

Factors Influencing Occupational Stress: A Study on its Effect on the Performance of MSU-IIT Faculty during COVID-19 Pandemic

Keyt Adriatico¹, Heide Kristine Cagalawan², Ma. Whitney Claire Ceprado³, Lovely
Hamot⁴, and Jessa Mae Banse⁵

Mindanao State University-Iligan Institute of Technology^{1,2,3,4,5}
A. Bonifacio Ave., Tibanga, Iligan City, Lanao del Norte, Philippines, 9200
Email : jessamae.banse@g.msuiit.edu.ph

ABSTRACT

As a response against the Coronavirus disease (COVID-19), several countries adopted online and modular programs in the educational sector. As these require certain competencies and skills, these changes might have contributed to the stress experienced by the faculty members that could affect their performance. The purpose of this study is to determine the level of occupational stress, measured by the Teacher's Stress Inventory (TSI), that the faculty members of Mindanao State University-Iligan Institute of Technology (MSU-IIT) experienced caused by work-family conflict, lack of training, role ambiguity and role conflict, powerlessness, and intrinsic impoverishment. In addition, the impact of occupational stress on the performance of the faculty members during the school year 2020-2021 is assessed. Anchored on Michigan Model and Performance and Demand Theory of Welford, 114 faculty members were selected as respondents using quota sampling, results showed that faculty members experienced slight stress. These are manifested through minimal or low stress as measured by the manifestations of stress namely emotional, biobehavioral, and physiological-fatigue. On the factors influencing occupational stress, only work-family conflict and lack of training influence occupational stress. Since faculty members cannot enter the campus and work on a work-from-home arrangement, the distinction between office hours and free/family time is almost nonexistent. The shift in the learning modality required a new set of competencies (i.e. technology-based skills) but the sudden shift only allowed a short period of time of training. The results on the factors influencing occupational stress are consistent with the Michigan Model but inconsistent with Welford's Performance and Demand Theory; even if the demand during the pandemic has changed, the faculty experienced slight stress and performed excellently in their work.

Keywords: Faculty Performance, Michigan Model, Occupational Stress, Teacher's Stress Inventory, Welford's Performance and Demand Theory

INTRODUCTION

One prominent adjustment as a result of the Coronavirus (COVID-19) pandemic is the educational sector's adoption of online/modular classes or the flexible learning modality (Caracut, 2020). Considering the impact and pace of the required change so as not to disrupt the delivery of education, the transition from the traditional mode of delivery of learning is found to be difficult. COVID-19 has significantly changed not only the way of learning, but also the educational system as a whole (Batool et al., 2020). The pandemic caused a shift from traditional learning to a new mode of learning that was challenging to both students and educators (Pokhrel, 2021). With this drastic change brought by the pandemic in the system of education in terms of the mode of delivery of education, this was believed to result in greater stress experienced by teachers (Chitra, 2020).

Stress is a typical occurrence in most professions; however, it has been constantly associated with the helping profession, such as teaching (Harlow, 2008). The stress in one's profession, or most widely known as occupational stress, is described as the experience of unpleasant emotional states, these include the feeling of frustration, worry, anxiety, and depression that are attributable to the circumstances related to work (Kyriacou, 2001, as cited in Chitra, 2020).

Prior studies concluded that stress is caused by factors such as work overload, work-family conflict, lack of training, role ambiguity and role conflict, intrinsic impoverishment, and powerlessness (Batool et al., 2020; El Shikieri, 2012; Garcia et al., 2021). Further, occupational stress is deemed to have a significant impact on the performance of faculty members (Karihe et al. 2015; Mwenda et al. 2019; Oyewole et al. 2020).

