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Mental Wellness of Students Affected by Online Learning

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Abstract

This study is pertinent due to the Covid-19 global pandemic that has affected many economic sectors, education being one of the worst affected. This empirical study was undertaken to understand factors that affect mental wellness of final semester students at a public university in Malaysia. This targeted group of students had been exposed to two semesters of face-to-face teaching before the forced change to virtual learning. The study aimed to understand how mental wellness is affected by technology, transition challenges and lecturers. This is a descriptive, correlational study and data was collected via online questionnaire which was made available via Google link. A total of 119 students participated in this online survey. The measurements were based on valid and reliable studies and the data was analysed using the PLS-SEM technique. The predictors (technology, transition challenges and relationship with lecturers) explained 39% of the variance in mental wellness of the students. Interestingly, it was discovered that technology did not affect the students' mental wellness. However, both transition challenges and relationship with lecturers had positive relationship with mental wellness of the students. Transition challenges had a higher impact on students' mental wellness more than relationship with lecturers (β=0.387, p<.01).. Future research needs to focus on challenges faced by lecturers due to virtual teaching. Equally important is to understand the transition challenges faced by students.

Keywords: Lecturer, Mental Wellness, Online Learning, Technology, Transition

Introduction

Mental health and wellness of students due to online learning has been a highly researched issue of late due to the pandemic that has shaken the world (Irawan et al., 2020; Mheidy et al., 2020). While most, if not all, business sectors are affected, education has been one of the worst hit sectors. Students and teachers in Malaysia, both in schools and higher learning institutions have only been exposed to classroom learning, although some virtual learning tools have been in place due to global changes. In fact, online learning was on track to become a global phenomenon and mainstream by 2025 (Kumar et al., 2017). However, the sudden

change from face to face to virtual learning was too sudden and unexpected for both teachers and learners. This change has inevitably caused stress and anxiety among students and teachers.

Students in higher learning institutions in Malaysia had to learn via online classes since early 2020. Informal chats with students indicate that most of them were not happy with this arrangement and there were students who uploaded their concerns and dissatisfaction on the social media. This study was conducted among Part 5 Business students. This group of students have been exposed to classroom learning when they were in Part 1, in Part 2 and a few weeks into Part 3, after which the Movement Control Order was imposed by the Government to curb the spread of the virus. Part 5 students were considered as the respondents for this study because this is their final semester as students after which they begin their exposition to the working world via Industrial/Practical training.

A nation-wide Malaysian study conducted two months after the onset of the pandemic (May 2020), found young people-particularly students, females, and people with poor finances, more vulnerable to mental health symptoms (Wong et al., 2021). Students with less privileged backgrounds were found to experience larger negative impacts due to the Covid-19 outbreak (Aucejo et al., 2020). This is probably caused by reduced family income, limited digital resources access, and the high cost of internet connectivity which disrupts the academic life of students. Moreover, Lee (2020) found 1.5 billion students across the world are now without basic education. Online or virtual learning is enabled by technology as the delivery method. If students or teachers experience discomfort or lack of confidence in the technology they are using, the outcome would be less than successful (Bower, 2019). Technology, if used effectively, allows students and teachers to mutually engage and collaborate (Bower, 2019; Gonzalez et al., 2020). Issues involving technology includes access to hardware, software, and reliable internet access, often due to financial constraints. In rural areas, infrastructural factors, such as the electricity and telecommunication deficit have been reported to be a significant barrier to e-learning (Zeng et al., 2019).

Another aspect to be considered is the transition from teaching a face-to-face class to teaching online which requires rethinking and reconfiguring of materials. Lectures, activities, and assessments that worked in classroom teaching needs tweaking or replacement because of the very nature of the online environment. For example, lecture can be conducted extemporaneously in a face-to-face class for an hour or more, but online lectures work better when they are scripted and recorded in 10- to 20-minute segments. For students, transitioning to online learning increased fears of not graduating on time, communication issues and inability to balance studying and home responsibilities. An earlier study on transition to online learning in Kenya found insufficient preparation and intense workloads as the key factors that made professors put so much focus on posting educational content to e-learning sites as opposed to actual online instruction (Odhiambo & Acosta, 2009).

