Impact of Teaching Online in a COVID-19 era on the Mental Health and Productivity of College Professors: A Case study on Hospitality and Tourism College in Canada

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Abstract

Internationally, a great effort was made to discover the impact of COVID-19 on the education system with a focus on learning techniques and students' mental health, but little of the stress professors' status. We do not find a study till now focusing on the impact of COVID-19 on Professors' mental health or the effect on staff productivity, especially in hospitality and tourism management faculties. So, it represents a pioneer study in this field. Therefore, an online survey scale was made and sent by email to post-secondary schools of hospitality and tourism management professors in Canada. The sample consisted of 58 participants of professors. The data collected was analyzed statistically using a software program (SPSS v.22.) Analyses illustrated that there is a negative impact of online teaching in the COVID-19 era on professors' mental health and courses productivity. Also, there is no clear effect of gender and age categories on the result. The gathered information represented that COVD-19 contrarily affects educators' emotional well-being. Where the outcome shows that changing direction conveyance, in post-auxiliary schooling in Canada, from face-to-face to web-based showing move the teacher's status to be more overpowered and pushed.

Keywords*:* COVID-19 in Canada, Hospitality and Tourism, Post-secondary Schools Professors, Online Teaching, Mental health & Productivity.

Introduction

In March 2020, the World Health Organization declared COVID-19 as a global pandemic (Cucinotta & Vanelli, 2020; Sundarasen et al., 2020; Suryaman et al., 2020).COVID-19 significantly influenced global human life (Allo, 2020; Kecojevic, Basch, Sullivan, & Davi, 2020; Sundarasen et al., 2020). The pandemic affected many industries across the globe, including Higher education as they suffered complete shutdown in their campuses as a restrictive measure. This major change in the industry led to altering the lives of its stakeholders, particularly professors' education (Almanthari et al., 2020; Montacute & Holt-White, 2020). In addition to lockdown that resulted in psychological pressure (Cao et al., 2020; Kecojevic et al., 2020), the major change that occurred was an abrupt shift from in-person to virtual instruction in Spring 2020 (Bird, Castleman, & Lohner. 2020; Bryson & Andres, 2020; Nambiar, 2020; Nguyen & Huynh, 2020). This shift created several disruptions in educational activities (Friedman, 2020; Kecojevic et al., 2020).

However, this abrupt shift towards the intensive utilization of technology wasn't the first encounter between higher education and technology.

Technology connects people in a globalized world (Alhanash & Almalki, 2020). Recent developments in technology-led industries, including higher education, reshape their operations and products (Nafea & Toplu, 2020; Sunnasy, 2020).In North America, higher education in both Canada and the United States was similarly affected by technological advancement, even before the pandemic hit (Ducas et al, 2020). It adds value to the teaching and learning experience, which students exploit widely to improve or accelerate the academic process (Hernandez-de-Menendez et al.,2020).

Implementing technology in education creates a motivational environment for students (Alhanash & Almalki, 2020; Ducas et al., 2020). The utilization of technology in higher education requires certain elements to be resourced in the education system including facilities, information, and records, equipment and supplies, finances(Armstrong, 2020). Technological advancements and changes also require human resources to have a basic level of digital literacy (Nafea & Toplu, 2020), which means in most cases that shifting towards technology are associated with some resistance (Nafea & Toplu, 2020; Omieno, Shirandula, & Bonareri, 2020; PE & Pickard).

Online teaching recently became an inevitable trend in education(Zhang, 2020). It helps students to empower their learning experiences and prepares them for a global workforce (Alhanash & Almalki, 2020). Students' attitudes are linked to the perceived teaching method of the professors in the virtual classroom(Nguyen & Huynh, 2020). However, in addition to change resistance, online teaching was found to be associated with several challenges, particularly in the post-COVID-19 era. Firstly, even with the presence of previous experience that professors obtained in virtual instruction, online teaching was found to be correlated with negative effects that were not mitigated by that experience (Bird et al., 2020).