Aside from teaching, faculty members have other duties to fulfill in their educational institution: instruction, research, and extension, as mandated by the Commission on Higher Education (Commission on Higher Education [CHED], 2016). Moreover, Abellanosa et al. (2019) stated that teachers are expected to not only teach but also research certain phenomena. Meanwhile, according to Pearedondo-Untong (2020), extension programs promote and commercialize technologies for self-sufficiency and development. Hanif (2010, as cited in Batool, 2020) defined a good teacher as someone who is not only efficient in teaching but must also know how to manage and carry out the tasks that have been assigned to him/her. But when they are overwhelmed by their workload, role uncertainty, time limitations, job insecurity, and bad working environment, these stressors result in occupational stress which restricts their performance (LePine et al., 2004, as cited in Khan et al., 2012) resulting in difficulty in providing instruction to their students (Khan, 2012).

Anchored on these prior researches and on Michigan Model and Performance and Demand Theory of Welford, this study aims to determine the level of occupational stress the Mindanao State University-Iligan Institute of Technology (MSU-IIT) faculty experienced caused by work-family conflict, lack of training, role ambiguity and role conflict, powerlessness, and intrinsic impoverishment. Consequently, the impact of occupational stress on the performance of the faculty members of MSU-IIT during the COVID-19 pandemic will be examined.

LITERATURE REVIEW

Occupational Stress

Occupational stress is defined as a disruption in an individual's emotional stability that results in a situation of instability in personality and behavior (Nwadiani, 2006), a feeling of dissatisfaction within the workplace (Laily et al., 2017), as well as a chronic illness

induced by working conditions (Singh et al., 2015). Academic institutions placed upon the hands of the faculties a great responsibility to nurture students in all facets of their development (Garcia et al., 2021). With the emergence of the COVID-19 pandemic, it came along with an increase in workplace stress (Garcia et al., 2021).

The pandemic took a significant toll on the mental health of employees due to the work-from-home (WFH) arrangement that appeared to have obliterated the balance between life and work (Wood, 2020). Further, it created new expectations for remote work (Wood, 2020). Faculty themselves endure burn-out and other forms of stress due to this pandemic but are not being recognized nor addressed since people are oblivious about it (Garcia et al., 2021). The WFH situation has changed the way faculty works as this has created a major shift in terms of the platform of learning from face-to-face to remote learning that can be overwhelming (Garcia et al., 2021).

Factors Affecting Stress

Batool et al. (2020) identified work-family conflict, lack of training, work overload, intrinsic impoverishment, role ambiguity, and role conflict, and under participation or powerlessness as significant factors that affects the occupational stress of teachers. There are also significant effects of demographic factors to the occupational stress experienced by the teachers. In the study of Irawanto et. al. (2015), demographic profile was found to moderate the effect of occupational stress to performance. Demographic factors such as age and gender (Chitra, 2020; Dua 1994; Manshor et al. 2003), marital status (Sharma & Jain, 2020; Eres & Atanasoska, 2011), work experience (Chitra, 2020), college affiliation (Singh & Jain, 2015), and faculty rank (Meng & Wang, 2018; Colacion & Gemora, 2016) were found to have a significant effect on the occupational stress experienced by the teachers.

Work-family conflict

The pandemic has rendered teachers to work in the confines of their home exposing them in the direct presence of their family while working which subjects them to a work-family conflict. Work-family conflict arises due to the presence of demands that are incompatible between roles at work and with the family (Greenhaus & Beutell, 1985, as cited in Zhou et al., 2018). According to Kossek (2016), work-family conflict is also on the rise as a result of technological advancements. However, Reimannet al. (2021) emphasized that work-family conflict is not only notably experienced during the COVID-19 pandemic. But the set-up and the efficiency of technological advancements increased the blurring of boundaries between personal and professional life.

Work-family causes occupational stress among faculty of the university (Batool et al., 2020). Previous studies conducted by Allen et al. (2000), Amstad et al. (2011), and Aryee et al. (2005) supported the same findings indicating that this has undesirable repercussions among women. A significant positive correlation was also observed between work-family conflict and stress (Hossen et al., 2018; Nart & Batur, 2014). However, a study by Asbari et al. (2020) showed that work-family conflict has no significant influence directly on the performance of female employees.

