and collected the data. The data were analyzed by all the authors. T.B.D. prepared the first draft of the manuscript and all authors contributed to the writing and editing of the manuscript. All authors have read and agreed to the published version of the manuscript.

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Institutional Review Board Statement: Ethical review and approval were waived for this study by the Institutional Review Board of University of Southern Maine, Portland (code: 21-04-1674; waiver letter dated 12 April 2021).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data presented in this study are securely stored by the Cutler Institute, University of Southern Maine to safeguard participants' confidentiality.

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

1. In what industry were you primarily employed at the onset of COVID-19? *(Report the job at which you spent the most hours)*.
   - ☐ USM *(job, work study, research assistant, etc.)*
   - ☐ Tourism/hospitality/recreation-based job *(restaurant/bar, lodging, attractions, beaches, retail catering to visitors, activity-based business such as guiding and tours, transportation catering to visitors, local/state parks, etc.)*
   - ☐ Non-tourism/hospitality/recreation-based job
   - ☐ I was not employed at the onset of COVID-19
2. How was this employment impacted by COVID-19? (Select all that apply.)
   - ☐ Lost job
   - ☐ Laid off or furloughed
   - ☐ Reduced hours
   - ☐ Increased hours
   - ☐ Task, responsibility, or focus change
   - ☐ Voluntarily left
   - ☐ Other *(Please describe.)* _____
3. Are you currently employed?
   - ☐ Yes, at the same job
   - ☐ Yes, at a new/different job
   - ☐ No
4. In what industry are you primarily employed currently?
   - ☐ USM *(job, work study, research assistant, etc.)*

- ☐ Tourism/hospitality/recreation-based job *(restaurant/bar, lodging, attractions, beaches, retail catering to visitors, activity-based business such as guiding and tours, transportation catering to visitors, local/state parks, etc.)*
- ☐ Non-tourism/hospitality/recreation-based job

5. How has your employment changed due to COVID-19?
   - ☐ Changed jobs
   - ☐ Changed locations
   - ☐ Changed industries
   - ☐ Changed responsibilities within my job
   - ☐ Decreased hours
   - ☐ Eliminated job
   - ☐ Other *(Please describe.)* _____
   - ☐ No change
6. Do you plan to [enter into any employment/stay employed] this summer or fall?
   - ☐ Yes
   - ☐ Yes, if the pandemic is over *[this answer option displayed to those not currently employed]*
   - ☐ No
7. Do you plan to [enter into employment/stay employed] in the tourism/recreation industry (restaurant/bar, lodging, attractions, beaches, retail catering to visitors, activity-based business such as guiding and tours, transportation catering to visitors, local/state parks, etc.) this summer or fall?
   - ☐ Yes
   - ☐ Yes, if the pandemic is over *[this answer option displayed to those not currently employed]*
   - ☐ No
8. What incentives [might] encourage you to work in the tourism/recreation industry (restaurant/bar, lodging, attractions, beaches, retail catering to visitors, activity-based business such as guiding and tours, transportation catering to visitors, local/state parks, etc.)? (Select all that apply.)
   - ☐ Enhanced cleaning/public health measures
   - ☐ Increased ability to socialize and interact with others
   - ☐ Higher pay
   - ☐ More regular hours
   - ☐ The end of COVID-19
   - ☐ Other (Please describe.) _____
   - ☐ None of the above
9. How has your industry supported you during the COVID-19 pandemic? (Select all that apply.)
   - ☐ Allowed to work from home
   - ☐ Enhanced cleaning/safety measures
   - ☐ Providing personal protective equipment
   - ☐ Increased pay
   - ☐ Flexible hours/time off
   - ☐ Virtual social time or other non-work activities
   - ☐ Extra training for changes in workplace
   - ☐ Offering time, money, or incentives for healthy programs/activities/apps
   - ☐ Regular check-ins
   - ☐ Other (Please describe.) _____
   - ☐ None of the above
10. How has USM supported you during the COVID-19 pandemic? (Select all that apply.)