The role of lecturer/teacher is important in virtual learning. With online courses, the lecturer/teacher plays a different role from when he/she teaches in a classroom. The student now assumes the pivotal role in deciding how often to log in and participate in the online platforms provided. However, when virtual learning was “forced” on students due to the movement control order in Malaysia, having been caught off-guard, the role played by the

lecturer somehow remained the same as in classroom teaching. Classes were still conducted, albeit virtually as per the semester timetable. The aspects that were changed were how formative and summative assessments were conducted and evaluated. Changes had to be made for the summative assessment as difficulties were encountered in ensuring non-duplication and sharing of tests. Dominant challenges were faced by lecturers relating to course delivery and teaching strategies (Junus et al., 2021). Hence, the role of lecturer/teacher in an online learning setting could affect the mental wellness of the students. The shift from classroom to virtual or online learning impacts students in many ways. While there is no better option considering the ongoing chaotic pandemic environment, the impact on the mental wellness of students is a cause of great concern. The 3rd Sustainable Development goal is good health and wellbeing for all ages. Students of the current generation, considered digital natives, have no issues with the use of digital platforms. However, they remain anxious about their own skills in managing their learning in an off-campus environment.

Though students are technically savvy, there are concerns regarding access to hardware, software and internet connectivity. For many students, access to technology is a case for concern. In addition, transitioning from classroom to virtual learning has been tough for students who have completed part of their studies in physical classrooms. With most lecturers exposed only to classroom teaching, their role too is an area of grave concern. This abrupt change involving not only delivering classes online but also dealing with the shifting modes and methods of assessing and evaluating, create concerns for both students and lecturers. This study hopes to understand the concerns of the students and attempts to help improve the mental wellness of students. The objective of the study is to determine how technology, transition challenges and relationship with lecturers affect mental wellness of students in online learning.

Method

An online questionnaire was made available via Google Drive link to all Part 5 Business students. Out of 179 students, 66.5% responded to the questionnaire.

The study survey itemized 41 questions in toto. Section A covered demography and online learning issues like data plan type, connectivity as well as home environment. These were categorical questions. Sections B, C, D and E were 5-point Likert-scale questions with responses ranging from Strongly Disagree (1) to Strongly Agree (5). These sections listed items measuring issues with technology, transition to remote learning, relationship with lecturers and the mental wellness of the respondents.

The Section A items on various aspects of online learning issues were adapted from Davis et al., 2019; Hillard et al., 2015). The items for Sections B to E were adapted from (Froman et al., 2020). The analysis of the survey was based on quantitative analysis of valid responses. All missing responses were removed, and only valid responses were included in the final “N” or sample for that question; because of this, the “N” for each question may vary.

The most relevant limitation with online surveys is respondents' access to technology to complete the survey. Also, this survey was only administered to Business students enrolled in Part 5. As such, the results do not include the perspective of all students in higher learning institutions.

Based on the discussion above, the framework for this study is presented in Figure 1. The focus of the study is the mental wellness of students affected by online learning. The predictors are technological difficulties, concerns regarding transition and difficulties related to lecturers.