The second issue highlighted in previous research is the lack of digital skills that both professors and students suffer from(Nafea & Toplu, 2020). This could be related to different aspects of the individuals involved, such as cultural backgrounds, age group, education level…etc. Both Millennials and Gen Z students are more comfortable using their smartphones as opposed to using laptops or desktops, which are essential tools in the online learning experience (Nicholas, 2020).

The third challenge is the pressure resulting from time constraints to use and master new technology (Sunnasy, 2020; Suryaman et al., 2020). Before the COVID-19 hit, a large proportion of professors did not have sufficient knowledge or training on online teaching. Professors who were uncomfortable with virtual classes did not sign up for any programs that are delivered online.

The fourth challenge is internet costs (Suryaman et al., 2020). Professors working from home are required to use their internet service in all aspects of online teaching. This is associated with higher levels of bandwidth, which is needed for the delivery of online classes that use audio-visual material, in addition to other activities such as video conferencing. Consequently, internet charges become monumental for professors to be charged with.

The fifth challenge is the reduced levels of communication and socialization between students and professors which led to an increased need for more time invested in communication between both parties (Suryaman et al., 2020). Gen Z students prefer text messaging, and other instant messaging tools associated with smartphones as their favorite method of communication (Nicholas, 2020; Rosen, 2011).

Certain factors are found to be critical for the successful delivery of online teaching in higher education institutions. Higher education institutions need to embed new teaching strategies and improve technology skills for professors to be competent and comfortable delivering a virtual class (Fiege, 2020). In addition, professors need to find appropriate ways to promote the learning process academically and socio-emotionally, to allow their students to be more engaged in active, constructive, intentional, authentic, and cooperative learning, in their virtual classrooms(Hernandez-de-Menendez et al., 2020; Suryaman et al., 2020). For instance, professors need to emphasize application and experiential learning in their online classes (Nafea & Toplu, 2020).

Professors also need to include some technologies that are significantly favorable for Gen Z students, in their online classes. These technologies include virtual and augmented reality, 3D printing, artificial intelligence, holograms, portable devices, virtual laboratories, and blockchain (Hernandez-de-Menendez et al., 2020). This will enable the professor to manage their virtual classrooms more effectively(Suryaman et al., 2020). IT support and in-service training are also found to be vital for the delivery of technology-mediated education (Sunnasy, 2020). Higher education institution needs to invest more in the infrastructure of technology to provide all means of support to staff.

Methods

To test the impact of teaching online in the COVID-19 era on professors' status and their productivity, a web-based survey scale was used to collect data about professors especially Hospitality and tourism Management staff in Canada. To achieve the task, a Google form online survey was established. The researchers designed a survey with ten psychological phrases beside two demographic data points (gender and age). Professors were asked to answer all the survey items. The survey was divided into two dimensions; the first six phrases were established to measure professors' mental health and the following four phrases to assess the professors' productivity. The survey scale has a 5-point Likert scale ranging from 1 strongly disagree to 5 strongly agree. The appropriate revision was made based on the judge's and expertise comments and suggestions. An email invitation was sent to the staff union as well as an individual email for 62 college staff of Hospitality and Tourism Management faculties in Canada between 6th December 2020 to 2se January 2021, asking them to complete all the online surveys. Only 58 participants have completed the survey and inputs data were analyzed statistically using SPSS system V. 22.

Findings

To measure the internal consistency and reliability of the study’s constructs. Cronbach’s Alpha (α) measure was used.

Table (1): Cronbach's Alpha Values for the mental health, Productivity and total questionnaire items

Variables	No. of items	Cronbach's Alpha Value	Validity Coefficient*
The mental health	6	0.846	0.919
Productivity	4	0.986	0.992
Total	10	0.841	0.917

* Validity coefficient = √ Reliability coefficient

The scales' reliabilities were measured and the Cronbach's Alpha of all scales in Table (1) ranged from 0.846 to 0.986, and for total questionnaire items was (0.841), this indicates an acceptable Cronbach's Alpha value for each field, whenever Cronbach's Alpha value is acceptable if it's more than (0.7). It is also evident that the validity coefficient is (0.917%) which means the reliability and validity of the study sample. All indicates that the validity is coefficient.

