



COVID-19 RESPONSE

IMPACT OF COVID-19 ON OSU STUDENT LEARNING AND SUCCESS

Learn how OSU students were impacted by the COVID-19 pandemic.

INTRODUCTION

The novel coronavirus has caused widespread disruptions to colleges across the U.S. and around the globe. The World Health Organization reported the first case of the novel coronavirus Dec. 31, 2019, and March 11, 2020 the virus was classified as a pandemic (WHO, 2020). This became alarming to governments and school administrators from around the globe.

Oklahoma State University first publicly acknowledged the virus Jan. 28, 2020 by suspending all university sponsored travel to the People’s Republic of China (OKstate, 2020). On March 12, 2020, the university released an updated list of travel restrictions and confirmed that courses would be held online for two weeks following spring break in an effort to protect students and the community (OKstate, 2020). Shortly after, on March 18, 2020, the university officially announced courses would be held virtually for the remainder of the spring semester and mentioned the possibility of an alternative to traditional graduation ceremonies in May (OKstate, 2020). On June 3, 2020 the university announced a comprehensive plan called the “Cowboys Coming Back Plan” to lay guidelines and prepare students to return to campus for the fall semester (OKstate, 2020). Students returned to campus and as of Nov. 15, 2020, Oklahoma State University Health Services reported a total of 1,994 cases of COVID-19; this includes self-reported cases on campus (OKstate, 2020).

A recent study found 71% of university students are experiencing increased stress levels and elevated anxiety as a result of COVID-19. Furthermore, 91% of students from Texas A&M University reported negative impacts due to COVID-19. Eighty two percent of A&M students

experienced increased concerns regarding their academic performance (Wang et al., 2020).

PURPOSE AND OBJECTIVES

The purpose of this study is to better understand how agricultural economics, agribusiness and animal science undergraduate students at OSU perceive their academic and career outlooks in the midst of the global COVID-19 pandemic. The Ferguson College of Agriculture at OSU has a total of 3,041 students from 44 U.S. states and 30 countries (OKstate, 2020). Understanding how students perceive various factors that may influence their academic and/or career success will better help college administrators, student services and professors plan for

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future semesters. These results also could be used to find ways to improve students' physical and mental wellbeing, academic standings and university retention rates. The specific objectives of this study are as follows:

1. Evaluate the general impact of COVID-19 on student learning and well-being.
2. Evaluate animal science, agricultural economics and agribusiness undergraduate students' preferences in various learning environments in light of COVID-19.
3. Determine which changes to course structures students find desirable should future disruptions occur.

METHODOLOGY

A survey, which was approved by OSU Institutional Review Board and numbered IRB-20-435, was administered to undergraduate animal science, agricultural economics and agribusiness students at OSU during the fall semester of 2020. The survey consisted of 36 questions and was made available to students from Oct. 8 to 23, 2020. Professors and student organization representatives were given an anonymous link to the survey to provide students. A total of 128 survey responses were recorded through voluntary participation using the anonymous link. Students were told of the survey in their courses and encouraged to participate; no extra credit or incentive was given to students. Only students over the age of 18 were allowed to participate.

Participants were asked basic demographic questions including: gender, age, university classification, major, academic standing, school funding and job status. Participants were then asked questions directly pertaining to their education. These questions included: their use of campus resources, their involvement within the university in clubs/organizations, their motivation to learn, their level of course importance throughout their college career and what they attribute to their career success. Lastly, participants were asked how COVID-19 impacted their career outlook, if they have been impacted by the virus and how the virus has impacted their academics.

RESULTS AND DISCUSSION

Basic student demographics

A large majority of the overall respondents were female, especially in the department of animal and food science (Table 1). Overall and within both majors, respondents aged 18 to 21 comprised the greatest percentages. Those classified as freshmen, sophomores, juniors and seniors participated at similar rates overall. When considering animal science majors, freshmen were the largest percentage. However, junior and senior agribusiness and agricultural economics majors participated in the survey more frequently than freshman and sophomore participants. Of the animal and food science students, 58% are majoring in animal science with a pre-veterinary medicine option,

Table 1. Respondent Demographics.