- ☐ Kept me up to date on changes within my industry
- ☐ Helped me to find employment during pandemic
- ☐ Academic support
- ☐ Emotional support
- ☐ Provided trainings within my industry/field
- ☐ Provided opportunities to make connections/networking
- ☐ Offered me flexibility
- ☐ Other (Please describe.) _____
- ☐ None of the above

11. Do you want to add anything? For example, COVID-19 pandemic impacts on your past/current/future employment, lessons learned, etc.? [*open-ended response]*
12. What is your current gender identity?
    - ☐ Male
    - ☐ Female
    - ☐ Other _____
    - ☐ Prefer not to say
13. What is your current age?
    - ☐ 18–30 years old
    - ☐ 31–45 years old
    - ☐ 46–60 years old
    - ☐ 60+ years old
14. What is your race?
    - ☐ Asian/Pacific Islander
    - ☐ Black or African American
    - ☐ Native American or Alaska Native
    - ☐ White
    - ☐ From multiple races
    - ☐ Other _____
    - ☐ Prefer not to say
15. Do you consider yourself Latino or Hispanic?
    - ☐ Yes
    - ☐ No
    - ☐ Prefer not to say
16. Are you . . . ?
    - ☐ A commuter
    - ☐ Living on campus
17. Are you a parent, or are you the primary caretaker for a parent or other family member(s)?
    - ☐ Yes
    - ☐ No
18. Are you a first-generation college student?
    - ☐ Yes
    - ☐ No
19. For how many years have you been pursuing your degree?
    - ☐ 1
    - ☐ 2
    - ☐ 3
    - ☐ 4
    - ☐ 5
    - ☐ >5

20. What is your major? [see Appendix B for list of majors]

Appendix B

Table A1. Major and type of major (98% responding, n = 157).

Types of Majors	Major	Number	Percent
Arts, Humanities, & Social Sciences	Art	5	3%
	Economics	1	1%
	English	2	1%
	History	3	2%
	Liberal Studies-Humanities	1	1%
	Media Studies	5	3%
	Music	3	2%
	Philosophy	1	1%
	Political Science	2	1%
	Social & Behavioral Sciences	6	4%
	Theatre	1	1%
Business	Accounting	3	2%
	Business Administration	12	8%
	Marketing	2	1%
	Sports Management	1	1%
Health/Nursing	Athletic Training	1	1%
	Exercise Science	5	3%
	Health Sciences	9	6%
	Nursing	11	7%
Human/Public Service	Education	3	2%
	Environmental Planning & Policy	2	1%
Science & Technology	Biochemistry	1	1%
	Biology	7	4%
	Cybersecurity	3	2%
	Engineering	4	3%
	Environmental Science	1	1%
	Linguistics	5	3%
	Mathematics	1	1%
	Mechanical Engineering	1	1%
	Physics	1	1%
	Psychology	5	3%
	Technology	4	3%
Tourism/Recreation	Recreation & Leisure Studies	7	4%
	Tourism & Hospitality	10	6%
Other/Undeclared	Other	9	6%
	Undeclared	2	1%

References

1. Gössling, S.; Scott, D.; Hall, C.M. Pandemics, tourism and global change: A rapid assessment of COVID-19. *J. Sustain. Tour.* **2020**, *29*, 1–20. [CrossRef]
2. Committee for the Coordination of Statistical Activities (CCSA). How COVID-19 Is Changing the World: A Statistical Perspective, Volume III. 2021. Available online: https://unstats.un.org/unsd/ccsa/documents/covid19-report-ccsa_vol3.pdf (accessed on 29 December 2021).
3. Harchandani, P.; Shome, S. Global Tourism and COVID-19: An Impact Assessment. *Tour. Int. Interdiscip. J.* **2021**, *69*, 262–280. [CrossRef]
4. Hawley, S.R.; Thrivikraman, J.K.; Noveck, N.; Romain, T.S.; Ludy, M.J.; Barnhart, L.; Tucker, R.M. Concerns of college students during the COVID-19 pandemic: Thematic perspectives from the United States, Asia, and Europe. *J. Appl. Learn. Teach.* **2021**, *4*, 1–10.
5. Baum, T.; Mooney, S.K.; Robinson, R.N.S.; Solnet, D. COVID-19's impact on the hospitality workforce—new crisis or amplification of the norm? *Int. J. Contemp. Hosp. Manag.* **2020**, *32*, 2813–2829. [CrossRef]