Table (2): The demographic profile of the sample elements

Variable		Frequency	Percentage (%)
Gender			
	Male	25	61.0
	Female	16	39.0
Age group			
	20-30	0	0
	31-40	17	41.5
	41-50	16	39.0
	More than 50	8	19.5

As depicted in Table (2) shows the discussion of the research findings begins with a brief demographic profile of respondents in terms of gender, age, the majority of the respondents were male (61%), rather than female respondents (39%). Of this sample, the age bracket of 31-40 had the greatest number of respondents (41.5%), followed by the age bracket of 1-50 years old (39%). Also, the results showed that most professors are facing big challenges for their mental health where they are suffering from stress, focusing on online teaching, sleep disturbance, and feeling anxious were 86.3%, 79.3%, 80.4%, and 81.3% of the sample generally agreed that online teaching caused these challenges. Moreover, statistics illustrated that online teaching in the COVID-19 era has a side effect also on courses productivity, but it has low impact than the impact of online teaching on professors' mental health. The participants expressed that the more in-person

teaching the more they are productive with course content design, course instruction delivery, class management, and course assessing. Statistics identified that the percentage of approving was 55.1%, 57%, 56%, and 55.2% in ordinal.

On other hand, the main aim of the study is to discover the relation between mental health and productivity of college professors in the COVID-19 era, so three tests were carried out. This part shows the relations between some important variables in the field study by cross-tabulations, it also shows the significant differences between some of these variables with the use of chi-square test and find in these part correlations between the variables of the study. Find chi-square value by this equation:

$$X^2= (O-E)/ (E).$$

O: Observed
Number E:
Expected Number
Count Degree of freedom (D.F) by this equation:
Degree of Freedom (D.F) = (columns -1) (rows-1)

Table (3) Chi-Square Tests between Gender * mental health

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	16.963[a]	13	.201
Likelihood Ratio	21.188	13	.069
Linear-by-Linear Association	.021	1	.884
N of Valid Cases	41		
a. 27 cells (96.4%) have an expected count of less than 5. The minimum expected count is 39.			

The previous table reveals that the value of the chi-square 16.963a and the abstraction probability (.201), a value more than 0.05 which means that there is no statistical significance i.e., there is a relation between the sample of the study Gender and mental health, in addition, the significance level given under "(2-sided)" sig.201Asymp, this value which means that there is not a significant statistical relationship between the two variables.

Table (4) Chi-Square Tests between Gender and productive

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.364[a]	8	.136
Likelihood Ratio	15.226	8	.055
Linear-by-Linear Association	.083	1	.773
N of Valid Cases	41		
a. 15 cells (83.3%) have an expected count of less than 5. The minimum expected count is .39.			

The previous table reveals that the value of the chi-square 12.364a and the abstraction probability (.136), a value more than 0.05 which means that there is no statistical significance i.e., there is a relation between the sample of the study Gender and productivity, in addition, the significance level given under "(2-sided)" sig.136Asymp, this value which means that there is not a significant statistical relationship between the two variables

Table (5) Chi-Square Tests between Age and mental health

	Value	**df**	**Asymp. Sig. (2-sided)**
Pearson Chi-Square	24.854[a]	26	.527
Likelihood Ratio	27.891	26	.364
Linear-by-Linear Association	.059	1	.807
N of Valid Cases	41		
a. 42 cells (100.0%) have an expected count of less than 5. The minimum expected count is .20.			