	<i>% of all respondents</i>	<i>% of ANSI¹ major</i>	<i>% of AGECE²/AGBU³ major</i>
<i>Demographic Variable</i>			
<i>Gender</i>	<i>n= 128</i>	<i>n= 41</i>	<i>n= 81</i>
Female	73	90	63
Male	27	10	37
<i>Age</i>	<i>n= 128</i>	<i>n= 41</i>	<i>n= 81</i>
18-19	37	54	31
20-21	49	34	57
22-23	9	7	10
24-25	2	2	0
26-30	2	0	2
31-35	1	0	0
Over 35	0	2	0
<i>Class</i>	<i>n= 106</i>	<i>n= 36</i>	<i>n= 66</i>
Freshman	30	42	26
Sophomore	10	14	9
Junior	32	28	33
Senior	26	17	30
Other	1	0	2
<i>Funding (multiple selections allowed)</i>	<i>n= 106</i>	<i>n= 36</i>	<i>n= 65</i>
Parental or family member monetary support	57	61	54
Scholarship(s)	81	86	54
Financial Aid/Grant(s)	34	36	35
Student Loan(s)	43	61	32
Part-time work while classes are in session	38	44	31
Full-time work while classes are in session	4	6	3
Summer or between session work/job	37	42	32
Personal Savings	49	42	52
<i>Work Experience during college</i>	<i>n= 106</i>	<i>n= 36</i>	<i>n= 81</i>
Worked in a field related to my major	44	44	35
Worked in an unrelated field to my major	41	36	32
Completed a paid internship	25	14	21
Completed an unpaid internship	10	3	12
Attended a career fair within the last 2 years	73	69	59
None of the above	10	14	7
<i>Current living situation</i>	<i>n= 106</i>	<i>n= 36</i>	<i>n= 66</i>
Outside the U.S.	6	0	100
On-campus housing	41	54	46
Apartment/house off campus	44	33	68
At home with family member(s)	4	25	75
Fraternity or Sorority House	11	0	100
Other	0	0	0

1 ANSI- Animal and Food Science

2 AGECE- Agricultural Economics

3 AGBU- Agribusiness

followed by 13% who are majoring in animal science with a business option. The remaining majors in the animal and food science department were narrowly represented. The majors from students within the department of agricultural economics were more evenly distributed. The largest agricultural economics major represented was agribusiness with the farm and ranch management option with 30%, followed by 18% majoring in agricultural economics. Sixty-eight percent of respondents are currently involved in clubs, organizations and/or competitive teams on campus and 32% say they are not involved with any clubs, organizations and/or competitive teams.

Sixty percent of the respondents felt their background education in mathematics, science, technology and engineering prepared them for college adequately, whereas 11% felt they were not adequately prepared and the remaining 28% felt they were prepared exceptionally well. Respondents were fairly diversified in their predominant home environment before moving to college with 42% being raised on a farm or ranch, 24% from the suburbs, 21% from rural communities (not on a farm/ranch) and 14% from urban environments.

Approximately one out of every 10 individuals from rural communities in the U.S. are involved in agriculture and/or natural resources (America Counts Staff, 2020). Table 2 below breaks down various college experiences by the students' predominant home environment before coming to college based on the survey. Students raised primarily in suburban homes had the highest percentage of self-reported 'A' average grades (76%). Those raised in urban settings had the lowest percentage of primarily 'A' grades, whereas rural students, both on and off-farm had similar self-reported grades. The largest disparity appeared regarding whether background education prepared them for college coursework. Zero students from suburban homes indicated they were not prepared for coursework in college. Conversely, 72% of suburban students felt adequately prepared for college coursework. Those from urban backgrounds had the highest percentage of students who felt their background in education did not prepare them adequately. However, those from rural settings who grew up on a farm had the highest percentage of students who felt their background education prepared them exceptionally well. One possible explanation for

Table 2. Respondent college experience as compared with their predominant home environment before coming to college.

Variable	% from rural; on-farm/ranch	% from rural; not on farm/ranch	% from suburban	% from urban
<i>Predominant¹ self-reported Grades</i>	<i>n= 44</i>	<i>n= 22</i>	<i>n= 25</i>	<i>n= 15</i>
A's	57	59	76	53
B's	39	36	16	40
C's	5	5	8	7
D's	0	0	0	0
<i>How did background education² prepare me for college coursework</i>	<i>n= 44</i>	<i>n= 22</i>	<i>n= 25</i>	<i>n= 15</i>
Failed to prepare me adequately	14	14	0	20
Adequately prepared me	52	68	72	53
Prepared me exceptionally well	34	18	28	27
<i>Hands-on learning is best obtained _____</i>	<i>n= 44</i>	<i>n= 21</i>	<i>n= 25</i>	<i>n= 15</i>
In the context of the course	57	43	48	47
Outside of class in extracurricular activities	43	57	52	53
<i>Involvement in campus activities³</i>	<i>n= 44</i>	<i>n= 22</i>	<i>n= 25</i>	<i>n= 15</i>
Yes	70	77	68	47
No	30	23	32	53
<i>Impacted⁴ by COVID-19</i>	<i>n= 38</i>	<i>n= 21</i>	<i>n= 24</i>	<i>n= 14</i>
Yes	79	86	92	64
No	21	14	8	36