Lack of Training

In the study conducted by El Shikieri and Musa (2011), and Hadjisymeou (2010), the findings led the researchers to identify lack of training and development opportunities as a contributing factor that causes high degree job stress to the university employees. Similarly, the outcome of the research study of Batool et al. (2020) has shown that lack of training is among the factors that can cause occupational stress among the university faculty.

According to Winter et al. (2021), unlike the common approach to change (e.g. slowly, taking little measures, and undergoing a programmed training), the emergence of the pandemic resulted in a radical shift in the way of teaching in such a short amount of time. Consequently, plenty of the teachers who reportedly have little to no training with regards to technology (Winter et al., 2021).

On the other hand, lack of training becomes a contributing factor of occupational stress because the presence of good training received by the employees may lessen the anxiety or dissatisfaction with their work which most have encountered at multiple times during their careers (Cheng and Ho, 2001, as cited in Truitt, 2011).

Before the flexible learning modality was implemented, faculty members of MSU-IIT undergo a series of training (i.e. INFLeX Webinar Series) to capacitate them about transforming traditional syllabus to flexible ones, and navigating through the learning management systems among others.

Work Overload

Given the situation due to the COVID-19 health crisis, teachers are expected to manage their work effectively and give additional time to cater to the concerns of the parents or guardians, to prepare materials and to plan, which is mainly executed at the confines of their homes (Lizana et al., 2021). Along with other tasks needed to be accomplished and the working conditions of the faculty, the job becomes challenging and burdensome.

Consequently, several studies identified work overload as one of the most significant stressors of occupational stress (Abbas & Roger, 2013; Gupta et al., 2015). The study of Janib et al (2021) found that excessive workload impairs performance and even triggers other effects namely burnout and depression among academic staff in Malaysia. Similarly, Vanishree (2014) found stress to be positively associated with work overload.

Intrinsic Impoverishment

According to Subrimanian and Nithyanandan (2009), intrinsic impoverishment is an area that includes the monotony of assignments performed by the employees that rob them of the opportunity to independently make use of their abilities and experiences, the potential development of their aptitude and proficiency, and etc.

Several studies like Ali et al., (2021), Sadaphal (2019), and Singh (2014) showed that intrinsic impoverishment is one of the primary drivers of stress. Moreover, intrinsic impoverishment was found to cause occupational stress (Batool et al., 2020). On the contrary, there were several studies that found intrinsic impoverishment as an insignificant contributor to occupational stress (Khalifa et al., 2021; Hussain et al., 2018).

Role Ambiguity and Role Conflict

Role ambiguity pertains to the uncertainty on which activities and responsibilities are included in the role (Ebbers & Wijnberg, 2017) or the certainty of lacking knowledge and having no clarity about the job (Ahmad et al., 2021). This arises due to insufficient information to perform their duties or when performance evaluation methods are unclear (Igbaria & Shayo, 2003). Role conflict takes place when a professional interacts with other people or a group of people whose expectations do not align with his/her own behavior

The shift to a flexible educational setup due to the pandemic resulted in a delineation of the teachers' daily lives as they seek for normality such as having clear routines and structures since the initial phase of lockdown (Kim & Ausbry, 2020). It was reported that

increased uncertainty in work roles was experienced albeit a feeling of acceptance was sensed to their functions as it is necessary to adapt to proceed to the reopening of schools (Kim et al., 2021). Role ambiguity is one of the major sources of stress that has a stronger effect on stress than the other factors studied (Faisal et al., 2019).

Under participation or Powerlessness

Faculty feel stress in the area of powerlessness or under participation due to their perception that their opinions and suggestions are not taken into consideration when crucial decisions are to be made (Dhar & Magotra, 2018). Working in a large, hierarchical, and bureaucratic company with limited influence over one's employment may be highly stressful (El Shikieri & Musa, 2012), especially during this pandemic, where teachers feel powerless since it is still difficult to provide optimum learning to students despite the effort (Garcia et al, 2021).