The previous table reveals that the value of the chi-square 24.854a and the abstraction probability (.527), a value more than 0.05 which means that there is no statistical significance i.e., there is a relation between the sample of the study Age and mental health, in addition, the significance level given under "(2-sided)" sig.527Asymp, this value which means that there is not a significant statistical relationship between the two variables.

Table (6) Chi-Square Tests between Age and productive

	Value	**df**	**Asymp. Sig. (2-sided)**
Pearson Chi-Square	19.367[a]	16	.250
Likelihood Ratio	20.882	16	.183
Linear-by-Linear Association	8.441	1	.004
N of Valid Cases	41		
a. 25 cells (92.6%) have an expected count of less than 5. The minimum expected count is .20.			

The previous table reveals that the value of the chi-square 19.367a and the abstraction probability (.250), a value more than 0.05 which means that there is no statistical significance i.e., there is a relation between the sample of the study Age and productive, in addition, the significance level given under "(2-sided)" sig.250Asymp, this value which means that there is not a significant statistical relationship between the two variables.

Table (7) Simple Linear Regression analysis

R Square	**F**	**Sig**	**Results**	**Beta**
.021	.839	.365[b]	21%	21.583

To find out the relationship between mental health and productivity a Linear Regression analysis was used. The results of the regression model demonstrated that there is not a significant relationship between the variable. The explanatory variables explain 21% of variations in mental health showing that the strength of the relationship and the explanatory variables are moderate by referring to F value 0.839, The results of Simple linear regression analysis show that mental health affects 21%.

Table (8): One-Sample Test

	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Mental health	39.385	40	.000	20.65854	19.5984	21.7187
productive	12.144	40	.000	8.07317	6.7296	9.4168

From statistical analysis of the questionnaire shows that the mean of mental health is 20.6585 more than the mean of productive is 8.0732, and the std. deviation of mental health is 3.3864 less than the std deviation of productive is 4.2567. the significance of the T-test is 0.000 it's less than 0.05 and this means there is a significant difference between mental health and productivity for the mental health with mean more than productive.

Discussion and conclusion

The collected data illustrated that COVD-19 harms professors' mental health. Where the result shows that shifting course delivery, in post-secondary education in Canada, from in-person to online teaching transfers the professor’s status to be more overwhelmed and stressed. Moreover, they became feeling anxious and effects on sleeping hours .Studies reported challenges among online systems were having serious psychological and mental health issues i.e., stress and anxiety(Baloran, 2020; Husky, Kovess-Masfety, & Swendsen, 2020; Son, Hegde, Smith, Wang, & Sasangohar, 2020; Sundarasen et al., 2020)

In addition, COVID-19 makes professors fewer courses productivity, especially its effects on course content design, instructional delivery course, and class management which became more difficult than in-person ones. So, professors need more training that would reinforce their online teaching skills (Chung et al., 2020). Moreover, another challenge is facing professors in hospitality and tourism management in the point of course assessment. They need to be more flexible in terms of a course assignment, especially in the point of deadlines, and other course outline mandates (Aitken,2020). This study is a pioneer study. The survey result doesn’t show differences in age categories nor gender belongs to the impact of shifting to online teaching in the COVID-19 era on mental health and productivity for professors where p-value for Kruskal Wallis Test for age was 0.143 and 0.402 in ordinal and also, Mann Whitney Test for gender was

0.483 and 0.179 for both professors' mental health and productivity. For future studies, it should focus more on the difficulty of implementing courses in hospitality and tourism management colleges and the challenge of teaching online in the COVID-19 period. Also, the impact on ILOS on students.

References

Aitken, G. (2020). A Postdigital Exploration of Online Postgraduate Learning in Healthcare Professionals: a Horizontal Conception. *Postdigital Science and Education*, 1-17.

Alhanash, A. A., & Almalki, F. J. (2020). Obstacles That Prevents Better Use of Information Technology: A Case Study of University College Students–Addayer, Jazan University. *Canadian Social Science, 16*(2), 1-6.

