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Original Paper

Analyzing the Connection between Occupational Stress Factors and Instructors' Productivity—Practical Shreds of Evidence from Lebanese Technical Schools

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Abstract

Academic institutions ensure substantial advantages by employing preventive stress strategies. The systematic intervention on occupational stress increases their productivity. The perception of tension in the workplace is linked with academic overload, lack of job security, stability, and nepotism. These encountered problems instigate occupational stress. This research is of a correlational descriptive nature. According to Lebanese instructors (teaching staff), it attempts to study relationships. The pre-structured questionnaire was suitable for collecting data from 715 Lebanese instructors. Results advocated that Lebanese instructors research job stability and security. Unsecure jobs have the most significant influence on productivity. Instructors being exposed to stressful situations are less productive. Occupational stress practices induce a variation in productivity. Lebanese technical should promote a culture of stress prevention by endorsing the feeling of job security and the permanency of their contract.

Keywords

Academic Overload, Lack of Job Security and Stability, Nepotism, Occupational Stress

1. Introduction

Occupational stress is increasing in this context, marked today by economic pressures, technological or social changes, and the hybridization of organizational management practices (Sutarto, Wardaningsih & Putri, 2021). Emphasis constitutes an actual financial and social cost for organizations. Stress factors differ according to individuals and are perceived differently according to sociodemographic characteristics, adoption mode, and reaction to the situation (Borg et al., 2021). Due to globalization, it is essential to encourage positive attitudes toward the flexibilization of labor relations to promote a relaxed work atmosphere while guaranteeing appropriate support (Ramos-Galarza & Acosta-Rodas, 2019). It is precarious jobs that determine the level of occupational stress. The consequences of stress do not only weigh on the individual in terms of suffering and damage to health. Occupational stress has organizational and economic repercussions (Heidarimoghadam et al., 2020). Demotivation, reduced creativity, a deterioration in productivity, and a deterioration in the social climate are occupational dysfunctions and represent strong indicators of occupational stress (Miranda et al., 2020).

Roberts, Sarfo, and Kwakye (2021); Nowrouzi-Kia et al. (2021); Atroszko, Demetrovics, and Griffiths (2020) noted that stress management remains problematic in the workplace. However, leaders are trying to minimize the consequences of this challenge to ensure organizational effectiveness. This study examines occupational stress's influence on instructors' productivity in Lebanese technical schools. The main question extracted from these facts is: What are the impacts of stress if it affects the academic staff member? What are the consequences if the stress sources were eliminated? What are the short- and long-term implications for instructors and the educational institution? What is the impact of innovative occupational stress factors (academic overload, lack of job stability and security, and nepotism) on the productivity of Lebanese instructors? An additional interrogation can be added to be explored in this research.

Universities are encouraged to adjust their organization to environmental changes increasing occupational stress constantly. From a managerial point of view, occupational stress and productivity as an organizational concept deserve to be studied to enlighten university managers on the instructors' attitudes. It determines practical contributions to reduce stress at work.

Academically, this rising concept of professional stress is rarely studied in terms of academic overload, nepotism, lack of job stability, and lack of security (AHMAD et al., 2021). The importance can explain this gap between the absence of academic work and social reality in the debates on the occupational stress concept and its influence on instructors' productivity in technical school settings (Buselli et al., 2021). Several critics pointed out the insufficient consideration in combining Karasek and the Siegrist theory (Zoeckler, 2017). This study aims to fill the theoretical gap by focusing on explaining the concept of occupational stress. This approach is applied to studying career attitudes and underlines a tension between dependence and independence regarding university structures as an organization. More specifically, this work tends to enrich this dialectic approach to career management by showing occupational stress's role and influence on productivity. The following section explains those concepts and the relationship between variables. The research methodology is described, followed by a vibrant interpretation of the results. Finally, recommendations conclude this research.

2. The Literature Review

Stress sources at work are multiple and vary enormously depending on the type of sector of activity and the functions of the individual (Kaewanuchit, 2017). Stress factors at work are grouped into several broad areas: factors associated with the performed task (workload), factors related to the organizational context (hierarchy), individual characteristics (coping with a job), and interpersonal relationship factors (Abbas, Farah & Apkinar-Sposito, 2013). Depending on working conditions, stress factors have fluctuating significance. Stress models have been proposed to integrate the complexity of stress. The Karasek and the Siegrist are among the most scientifically validated models (Kalboussi et al., 2020).

The Karasek model explains that stress results from two combined factors. On the one hand, the employee must achieve the demand (the workload). This demand is associated with job constraints related to the task execution in terms of work quantity and complexity and time constraints) (Truchot & Borteyrou, 2010). On the other hand, the decision-making latitude (the freedom covering the control over work. Control embraces the degree of autonomy, participation in decision-making, skills, and qualifications. It also includes the ability to develop new capabilities.