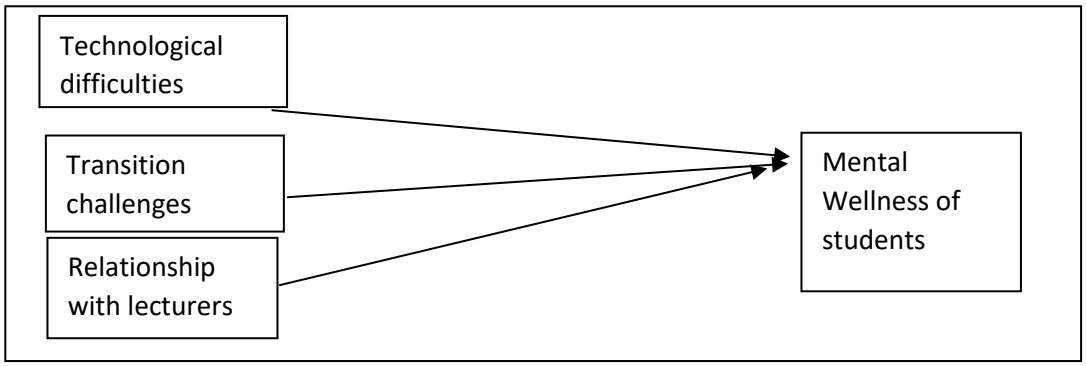

Figure 1: Research Model

Based on the model, the hypotheses to be tested are as follows:
H1: Technological difficulties affect mental wellness of students
H2: Transition challenges affect mental wellness of students
H3: Relationship with lecturers affect mental wellness of students

Results and Discussion

The demographic profile of the 119 respondents reflected 83.2% as females and 16.8% as males. The respondents belonged more to the Bottom 40 (B40) income category (Monthly income below RM4850) (68.9%), followed by the Middle 40 (M40) income category (between RM4851-RM10970) (18.5%). They reside mainly in urban (37.8%) and semi urban (36.1%) areas. In terms of internet usage, about half (51.3%) relied on WiFi while the rest used mobile data. A higher proportion subscribed to unlimited data (65.5%). The internet speed used by a higher proportion of the respondents was 8-30Mbps (35.3%). An equal proportion of 23.5% used less than 8Mbps and between 30-50Mbps.

Smart PLS is one of the prominent software application for Partial Least Squares Structural Equation Modeling (PLS-SEM). This software (SmartPLS 3.3.3) was used to test the model developed using a 2-step approach recommended by Anderson and Gerbing (1981). Step 1 is to test the quality of the measures by assessing the convergent validity and discriminant validity. This is followed by Step 2 where the hypotheses were tested using a bootstrapping with a 5,000 resample as suggested by (Hair et al., 2019).

Convergent validity was assessed by referring to the average variance extracted (AVE) which should be greater than 0.5 with loadings in the range of 0.5 – 0.7 while the reliability can be assessed using the composite reliability (CR), cronbach's alpha (CA) and a new measure

of reliability which is rho_A (Ramayah et al., 2018). Values greater than 0.7 indicate sufficient reliability. As shown in Table 1, all the AVE were greater than 0.5 with loadings higher than 0.5 while all the reliability values were greater than 0.7 thus confirming convergent validity and reliability of the measures.

Table 1
Measurement Model

Variable	Items	**Loadings**	**CA**	rho_A	CR	AVE
Technology	B3	0.864	0.753	0.701	0.819	0.534
	B6	0.620				
	B7	0.740				
	B8	0.677				
Transition C**hallenges**	C1	0.727	0.821	0.859	0.864	0.518
	C2	0.769				
	C3	0.798				
	C4	0.531				
	C6	0.757				
	C8	0.703				
Relationship with Lecturers	D3	0.609	0.744	0.786	0.810	0.520
	D4	0.793				
	D5	0.812				
	D6	0.649				
Mental Wellness	E1	0.711	0.900	0.905	0.923	0.668
	E2	0.848				
	E3	0.829				
	E4	0.833				
	E5	0.813				
	E6	0.861				

For discriminant validity, the HTMT criterion (Henseler et al., 2015) recommended that if all the ratios are lower than 0.90 (conceptually similar variables) and 0.85 (conceptually dissimilar variables) then the measures are distinct. As shown in Table 2, all the HTMT ratios were lower than 0.85 suggesting the measures are distinct.