Allo, M. D. G. (2020). Is online learning good in the midst of Covid-19 Pandemic? The case of EFL learners. *Jurnal Sinestesia, 10*(1), 1-10.

Almanthari, A., Maulina, S., & Bruce, S. (2020). Secondary School Mathematics Teachers' Views on E-learning Implementation Barriers during the COVID-19 Pandemic: The Case of Indonesia. *Eurasia Journal of Mathematics, Science and Technology Education, 16*(7), em1860.

Armstrong, M. (2020). Developing a Business Continuity Plan for the Canadian Memorial Chiropractic College, 1-2 December 2020, Toronto.

Baloran, E. T. (2020). Knowledge, Attitudes, Anxiety, and Coping Strategies of Students during COVID-19 Pandemic. *Journal of Loss and Trauma*, 1-8. V 25.

Bird, K., Castleman, B. L., & Lohner, G. (2020). Negative impacts from the shift to online learning during the COVID-19 crisis: evidence from a statewide community college system. Providence, Rhode Island: Annenberg Institute, Brown University, 2020

Bryson, J. R., & Andres, L. (2020). Covid-19 and rapid adoption and improvisation of online teaching: curating resources for extensive versus intensive online learning experiences. *Journal of Geography in Higher Education, 44*(4), 608-623.

Cao, W., Fang, Z., Hou, G., Han, M., Xu, X., Dong, J., & Zheng, J. (2020). The psychological impact of the COVID-19 epidemic on college students in China. *Psychiatry research*, 112934, Volume 287, 2020.

Chung, E., Subramaniam, G., & Dass, L. C. (2020). Online Learning Readiness among University Students in Malaysia amidst COVID-19. *Asian Journal of University Education, 16*(2), 46-58.

Cucinotta, D., & Vanelli, M. (2020). WHO declares COVID-19 a pandemic. *Acta Bio Medica: Atenei Parmensis, 91*(1), 157.

Ducas, A., Michaud-Oystryk, N., & Speare, M. (2020). Reinventing ourselves: new and emerging roles of academic librarians in Canadian research-intensive universities. *College & Research Libraries, 81*(1), 43.

Fiege, K. (2020). *Emotional safety and identity expression within online learning environments in higher education: Insights from a Canadian college.* Lancaster University,

Friedman, C. (2020). Students' Major Online Learning Challenges amid the COVID-19 Pandemi c. *J. Pedagog. Sociol. Psychol, 1*, 45-52.

Hernandez-de-Menendez, M., Díaz, C. A. E., & Morales-Menendez, R. (2020). Educational experiences with Generation Z. *International Journal on Interactive Design and Manufacturing (IJIDeM), 14*(3), 847-859.

Husky, M. M., Kovess-Masfety, V., & Swendsen, J. D. (2020). Stress and anxiety among university students in France during Covid-19 mandatory confinement. *Comprehensive Psychiatry*, *102*, 152191.

Kecojevic, A., Basch, C. H., Sullivan, M., & Davi, N. K. (2020). The impact of the COVID-19 epidemic on mental health of undergraduate students in New Jersey, cross-sectional study. *PloS one*, *15*(9), e0239696, September 30, 2020

Montacute, R., & Holt-White, E. (2020). Research Brief: May 2020: COVID-19 and Social Mobility Impact Brief# 2: University Access & Student Finance, the Sutton trust, 2020.

Nafea, R. M. E. D., & Toplu, E. K. (2020). Future of Education in Industry 4.0: Educational Digitization–A Canadian Case Study. In *Business Management and Communication Perspectives in Industry 4.0* (pp. 267-287): IGI Global.

Nambiar, D. (2020). The impact of online learning during COVID-19: students' and teachers' perspective. *The International Journal of Indian Psychology*, *8*(2), 783-793.

Nguyen, T., & Huynh, N. (2020). Impact of the COVID-19 Pandemic Outbreak on the Learning Process, Nguyen, Thuan; Huynh, Nhi ,2020.