1 Defined as the grade the student would generally see themselves obtaining, self-reported.

2 Education obtained in mathematics, science, technology, and engineering.

3 Campus activities include; clubs, organizations, and/or competitive teams.

4 Describes participants who have or personally know someone who has tested positive for COVID-19.

these findings is the amount of exposure to hands-on experience students who grew up on a farm/ranch. Since many courses in the college of agriculture are focused on real world situations, these students may have already had some exposure. When asked how hands-on learning is best obtained, 57% of students from a farm/ranch felt hands-on learning is best obtained through the context of the course. This finding also may be explained by the farm/ranch background of these students. They may find more value in the classroom because of their prior experience outside of the classroom on their operations, whereas those who did not grow up on a farm/ranch found more value in extracurricular activities outside of the classroom. A majority of students from rural (both on and off-farm) and suburban homes are involved in clubs/organizations on campus. Approximately 50% of students from an urban setting were involved in clubs/organizations. A majority of students from all backgrounds have been impacted by COVID-19. However, those from urban settings had the lowest rate, with 64% being impacted.

Student learning styles and preferences

A majority of students felt the importance of class increased over their college careers, while 38% believed class importance has decreased and the remaining 10% said the importance of class has not changed over their career (Table 3). When students were asked how research data presented by their professor impacts their motivation to learn, a majority felt their motivation to learn increased, 39% felt their motivation was unchanged and the remaining 7% felt their motivation actually decreased. Students were evenly split on how they felt hands-on learning was best obtained. Half of the students felt it was best obtained through the context of the course and the other half thought it was best obtained through extracurricular activities outside of the classroom. An overwhelming 86% of students felt they are encouraged to seek out cross-disciplinary activities and educational experiences, while only 14% of students felt they are not supported in those endeavors. Ninety-three percent of students felt that networking with alumni and industry representatives in their courses, on tours, at career fairs or internships is necessary in preparing them for future careers. The remaining 7% felt networking unnecessary. When students were asked which experiences are best to obtain skills for their success, a majority felt internships were the most important, followed by 18% who believed on-farm visits were best for their success. Only 1% of students felt online videos shown by professors and virtual tours of the industry were the best for their success. This is an interesting finding, especially during the virtual transition at college campuses during the COVID-19 pandemic.

Table 3. Learning style questions.

	<i>Percentage of respondents</i>
<i>Opinion of class importance over college career n=106</i>	
Increased	52
Decreased	10
Did not change	38
<i>When my instructor discusses recent research data in lecture my motivation to learn n=105</i>	
Increased	54
Decreased	7
Did not change	39
<i>Hands-on learning experience during college is best obtained n=105</i>	
In the context of courses	50
Outside of class in extracurricular activities	50
<i>I experience ____ to seek out cross-discipline activities and educational experiences n=106</i>	
Encouragement	86
Lack of support	14
<i>I think networking with alumni and industry representatives in class, on tours, at career fairs or an internship is ____ for helping me to obtain my desired job n=105</i>	
Necessary	93
Unnecessary	7
<i>Skills important for my success are best attained through ____ experiences n=106</i>	
Online videos shown by professors	1
Virtual tours in the industry	1
On-farm visit	18
Interviews with industry professionals	8
Visiting on-campus farm units	9
Off-campus industry tours	5
Internship	58

Social desirability bias

Table 4 illustrates the potential of social desirability bias for socially sensitive questions. Social desirability bias occurs when a respondent subconsciously deviates from their true behavior or belief when answering a question (Bir and Widmar, 2020). Instead, they give the response they believe is socially correct (Bir and Widmar, 2020). For example, a student might feel inclined to answer class-work is important to their success. One way to measure social desirability bias is to ask a respondent the same question twice, once in reference to themselves and once in reference to their peers. Relevant work experience was

Table 4. Attributes that students feel are most important to their career success. Percentage of respondents n=106.