According to the Siegrist model, stress occurs when there is an imbalance between the executed efforts in work and the received rewards in return (Montano, Hoven & Siegrist, 2014). Efforts are measured in two spheres. Extrinsic actions correspond to psychological demands (time constraints, interruptions, responsibilities, overtime, physical load, increased demand). Intrinsic efforts epitomize personality facets (Siegrist, 2013). The latter includes three dimensions: the inability to leave tasks uncompleted, concealed competitiveness and anger, inconsistent impatience, and irritability. Rewards are embodied in three kinds: the degree of control over one's professional status (prospects for promotion, job security), the esteem received from colleagues and superiors, and monetary gains (salaries, bonuses). In terms of induced stress, the most harmful work situation corresponds to one where significant effort is required. This stress increases when employees feel the reward is insignificant (Lee, Kim & Park, 2022).

2.1 Occupational Stress Factors

Employees go through stressful situations and times in their life and work. Occasional stress is daily and acts as a performance driver (Li et al., 2021). Co-workers managing their daily stress are contingent and help others to move out from stressful circumstances and continue to be effective. However, when stress is prolonged, it is transformed into chronic stress. Chronic stress results from a toxic work environment (Kakemam et al., 2019).

Seven organizational stress factors are recognized by Vulanović et al. (2020); Zheng et al. (2020): working conditions (a task requiring significant emotional and mental resources); working time management (time flexibility, consequent period, and unpredictability); organizational roles (role ambiguity or role conflict); working relationships (no support from superiors); change in employment (feeling of job insecurity); organizational structure and climate (restructuring or relocation); articulation between private life and professional life (for example absence of partitioning between the personal sphere and the sphere of work) (Håkansson et al., 2021). Three main individual psychological vulnerability factors are confirmed: personality (feeling negative emotions), self-esteem (feeling of low value), and sense of control (no control over tasks).

2.1.1 Academic Overload

The academic overwork load is related to the teaching functions performed by instructors. Therefore, academic overload considers the accumulation of duties and compliance with the job description (Kamel, 2018). Consequently, precisely defining academic roles determines the possibility of work overload. In other words, it is related to the amount of academic work to be achieved quickly. Hence, physical and mental demands and time constraints are critical facets of academic overload (Shi et al., 2020).

2.1.2 Lack of Job Stability and Security

Universities are adopting flexible employment to encounter financial difficulties caused by the economic crisis. Academic institutions are resorting to a reduction in working hours and fixed-term contracts. Hiring part-time instructors contribute to flexible workforce management and rationalization of production costs (Alvarez-Risco et al., 2021). However, instructors being reimbursed only for work hours show tension and high stress due to the fear of losing their contract (financial sources). Losing the job means total economic insecurity and encompasses numerous disturbances in the instructor's life (Pacheco et al., 2020).

Job stability and security are attitudes linked to the career perception of employees assuming a choice, contradicting the social norm of physical mobility. Therefore, it cannot be interpreted absolutely (Teque-Julcarima, Gálvez-Díaz & Salazar-Mechán, 2020). Indicators assessing employment stability include the average duration of employment contracts.

2.1.3 Nepotism

Nepotism is defined simply as receiving work opportunities due to close friendships or family-blood relationships. Nepotism harms the organization by affecting employee morale, causing stress, and decreasing productivity (Islam et al., 2019). Nepotism is considered an attitude of favoritism. The latter is characterized by favoring a person from an employer in power, granting family or friends the selection choice without considering merit, aptitudes, abilities, or performance. Among the key factors explaining the phenomenon of nepotism is the fear of losing the contract of another instructor (Abramo, D'Angelo & Rosati, 2014). Depression, stress, and anxiety are classical consequences of nepotism. Adverse effects affect the instructors' productivity and the manager's credibility. Stressful situations increase demotivation (Gilani, 2020). Nepotism is a glaring problem that disrupts workplace satisfaction and professional growth.

2.2 Instructors' Productivity

The productivity of instructors includes the connection between academic results and the resources used to achieve those results. Critical factors delimitating instructors' productivity are previous experience, class discipline, and overall student success and failure (Alaidi, Yahya & AlRikabi, 2020). The productivity of the university system is calculated based on outgoing numbers weighted by the number of years spent in school. This weighting is justified somewhat by the existence of a positive correlation between the results of tests on university performance and the number of years spent in the same university (Prendergast et al., 2019).

Unfortunately, this weighting is hardly suited to several developing countries where the length of stay in school would rather be an index of inefficiency due to systematic repeating practices. It was also proposed to estimate the production of the school system by the number of outgoing students weighted by the number of exam successes for each category of the student body (Micabalo, Cano & Montilla, 2020). The idea behind this suggestion is that the exams sanction the levels of qualification achieved and therefore provide a good criterion for assessing the production quality. Cameron et al. (2016) considered the results of the examinations as indices for measuring instructors' productivity.