Table 2
Discriminant Validity (HTMT ratio)

Variables	1	2	3	4
1. **Relationship** with Lecturers				
2. Mental Wellness	0.501			
3. Technological Difficulties	0.497	0.228		
4. Transition C**hallenges**	0.598	0.573	0.340	

To test the model developed for this study, a bootstrapping procedure with 5,000 resample was used to generate the results. The R^2 was 0.391 (Q^2 = 0.244) which indicates that the 3 independent variables together can explain 39.1% of the variance in Mental Wellness. Transition Challenges (β = 0.387, p< 0.01) and Relationship with lecturers (β = 0.326, p< 0.01) were both positively related to Mental Wellness while Technological Difficulties (β = 0.026,

p> 0.05) was not a significant predictor of Mental Wellness. The results support H2 and H3 while H1 is not supported as shown in Table 3.

Table 3
Hypothesis Testing

Hypothesis	Relationship	Std. Beta	Std. Dev.	t-value	p-value	BCI LL	BCI UL	f^2
H1	Technology → Mental Wellness	0.026	0.099	0.261	0.397	-0.282	0.135	0.001
H2	Transition → Mental Wellness	0.387	0.076	5.117	*p*< .001	0.247	0.488	0.185
H3	Lecturers → Mental Wellness	0.326	0.077	4.222	*p*< .001	0.199	0.447	0.122

In addition, the predictive power of the model was tested by running the PLS-Predict as displayed in Table 4 (Shmueli et al., 2019). Shmueli et al. (2019) suggested that if all the errors of the PLS model were lower than the Linear Model (LM) the benchmark, then the predictive power is high. If they are majority or higher, then medium predictive power and when a minority, then there is low predictive power. If all the errors of PLS are higher than the LM, then there is no predictive power. The Q^2-predict was 0.331 while a majority of the items had lower errors than the LM suggesting this model has a medium predictive power.

Table 4
PLS-Predict

	PLS		**LM**		**PLS-LM**	
MV	RMSE	MAE	RMSE	MAE	RMSE	MAE
E1	0.844	0.655	0.908	0.711	**-0.064**	**-0.056**
E2	0.838	0.661	0.813	0.633	0.025	0.028
E3	0.895	0.713	0.903	0.678	**-0.008**	0.035
E4	1.015	0.786	1.071	0.806	**-0.056**	**-0.020**
E5	0.995	0.774	1.117	0.851	**-0.122**	**-0.077**
E6	0.854	0.665	0.877	0.682	**-0.023**	**-0.017**

Note: Bolded items indicate PLS model results having a lower error compared to the LM model

Conclusion

Online or virtual learning might be here to stay going by the global pandemic situation. Hence, there is great importance in ensuring the prioritization of the mental wellness of students and look into ways to reduce problems or difficulties faced by them.

In terms of transition to remote learning, students can be given constant consultation or counselling to reduce these anxieties. Clear expectations in the assessments and assignments and assurance of graduating on time can be made known to students at intermittent intervals to reduce these anxieties. Lecturers too need re-training on the role they play as virtual instructors and the kind of interaction that is required in order to be found useful for students to feel listened to and supported. The issue of concern regarding transition from conventional teaching and learning to online learning is highly related with the behavioural aspect of

instructor. Hence, the instructor or lecturer need to be prepared with adequate training especially in the new set of teaching philosophy and pedagogy highly related with challenges of virtual learning. The readiness of lecturer in terms of designing innovative delivery need to be improved with a good blend of technical skills and good facilities in the workplace. With that, this new norm using technology in teaching and learning is expected to be slowly improved from time to time from experience of lecturers compared to their first attempt during the beginning stage of the pandemic.

Suggestions

Recommended highly, future studies delve into the mental wellness of lecturers/teachers as the transition from physical to virtual teaching could have an impact on their mental status too. Further study can be conducted on students who have been exposed to virtual learning from the time they entered university to compare and contrast their mental wellness with this group that had experienced both virtual and physical classroom learning.

Co-Author Contribution

The authors affirmed that there is no conflict of interest in this article. All three authors carried out the field work, prepared the literature review and overlook the writeup of the whole article. Author 1 wrote the research methodology and conducted the data entry. Author 2 worked on the measurement and constructs of the items in the questionnaire. Author 3 checked on the statistical analysis and interpretation of the results.

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