	<i>Self</i>	<i>Peers</i>
Coursework	12	11
Club Participation	4	8
Relevant Work Experience	25	21
College Life	9	8
International Experience	2	1
Advising/Mentoring	8	11
Professional Networking	21	19
Internship	19	21

selected by the highest percentage of students (25%) as the attribute they felt was most important to their career success. Relevant work experience and internships tied with 21% of respondents indicating that they were the most important for their peers' success. There was little evidence of social desirability bias for the importance of career success questions among respondents, as there were few differences between selections regarding self and peer.

Student resources on-campus

Among the respondents in this survey, the library was the most used resource in the past, during the fall 2020 semester and, among the listed resources, had the lowest percentage of students who never used it before (Table 5). Furthermore, the library was a known resource to every respondent. It's also worth noting the library was the only resource that was used more frequently during the fall 2020 semester when compared to previous semesters. The student success center, writing center and career services all were used at similar rates in previous semesters and during the fall 2020 semester. Approximately 16% fewer respondents reported usage of the three aforementioned

resources during the fall 2020 semester when compared to previous semesters. This finding may be explained by the resources being closed, having reduced hours or offering virtual-only help to students because of the COVID-19 pandemic. The least-used resource among respondents was 'study and snacks,' with only 13% of students who have used the resource previously and only 6% who have used the resource during the fall 2020 semester. 'Study and snacks' had the highest percentage of students who have both heard and haven't heard of the resource before. The lasso center had the greatest decline in usage during the fall 2020 semester compared to previous semesters.

Student involvement in agricultural industries

Students at OSU have a wide array of previous involvement in various industries within agriculture. Companion animals had the highest level of previous involvement among students, followed by meat animal livestock husbandry, then horse husbandry (Table 6). Students had the least amount of previous involvement with dairy production and poultry and/or egg production. These statistics made sense due to Oklahoma being a large cattle-producing state, with little poultry or dairy production. According to USDA-NASS, Oklahoma ranks third in the nation for beef cow numbers, with a total of 2,109,000 head (USDA). OSU houses a school of veterinary medicine. Pre-veterinary undergraduate students may be contributing to the large percentage of companion animal involvement. Conversely, students may have selected this option due to their previous or current companion animals (pets). Companion animal husbandry and meat animal livestock husbandry also had the highest levels of involvement for students through their jobs and/or hobbies. Dairy production had the lowest rate of involvement for students in their jobs and/or hobbies. A majority of students have never been involved in the dairy industry (75%), followed by those not involved in poultry and/or egg production (69%), then meat processing (67%).

Table 5. Experience with campus resources. Percentage of respondents.

	<i>I have used this in the past</i>	<i>I have used this during Fall 2020</i>	<i>I have heard of this but have never utilized it before</i>	<i>I have never heard of this</i>
Lasso center n= 97	29	5	58	8
Student success center n= 101	31	16	49	5
Writing center n= 101	33	16	47	5
Career services n= 104	31	18	47	4
Study and snacks n= 99	13	6	66	15
The library n= 114	39	47	13	0
The Office of First Year Success n= 99	20	15	51	14

Table 6. Level of historical and current involvement in agricultural industries as a percentage of respondents (multiple selections permitted).

<i>Type of industry</i>	<i>Level of involvement</i>			
	<i>Had direct involvement before college</i>	<i>I currently have direct involvement (through work and/or hobbies)</i>	<i>I have never been directly involved</i>	<i>I would like to be involved in this area</i>
Grain or Crop Production n= 104	28	15	60	6
Fruit or Vegetable Production n= 100	26	10	64	5
Horse Husbandry n= 100	40	15	48	15
Companion Animal Husbandry (including dogs/cats) n= 101	56	30	29	9
Dairy Production n= 99	16	7	75	8
Poultry or Egg Production n= 101	24	12	69	3
Meat Animal Livestock Husbandry n= 102	54	25	37	11
Meat Processing n= 104	16	17	67	6

IMPACT OF COVID-19

The results of this survey were unsurprising, considering COVID-19 has affected everyone. Respondents were asked if they or someone they know had been affected by COVID-19. Of the respondents, 81% said they have been affected or know someone who has been affected by COVID-19. Nineteen percent said they don't know anyone who has been affected and they haven't been affected by COVID-19. These results provide an informative foundation to evaluate how far-reaching this pandemic has been for college students.