Impact of Occupational Stress on Performance

Occupational stress is deemed to have a significant impact on faculty members' performance (Oyewole et al. 2020). A study conducted by Laily et al. (2017) found that occupational stress has an influence on the performance of teachers wherein, the more stressed teachers are, the better/higher their performance which was in contrast with several studies that illustrated an adverse effect (Kurian, 2020; Asaloei et.al, 2020; Wangui et.al., 2016).

MSU-IIT uses the Teacher Efficiency Rating (TER) to assess the performance of the faculty. Evaluation on faculty performance through the rating by their Students, Department Chairman, Dean or Immediate Supervisor and Peers The weight of the evaluation is 50% from students, 30% from Department Chairman, Dean or Immediate Supervisor and 20% from peers. The descriptive equivalence of the ratings are 96-100 represents Outstanding, 90-95 represents Very Good, 83-89 represents Very Satisfactory, 75-82 represents Satisfactory and 74 below represents Unsatisfactory.

RESEARCH METHOD

This research study followed a causal research design. Causal research design, according to Sekaran and Bougie (2016), "test whether or not one variable causes another variable to change."

Data from a sample of 114 faculty members were gathered through a survey questionnaire. Respondents were selected through quota sampling. Factors affecting occupational stress were measured using the adopted combined questionnaire from the study of Batool et al (2020), Holmgreen (2008), Oteer (2015), and Occupational Stress Index. Moreover, the Teacher's Stress Inventory (TSI) by Fimian (1984) was adopted to measure occupational stress. Teachers' performance was measured using the overall qualitative results of Online Teacher Efficiency Rating (OL TER) of MSU-IIT which was sought directly from the respondents based on their rating for the two semesters of the school year 2020-2021.

In this study, data was analyzed with the use of Partial Least Square - Structural Equations Modeling (PLS-SEM). According to Sarstedt et al. (2017), PLS-SEM enables researchers to estimate extremely complex models with several constructs and indicator variables, which is particularly beneficial when prediction is the goal of the analysis.

RESULTS

Descriptive Statistics Occupational Stress

As presented in Table 1, the result shows a mean of 2.33 described as “Slight Stress” based on the continuum with a standard deviation of 1.0178. This implies that faculty members experience stress rarely or in low levels. It must be noted that most of the faculty members experienced stress through emotional manifestations more than the physiological-fatigue.

Table 1. Descriptive Statistics of the Level of Occupational Stress measured by the Teacher Stress Index

Manifestations of Occupational Stress	Frequency					WM	VD	Average	SD
	SD	D	N	A	SA				
Emotional Manifestations								2.54	0.1067
Feeling insecure	35	33	23	19	4	2.33	Disagree		
Feeling unable to cope	34	31	22	23	4	2.40	Disagree		
Feeling vulnerable	29	31	23	25	6	2.54	Neutral		
Feeling depressed	28	30	23	19	14	2.66	Neutral		
Feeling anxious	21	33	23	24	13	2.78	Neutral		
Biobehavioral Manifestations								2.06	0.0992
Calling in sick	45	31	20	12	6	2.15	Disagree		
Using prescription drugs	60	21	17	8	8	1.97	Disagree		
Using over-the-counter drugs	52	27	18	10	7	2.06	Disagree		
Rapid breathe	54	24	19	10	7	2.05	Disagree		
Increased blood pressure	52	26	19	10	7	2.07	Disagree		
Physiological-Fatigue Manifestations								2.38	0.1109
Stomach cramps	50	27	20	10	7	2.10	Disagree		
Physical weakness	34	33	20	17	10	2.44	Disagree		
Rapidly physically fatigued	30	32	19	20	13	2.60	Neutral		
Occupational Stress							Slight Stress	2.33	1.0178

In comparison to prior studies conducted, most of them showed a moderate level (Rotas & Cahapay, 2020; Carbonero, 2017) to high levels of stress (Gurrea, 2021). Further, prior studies from outside the country illustrated that a high level of occupational stress is experienced by faculty members (El Shikieri, 2012; Meng and Wang 2018).

Descriptive Statistics of the Variables Affecting Occupational Stress

The variable that has the highest mean is work-family conflict (\bar{x} =3.00) while role ambiguity and role conflict have the lowest mean (\bar{x} =2.44). Work overload ranked second as the most prevalent condition during the pandemic.