6. Yavosky, J.; Quin, Y.; Sargent, A. The gendered pandemic: The implications of COVID-19 for work and family. *Sociol. Compass* **2021**, *15*, e12881. [CrossRef]
7. Masterson, V. *The State of Women's Leadership in Five Statistics*; The World Economic Forum: Cologny, Switzerland, 2020. Available online: https://www.weforum.org/agenda/2020/11/un-women-2020-gender-equality/ (accessed on 29 January 2022).
8. Kochhar, R.; Barosso, A. *Young Workers Likely to be Hard Hit as COVID-19 Strikes a Blow to Restaurants and Other Service Sector Jobs*; (FACTANK: News in the Numbers); Pew Research Center: Washington, DC, USA, 2020; Available online: https://www.pewresearch.org/fact-tank/2020/03/27/young-workers-likely-to-be-hard-hit-as-covid-19-strikes-a-blow-to-restaurants-and-other-service-sector-jobs/ (accessed on 29 January 2022).
9. Dias, F.A.; Chance, J.; Buchanan, A. The motherhood penalty and the fatherhood premium in employment during COVID-19: Evidence from the United States. *Res. Soc. Stratif. Mobil.* **2020**, *69*, 100542. Available online: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7431363/ (accessed on 29 January 2022). [CrossRef] [PubMed]
10. U.S. Bureau of Labor Statistics. *Current Employment Statistics—CES (National)*; U.S. Bureau of Labor Statistics: Washington, DC, USA, 2022. Available online: https://www.bls.gov/charts/employment-situation/otm-employment-change-by-industry-confidence-intervals.htm (accessed on 9 February 2022).
11. Bateman, N.; Ross, M. Why Has CVODI-19 Been Especially Harmful for Working Women? Brookings Gender Equality Series. 2020. Available online: https://www.brookings.edu/essay/why-has-covid-19-been-especially-harmful-for-working-women/ (accessed on 29 January 2022).
12. Dashper, K. Mentoring for gender equality: Supporting female leaders in the hospitality industry. *Int. J. Hosp. Manag.* **2020**, *76*, 38–44. Available online: https://doi-org.udel.idm.oclc.org/10.1016/j.ijhm.2019.102397 (accessed on 29 January 2022). [CrossRef]
13. Hewlett, S.A. Mentors are Good. Sponsors are Better. *The New York Times*, 13 April 2013. Available online: https://www.nytimes.com/2013/04/14/jobs/sponsors-seen-as-crucial-for-womens-career-advancement.html?_r=0(accessed on 29 January 2022).
14. Miller, R.K.; Washington, K. *Travel & Tourism: Impact of the Pandemic Special Edition*; Richard K. Miller & Associates: Miramar, FL, USA, 2021.
15. WHO. Coronavirus Disease (COVID-19): Vaccines. 2021. Available online: https://www.who.int/news-room/questions-and-answers/item/coronavirus-disease-(covid-19)-vaccines?gclid=EAIaIQobChMI_ePIxZuM9QIVIgJMCh3IhAC2EAAYAyAAEgKm3_D_BwE&topicsurvey=v8kj13) (accessed on 29 December 2021).
16. The Coronavirus Pandemic. *The New York Times*, 2022. Available online: https://www.nytimes.com/interactive/2021/us/covid-cases.html(accessed on 11 May 2022).