Nicholas, A. J. (2020). Preferred Learning Methods of Generation Z. *Springer, Cham, 03 November, 2020.*

Omieno, K. K., Shirandula, A., & Bonareri, M. M. (2020). Report on the Baseline Study of Technology-Enabled Learning at Kaimosi Friends University College. *Commonwealth of Learning, Canada, March 2020.*

PE, P. J. L. I., & Pickard, J. Strengthening the pipeline from High School to Community College to University in rural underserved communities through a collaborative videoconferencing infrastructure. *ASEEVC, June 2020.*

Rosen, L. D. (2011). Teaching the iGeneration.

Son, C., Hegde, S., Smith, A., Wang, X., & Sasangohar, F. (2020). Effects of COVID-19 on college students' mental health in the United States: Interview survey study. *Journal of medical internet research, 22*(9), e21279, *241-247p.*

Sundarasen, S., Chinna, K., Kamaludin, K., Nurunnabi, M., Baloch, G. M., Khoshaim, H. B., . . . Sukayt, A. (2020). Psychological impact of COVID-19 and lockdown among university students in Malaysia: implications and policy recommendations. *International journal of environmental research and public health*, *17*(17), 6206, 157-167.

Sunnasy, A. (2020). Exploring nurse educators lived experiences with technology-mediated education within private nursing colleges in Gauteng. *Thesis (MNur)--Stellenbosch University, 2020.*

Suryaman, M., Cahyono, Y., Muliansyah, D., Bustani, O., Suryani, P., Fahlevi, M., . . . Munthe, A. P. (2020). COVID-19 pandemic and home online learning system: Does it affect the quality of pharmacy school learning?*Syst. Rev. Pharm*, *11*, 524-530.

Zhang, J. (2020). The Construction of College English Online Learning Community under ADDIE Model. *English Language Teaching*, *13*(7), 46-51.

تأثير التدريس عبر الإنترنت في حقبة COVID-19 على الصحة العقلية وإنتاجية أساتذة الكليات: دراسة حالة عن كلية الضيافة والسياحة في كندا

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الملخص العربي

على الصعيد الدولي ، تم بذل جهد كبير لاكتشاف تأثير COVID−19 على نظام التعليم مع التركيز على تقنيات التعلم والصحة العقلية للطلاب ، ولكن القليل منهم يركز على حالة الأساتذة. لا نجد دراسة حتى الآن تركز على تأثير COVID−19 على الصحة العقلية للأساتذة أو التأثير على إنتاجية الموظفين خاصة في كليات إدارة الضيافة والسياحة. وبذلك فهي تمثل دراسة رائدة في هذا المجال. لذلك ، تم إجراء مقياس مسح عبر الإنترنت وإرساله عبر البريد الإلكتروني إلى مدارس ما بعد الثانوية لأساتذة إدارة الضيافة والسياحة في كندا. وتكونت العينة من 58 مشاركا من الأساتذة. تم تحليل البيانات التي تم جمعها إحصائيًا باستخدام برنامج (SPSS v.22.)أوضحت التحليلات أن هناك تأثيرًا سلبيًا للتدريس عبر الإنترنت في عصر COVID−19 على الصحة العقلية للأساتذة وإنتاجية الدورات. كما أنه لا يوجد تأثير واضح للجنس والفئات العمرية على النتيجة. تمثل المعلومات التي تم جمعها أن COVD−19 يؤثر بشكل عكسي على الرفاهية العاطفية للمعلم. حيث تُظهر النتيجة أن تغيير الاتجاه ، في التعليم ما بعد الثانوي في كندا ، من العرض المستند إلى الويب وجهاً لوجه ، يحرك وضع المعلم ليكون أكثر قوة ودفعًا.

الكلمات الرئيسية: الضيافة والسياحة ، أساتذة المدارس ما بعد الثانوية ، التدريس عبر الإنترنت ، الصحة العقلية والإنتاجية، كوفيد−19.