With the flexible learning modality, course content delivery is modified to suit the technological environment of the students. This resulted in more preparations for the faculty members. In addition, as the line separating work and home effectively blurred in the work-from-home setup, these results are expected. However, the majority of the faculty members manifested that they still maintain work-and-family life balance.

The most rated item under work overload is the insufficient number of resources available during online class, followed by how online teaching multiplied the difficulty as a teacher, and the excessive work and lack of time which all got a mean above 3. Further, with the concept of connectedness due to technology, faculty members are expected to take on multiple roles, more often than not, at the same time.

Table 2. Descriptive Statistics of the Factors Affecting Occupational Stress

Factor	Average responses	SD	Verbal Interpretation
Work-family conflict	3.00	0.9361	Moderate
Work overload	2.90	0.9990	Moderate
Lack of training	2.74	0.9202	Moderate
Intrinsic impoverishment	2.56	0.7544	Slight
Under participation/ Powerlessness	2.53	0.6396	Slight
Role ambiguity and Role Conflict	2.44	0.8184	Slight

The third highest factor based on average results is the lack of training. Interpreted as moderate, this is exhibited in terms of the need to upgrade their technology skills and the feeling that others know more about technology as compared to them. Despite this, faculty members still feel qualified for computerized instruction and that the university offers training and development opportunities.

Intrinsic impoverishment was the next in rank with a mean of 2.56. The majority of respondents believe they have adequate opportunities to properly improve their ability and expertise during the pandemic. Underparticipation/powerlessness comes in next. The result showed that most of the faculty members in MSU-IIT are being heard since most of their suggestions were implemented. Moreover, they are engaged in the decision making as their opinions are sought after in terms of changing or modifying the working system, instrument and conditions, and that their decision and instructions concerning the distribution of assignments among employees are being properly followed.

Finally, role ambiguity and role conflict have the least mean value of 2.44. The majority of faculty members agree that their tasks during the pandemic are quite clear and well-planned. Furthermore, based on the outcome, they were given clear information and instructions about their work.

Descriptive Statistics of the Faculty Performance

The results signify that the faculty members performed excellently in their roles and responsibilities in instruction, research, and extension. The average Teacher Efficiency Rating (TER) has a mean of 4.32 that falls under the continuum of an outstanding qualitative description. This indicates that the respondents' performance rated by peers,

superiors and students has an overall grade of 96-100 having an outstanding descriptive equivalence.

Table 3. Descriptive Statistics of the Faculty Performance [N=114]

Variable	Freq	Mean	SD	Verbal Description
1st Semester TER Results		4.30	0.8085	Outstanding
Outstanding	56			
Very Good	39			
Very Satisfactory	16			
Satisfactory	3			
Unsatisfactory	0			
2nd Semester TER Results		4.33	0.7486	Outstanding
Outstanding	56			
Very Good	41			
Very Satisfactory	16			
Satisfactory	1			
Unsatisfactory	0			
TER Average		4.32	0.7445	Outstanding

Results of the PLS-SEM

Based on the results of the bootstrapping using PLS-SEM, only work-family conflict and lack of training were found to be significant to the presence of occupational stress. Although direct work-family conflict is not experienced during the pandemic, the build-up of experiences of conflicts between these two factors resulted in stress in the workplace. In addition, considering the abrupt changes in the learning modality within a short period of time, training and the lack thereof is a major contributing factor to occupational stress.

The insignificant outcome of the other latent variables may be attributed to their slight prevalence among the faculty members. Although work overload is described as moderately experienced, it is generally the case among faculty members notwithstanding the learning environment.