17. USM Office of Public Affairs. USM Receives Approval to Offer Bachelor's Degree in Tourism and Hospitality. 2012. Available online: https://usm.maine.edu/publicaffairs/usm-receives-approval-offer-bachelors-degree-tourism-and-hospitality (accessed on 29 December 2021).
18. McDonnell, J. Off Campus: University and City Can Be Partners in Economic Development. 2012. Available online: https://www.pressherald.com/2012/11/12/university-and-city-can-be-partners-in-economic-development_2012-11-12/ (accessed on 12 February 2022).
19. Gabe, T.; Crawley, A. *Economic Contribution of Maine's Hospitality Sector*; School of Economics Staff Paper #635; University of Maine: Orono, ME, USA, 2019; Available online: https://regionaleconmodellinghome.files.wordpress.com/2019/11/hospitality-impact-2019-final-soe-staff-paper-copy.pdf (accessed on 29 December 2021).
20. Maine Office of Tourism. Economic Impact, Maine Tourism Highlights-2019. Available online: https://motpartners.com/wp-content/uploads/2020/06/2019_Maine_Tourism_Highlights.pdf (accessed on 28 December 2021).
21. Maine Office of Tourism. Economic Impact, Maine Tourism Highlights-2020. Available online: https://motpartners.com/wp-content/uploads/2021/05/2020_Maine_Tourism_Highlight.pdf (accessed on 28 December 2021).
22. Liu, C.H.; Pinder-Amaker, S.; Hahm, H.C.; Chen, J.A. Priorities for addressing the impact of the COVID-19 pandemic on college student mental health. *J. Am. Col. Health* **2020**, 1–3. [CrossRef]
23. Pokhrel, S.; Chhetri, R. A literature review on impact of COVID-19 pandemic on teaching and learning. *High. Educ. Future* **2021**, *8*, 133–141. [CrossRef]
24. Birmingham, W.C.; Wadsworth, L.L.; Lassetter, J.H.; Graff, T.C.; Lauren, E.; Hung, M. COVID-19 lockdown: Impact on college students' lives. *J. Am. Col. Health* **2021**, 1–15. [CrossRef]
25. USM. Common Data Set (2021–2022). Available online: https://usm.maine.edu/department-analysis-applications-institutional-research/common-data-set-2021--2022 (accessed on 29 December 2021).
26. Mahoney, M. The Chronicle of Higher Education, Who Is a First-Generation Student? 2021. Available online: https://connect.chronicle.com/rs/931-EKA-218/images/WhoisFirstGen_Ascendium_Explainerv3.pdf?aliId=eyJpIjoiRzlcLzJaT2l0WmpicFhlQzIiLCJ0Ijoid3g0VFwvWGJ3QUp2VUQ3ZG5mSjA1TVE9PSJ9 (accessed on 29 December 2021).
27. USM Office of Public Affairs. USM Welcomes Largest Cohort of Promise Scholar. 2021. Available online: https://usm.maine.edu/publicaffairs/usm-welcomes-largest-cohort-promise-scholars-program-moves-mountains (accessed on 29 December 2021).
28. Goeldner, C.R.; Ritchie, J.R.B. *Tourism: Principles, Practices, Philosophies*; Wiley: Hoboken, NJ, USA, 2012.
29. World Travel and Tourism Council (WTTC). Economic Impact Reports. 2021. Available online: https://wttc.org/Research/Economic-Impact (accessed on 7 July 2021).
30. UNWTO. 2020 A Year in Review. 2021. Available online: https://www.unwto.org/covid-19-and-tourism-2020 (accessed on 30 December 2021).