Table 7 illustrates the participants' responses to various characteristics separated by those who have been affected by COVID-19 and those who have not been affected. Grades refer to the average letter grade of the participant. Grades remained fairly constant among those affected and those not affected by COVID-19. When participants were asked how they view coursework since the pandemic, those who have been affected by COVID-19 were more likely to view coursework as more challenging when compared with those who have not been affected by the virus. Furthermore, those who were not affected by COVID-19 were much more likely to view coursework as neither more challenging or less challenging when compared to participants who have been affected by COVID-19. Eleven percent of participants, both those affected and not affected by the virus, stated they felt their GPA would increase despite the virus. Of those affected by the virus, 62% felt their GPA would decrease, while only 27% of those not impacted felt their GPA would decrease. Interestingly, the opposite was true for the percentage of respondents who believed their GPA would be unchanged. Nearly half of participants' who were impacted by the virus had

their internship canceled due to COVID-19, while only one-third of participants who were unaffected had their internship canceled due to the virus. Furthermore, those who were unaffected by COVID-19 were twice as likely to not complete their internship for reasons other than COVID-19 compared to participants who were impacted. The work situations for both groups of participants tended to remain constant throughout, the exception being participants who didn't have a job. Participants who were unaffected by COVID-19 were twice as likely to not have a job compared to students who were affected by the virus. Participants who were unaffected by the virus were three times as likely to be more confident in securing a job after graduation compared to participants who were affected by the virus. Participants who were impacted by COVID-19 were more likely to be less confident in securing a job after graduation.

Table 8 illustrates the level of impact students felt on various aspects of their lives amid the COVID-19 pandemic. A scale from 1 to 5 was used to denote how students evaluated the aspect with 1 being unimpacted, 2 being slightly impacted, 3 being neutral, 4 being impacted and 5 being severely impacted. The aspect with the highest mean (indicating greatest impact) was social life at 4.08. The next aspect that was greatly impacted was mental health with a mean of 3.64, meaning students felt between neutral and impacted. Not far behind was internships at a mean of 3.53, finances with a mean of 3.46 and grades with a mean of 3.45. Impact on a current job had a mean of 3.06, but it must be noted 10 respondents did not have a job prior to COVID-19. The two least-impacted aspects were career plans with a mean of 2.93 and the ability to pay for college with a mean of 2.91. For both of these,

Table 7. Student academic success and job expectations. Percentage of respondents who were and were not affected by COVID-19.

	<i>% of all respondents</i>	<i>% of those affected by COVID-19</i>	<i>% of those not affected by COVID-19</i>
<i>Grades</i>	<i>n= 106</i>	<i>n= 79</i>	<i>n= 18</i>
A's	62	63	56
B's	33	30	39
C's	6	6	6
D's	0	0	0
<i>Course Work</i>	<i>n= 68</i>	<i>n= 54</i>	<i>n= 14</i>
More Challenging	72	76	57
Less Challenging	10	13	0
Same	18	11	43
<i>How students feel GPA will be affected in the future during the COVID-19 pandemic</i>	<i>n= 98</i>	<i>n= 79</i>	<i>n= 18</i>
Increase	12	11	11
Decrease	55	62	28
Unchanged	33	27	61
<i>Internships</i>	<i>n= 42</i>	<i>n= 33</i>	<i>n= 9</i>
Canceled due to COVID	45	48	33
Held Virtually- Completed	12	15	0
Internship Unchanged- Not Completed	2	0	11
Internship Unchanged- Completed	29	27	33
Did Not Complete- Non-COVID Related	12	9	22
<i>Work Situation</i>	<i>n= 96</i>	<i>n= 78</i>	<i>n= 18</i>
Laid Off Due to COVID	19	19	17
Work Not Affected	49	50	44
Hours Reduced	19	19	17
No Job	14	12	22
<i>Job Security Confidence</i>	<i>n= 97</i>	<i>n= 79</i>	<i>n= 18</i>
More Confident	7	5	17
Less Confident	51	52	44
The Same	42	43	39

Note: The term 'affected' describes participants who have or personally know someone who has tested positive for COVID-19.

Table 8. Level of impact COVID-19 had on life factors. Percentage of respondents.