Table 4. Bootstrapping Results of the Path Model using the Framework

Construct/Path	Path Coefficient	Sample Mean	SD	T statistics	P-value
Work overload --> Occupational Stress	-0.186	-0.192	0.118	1.575	0.116
Work family --> Occupational Stress	0.416	0.427	0.091	4.596	< 0.001*
Under Par --> Occupational Stress	0.058	0.057	0.094	0.624	0.5333
Role Amb --> Occupational Stress	0.120	0.118	0.119	1.009	0.314
Lack of Training --> Occupational Stress	0.333	0.331	0.090	3.692	< 0.001*
Intrinsic --> Occupational stress	0.081	0.083	0.125	0.648	0.517
Occupational Stress --> Faculty Performance	-0.036	-0.016	0.188	0.447	0.655

The negative path coefficient coincides with the Welford's Performance and Demand Theory wherein stress will result in a performance less than the maximum. However, the impact of stress on performance is found to be statistically insignificant. Result of this

study supports the result of The study of Kousar et al. (2006), and Rotas and Cahapay (2020). This implies that occupational stress may not always have an impact on the performance of the faculty.

DISCUSSION

The results of the study found that work-family conflict is a significant contributor of occupational stress experienced by faculty members. Results are consistent with Batool et al. (2020) and Nart and Batur (2014). The work-from-home arrangement blurred the line separating the work life and the personal/home life. Hence, conflict between family roles and job roles are expected and inevitable. Majority of the respondents indicated that they work beyond the usual working hours and even think of work after working day. This undermined their family-related roles resulting in conflicts and stress. The high level of strain and conflicts between these two areas are amplified during the pandemic (Reimann et al., 2021).

Similar to the results of prior literatures (Batool et al., 2020; El Shikieri, 2011; Musa, 2011; Hadjisymeou, 2010), lack of training was found to be a significant factor that influences occupational stress on faculty. Faculty members required professional development, continued support, and training to prepare them for the shift to the online/flexible learning environment (Moralista & Oducado, 2020; Hadjisymeou; 2010). Despite faculty members of MSU-IIT receiving ample training opportunities, faculty members acknowledged the need to upgrade their skills and that other faculty members know more how to use technology in online teaching.

All other latent variables were found to be insignificant. Faculty members experience slight intrinsic impoverishment. Considering that the majority of respondents believe they have adequate opportunities to properly improve their ability and expertise during the pandemic, it is reasonable that it does not translate into occupational stress. Further, faculty members are engaged in the decision making and their decisions and instructions concerning the distribution of assignments among employees are being properly followed. Results from the study of Batool et al. (2020) is in coherence with this, as his study showed under participation as the least rated factor that affects occupational stress. With the amount of control given to faculty members, this variable was found to be insignificant in the occurrence of occupational stress among faculty members.

Role ambiguity and role conflict also were found to be insignificant as the majority of faculty members agree that their tasks during the pandemic are quite clear and well-planned. Furthermore, based on the outcome, they were given clear information and instructions about their work. This suggests that the university has provided detailed instructions to faculty members regarding the tasks they must do during the pandemic. Meanwhile, work overload was considered moderately experienced by faculty members during the pandemic but it resulted in statistically insignificant influence on occupational stress. This might emanate from the almost equal negative and positive views on their workload.

CONCLUSION

The results on the factors influencing occupational stress are consistent with the Michigan Model. However, only work-family conflict and lack of training exhibited a substantial effect which can be implied that these factors were amplified as to the existence of COVID-19 pandemic while four other factors do not have a significant effect on occupational stress.

As to Welford's Performance and Demand Theory, the findings are inconsistent with what is expected in relation to the theory. Even if the demand during the pandemic has changed, the faculty experienced slight stress and performed excellently in their work. With the result, these demands were satisfied by the faculty members as evidenced by the minimal level of stress experienced that has no significant effect on their performance as shown in their overall outstanding Teacher's Efficiency Rating.

Most of the faculty members are associate professors and have longer years of work experience. Those with shorter years of experience tend to experience more stress than those who have more years of experience and the higher the rank, the more capable an individual to adapt to the demands of his/her occupation. A faculty member also has a maximum load of 27 units including research and extension even at a flexible working set-up, the workload is almost the same. These are relevant information that can be drawn from the results and prior studies in relation to the level of occupational stress experienced and its relationship to the faculty performance.

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