31. International Trade Administration (ITA); National Travel and Tourism Office. Fast Facts. 2019. Available online: https://travel.trade.gov/outreachpages/inbound.general_information.inbound_overview.asp (accessed on 15 November 2020).
32. Outdoor Industry Association—OIA. *The Outdoor Recreation Economy (Report)*; Outdoor Industry Association-OIA: Boulder, CO, USA, 2017.
33. Outdoor Industry Association—OIA. Advocacy. 2020. Available online: https://outdoorindustry.org/advocacy/ (accessed on 7 July 2021).
34. Outdoor Industry Association—OIA. 2021 Outdoor Participation Trends Report. 2021. Available online: https://outdoorindustry.org/resource/2021-outdoor-participation-trends-report/ (accessed on 14 March 2022).
35. Maine Office of Tourism Highlights. 2018. Available online: https://motpartners.com/wp-content/uploads/2019/04/2018_MAINE_GovConf_HighlightSheet.pdf (accessed on 7 July 2020).
36. Gabe, T.; Crawley, A. *Early Impacts of COVID-19 on Maine's Hospitality Sector in 2020*; School of Economics University of Maine: Orono, ME, USA, 2020; Available online: https://mpra.ub.uni-muenchen.de/102678/1/MPRA_paper_102678.pdf (accessed on 29 December 2021).
37. Gabe, T.; Crawley, A. *Impacts of COVID-19 on Maine's Hospitality Sector*; School of Economics University of Maine: Orono, ME, USA, 2020; Available online: https://digitalcommons.library.umaine.edu/cgi/viewcontent.cgi?article=1053&context=c19_teach_doc (accessed on 29 December 2021).
38. Valigra, L. Maine Hospitality Industry Anticipates Future with Fewer Workers but More Training. *Bangor Daily News*, 15 September 2021. Available online: https://bangordailynews.com/2021/09/15/business/maine-hospitality-industry-anticipates-future-with-fewer-workers-but-more-training/(accessed on 29 December 2021).
39. Trotter, B. Maine's Summer Tourist Season Managed to Beat Low Expectations After a Dismal Spring. *Bangor Daily News*, 14 September 2020. Available online: https://bangordailynews.com/2020/09/14/business/maines-summer-tourist-season-managed-to-beat-low-expectations-after-a-dismal-spring/(accessed on 7 July 2021).
40. Michaud, T.; Metcalf, C.; Bampton, M. Understanding changing consumer behavior within a destination from social media. *Int. J. Gaming. Hosp. Tour. Res.* **2021**, *10*, 14–21.
41. Pineo, J. The Maine Monitor. Help Needed! Maine Tourism Faces too Much Business and too Little Staff. 2021. Available online: https://www.themainemonitor.org/help-needed-maine-tourism-faces-too-much-business-and-too-little-staff/ (accessed on 29 December 2021).
42. U.S. Bureau of Economic Analysis (U.S. BEA). Outdoor Recreation. 2022. Available online: https://www.bea.gov/data/special-topics/outdoor-recreation (accessed on 8 January 2022).
43. Cheng, D.X.; Alcántara, L. Assessing working students' college experiences: A grounded theory approach. *Assess. Eval. High. Educ.* **2007**, *32*, 301–311. [CrossRef]
44. Martinez, E.F.; Bilges, D.C.; Shabazz, S.T.; Miller, R.; Morote, E.S. To work or not to work: Student employment, resiliency, and institutional engagement of low-income, first-generation college students. *J. Stud. Fin. Aid* **2012**, *42*, 3. [CrossRef]
45. Remenick, L.; Bergman, M. Support for working students: Considerations for higher education institutions. *J. Contin. High. Educ.* **2021**, *69*, 34–45. [CrossRef]
46. Aucejo, E.M.; French, J.; Araya, M.P.U.; Zafar, B. The impact of COVID-19 on student experiences and expectations: Evidence from a survey. *J. Pub. Econ.* **2020**, *191*, 104271. [CrossRef]
47. Cohen, A.K.; Hoyt, L.T.; Dull, B. A Descriptive study of COVID-19–related experiences and perspectives of a national sample of college students in spring 2020. *J. Adolesc. Health* **2020**, *67*, 369–375. [CrossRef]
48. Wall, K. *COVID-19 Pandemic: Financial Impacts on Postsecondary Students in Canada*; Statistics Canada: Ottawa, ON, Canada, 2020.
49. Dodd, R.H.; Dadaczynski, K.; Okan, O.; McCaffery, K.J.; Pickles, K. Psychological wellbeing and academic experience of University students in Australia during COVID-19. *Int. J. Environ. Res. Public Health* **2021**, *18*, 866. [CrossRef]
50. Odriozola-González, P.; Planchuelo-Gómez, Á.; Irurtia, M.J.; de Luis-García, R. Psychological effects of the COVID-19 outbreak and lockdown among students and workers of a Spanish university. *Psychiatry Res.* **2020**, *290*, 113108. [CrossRef]
51. Noble, K.; Hurley, P.; Macklin, S. *COVID-19, Employment Stress and Student Vulnerability in Australia*; Mitchell Institute for Education and Health Policy, Victoria University: Footscray, Australia, 2020.
52. McKinsey and Company. COVID-19's Impact on Women's Employment, McKinsey Insights. 2021. Available online: https://www.mckinsey.com/featured-insights/diversity-and-inclusion/seven-charts-that-show-covid-19s-impact-on-womens-employment (accessed on 1 January 2022).
53. Hite, L.M.; McDonald, K.S. Careers after COVID-19: Challenges and changes. *Hum. Res. Dev. Int.* **2020**, *23*, 427–437. [CrossRef]
54. Aristovnik, A.; Keržič, D.; Ravšelj, D.; Tomaževič, N.; Umek, L. Impacts of the COVID-19 pandemic on life of higher education students: A global perspective. *Sustainability* **2020**, *12*, 8438. [CrossRef]
55. Kapucu, N.; Khosa, S. Disaster resiliency and culture of preparedness for university and college campuses. *Adm. Soc.* **2013**, *45*, 3–37. [CrossRef]
56. Craig, C.A.; Karabas, I. Glamping after the coronavirus pandemic. *Tour. Hosp. Res.* **2021**, *21*, 251–256. [CrossRef]
57. Dangi, T.B.; Jamal, T. An integrated approach to "sustainable community-based tourism". *Sustainability* **2016**, *8*, 475. [CrossRef]
58. Dangi, T.B.; Petrick, J.F. Enhancing the role of tourism governance to improve collaborative participation, responsiveness, representation and inclusion for sustainable community-based tourism: A case study. *Int. J. Tour. Cities* **2021**, *7*, 1029–1048. [CrossRef]