	<i>Unimpacted (1)</i>	<i>Slightly Impacted (2)</i>	<i>Neutral (3)</i>	<i>Impacted (4)</i>	<i>Severely Impacted (5)</i>	<i>Not Applicable</i>	<i>Mean Response</i>
Career Plans n=98	19	19	21	28	11	0	2.93
Grades n=98	9	17	16	33	23	0	3.45
Finances n=97	13	12	15	32	25	1	3.46
Current Job n=89	27	11	24	15	12	10	3.06
Social Life n=99	5	8	3	40	43	0	4.08
Mental Health	10	10	11	41	27	0	3.64
Ability to Pay for College n=99	26	12	23	23	15	0	2.91
Internships n=91	17	6	14	37	17	7	3.53

students felt between slightly impacted and neutral. This finding is interesting because finances were an aspect that really impacted the average student. However, COVID-19 didn't affect the average students' ability to pay for college as much as it affected their finances. This could mean students are receiving funding for college through other means, perhaps scholarships or student loans, whereas their finances for other necessities has been affected due to possible job losses, reduced wages, lost hours, etc.

Table 9 illustrates how various personal and social factors are affecting students during the COVID-19 pandemic. Students ranked aspects from most challenging to least challenging, where a lower value indicates a less challenging aspect. The most challenging aspect for students has been motivation in coursework with a mean of 3.147 and lack of hands-on activities with a mean of 3.368. Mental wellbeing and communicating with professors each had means below 5. It is no surprise that mental health has been a challenging aspect for students during the COVID-19 pandemic. Three students died by suicide in the fall semester, resulting in a petition with more than 6,500 signatures calling for the university to address mental health concerns on campus, among other requests (Holubar, 2020). The issue of mental health on campus has certainly been a far-reaching challenge for students amid the pandemic. The least challenging aspects have been internet access, physical wellbeing and wearing a mask on campus. Though students had trouble staying motivated in coursework, meeting assignment deadlines (mean=5.789) was not as big of a challenge. OSU has Wi-Fi and internet access available to students while on campus, which may contribute to fewer students struggling to connect to coursework virtually (Wi-Fi and internet).

Though students have faced unprecedented challenges this past semester, there are some learning and course structure changes students would like to see continue.

Table 9. Mean rank from most challenging to least challenging for changes related to the COVID-19 pandemic n= 95.

<i>Challenge</i>	<i>Mean rank</i>
Mental wellbeing	4.200
Physical wellbeing	5.958
Motivation in coursework	3.147
Internet access	6.663
Meeting assignment deadlines	5.789
Connecting to lectures virtually	5.263
Communicating with professors	4.674
Wearing a mask on campus	5.937
Lack of hands-on activities	3.368

Eighty-six percent of respondents felt recorded lectures should continue after the pandemic (Table 10). A majority of respondents also felt online exams should continue (69%). Only 32% of students wanted to see virtual office hours continue. In Table 9, communicating with professors was one of the larger challenges students faced. This could explain why students do not want to continue virtual office hours. It may be that students like in-person interactions with peers and professors.

Table 10. Percentage of respondents who would like to see learning changes remain after the COVID-19 pandemic n=95.

<i>Change</i>	<i>% of Respondents</i>
Recorded lectures	86
Live zoom lectures	43
Online exams	69
Virtual office hours	32

Note: Respondents were able to select multiple items.

CONCLUSION

The key objectives of this study were to better understand the general impacts of COVID-19 on student learning and well-being, understanding students' preferences for learning environments and to determine which learning environments students appreciated and would like to see continue after the pandemic. This study found that a majority of students have been impacted by COVID-19. Some of the greatest impacts to students have been their social life, motivation in coursework, their mental well-being and the lack of hands-on activities in courses. A majority of students would like to see recorded lectures and online exams continue after the pandemic is over. Why many students selected online exams is unclear and requires additional research. In many large classes, exams occur outside of typical class hours, and online exams in those cases perhaps allowed for additional flexibility. However, a majority of students also felt their GPA would be negatively affected by the pandemic. The main limitation of this research is the small sample size of 128 respondents.

This study may help aid professors in future courses. Students appreciated the availability of recorded lectures and they also see benefit in networking with industry professionals and hands-on activities. Mental health was also an issue that was wide ranging for students as they navigated courses amid the pandemic and lacked a social life. Employers may find benefit in reviewing this survey as candidates may have suffered from lower GPA's and other issues throughout the pandemic. Hopefully this

pandemic concludes shortly and life will regain some level of normalcy.

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