2.3 Research Hypotheses

The effects of occupational stress in the academic sector are diverse and varied. Primary stress sources at campus start with the number of students in the classroom. Crowded classes increase academic tasks and, therefore, stress. Academic overload and the lack of job stability and security are incredibly exhausting for instructors, namely for part-time contractors, and generate occupational stress (Cameron et al., 2016). Consequently, instructors cannot maintain academic productivity and may lose their careers. Stress causes a decrease in educational efficiency and a reduction in motivation and creativity. Instructors lose the motivation to accomplish daily tasks. Creative thinking becomes problematic when instructors are overwhelmed with anxiety (Borg et al., 2021). Another considerable stress-related risk is absenteeism. Absenteeism is a significant problem affecting academic organizations, leading to decreased productivity. Consequently, one primary and three sub-hypotheses are formulated.

H.1: Academic overload has a direct statistical influence on instructors' productivity.

H.2: Lack of job stability and security has a direct statistical influence on instructors' productivity.

H.3: Nepotism has a direct statistical influence on instructors' productivity.

2.4 Conceptual Framework

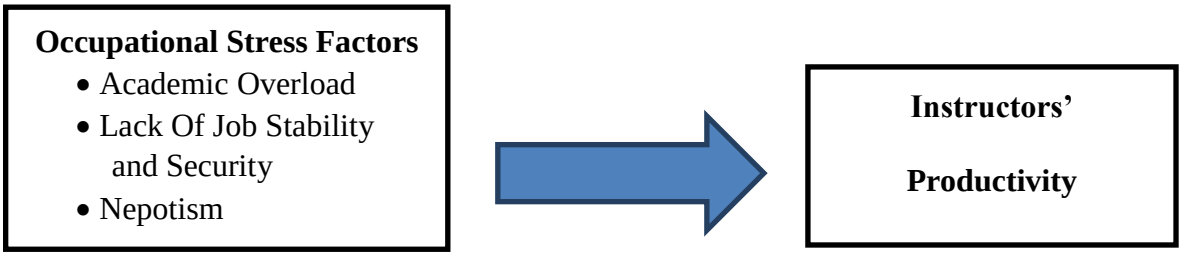

Figure 1. Conceptual Framework

3. Research Methodology

Occupational stress has been a subject of research and discussion in applied scientific research. The theoretical context has highlighted the associations between the instructors' productivity (dependent) and practical occupational stress practices (independent variables). Hence, this research is of the traditional explanatory type. This research is of a correlational descriptive nature. According to Lebanese instructors (teaching staff), it attempts to study relationships. Therefore, the knowledge of the elaborated concept is intellectually coherent and empirically relevant, and truth leads to the adoption of the philosophy of positivism. The quantitative method is suitable for this research to collect data from many Lebanese instructors (respondents). The pre-structured questionnaire embracing five sections, is then analyzed and statistically interpreted.

The deductive approach is based on the knowledge provided by theoretical work. The deductive approach is favored due to the abundance of literature, thus offering sufficiently solid theoretical foundations. The questionnaire is a privileged instrument for this research. The questionnaire (survey tool) targeted the population of Lebanese instructors teaching at public technical schools. The sample is composed of 715 participants. 860 questionnaires were distributed, and 715 were received. The latter represents a return rate of 83%. Questionnaires presenting missing data were canceled.

The empirical procedure took place in October 2022. Data collection was facilitated by including a straightforward statement informing the research's purpose. However, the questionnaire was pre-tested on a small group of instructors to check the ease of conveying the question contents. A pre-test study was carried out to validate the adapted measurement scales and ensure the smooth running of data collection. Statements and explanations were given during the distribution of the questionnaire. The anonymity and confidentiality of all information provided were secured. Questionnaires were distributed directly to instructors on campus. Enough time was ensured to answer these questions. Hence, a simple random sampling technique was chosen to form the sample.

4. Empirical Findings

A shortened version of the Karasek questionnaire was used to measure the association between practices of occupational stress and instructors' productivity. This version was adopted from the work of Borg et al. (2021), Cameron et al. (2016), and Siegrist (2013). It included 18 items grouped into four dimensions: academic overload (items=5, mean=3.6, std.=1), lack of job stability and security (items=5, mean=3.4, std.=0.9), nepotism (items=4, mean=3.5, std.=1), and instructors' productivity (items=4, mean=3.8, std.=1). On a scale extending from 1 (strongly disagree) to 5 (strongly agree), instructors (participants) responded to questions referring to their experience.

4.1 Descriptive Statistics

Table 1. Descriptive Statistics

	Minimum	**Maximum**	**Mean**	**Std. Deviation**	**Skewness**		**Kurtosis**	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Academic Overload	1.00	5.00	3.6610	1.09349	-.537	.091	-.960	.183
Lack Of Job Stability and Security	1.20	5.00	3.4870	.97979	-.454	.091	-.614	.183
Nepotism	1.00	5.00	3.5133	1.02618	-.567	.091	-.407	.183
Instructor's Productivity	1.25	5.00	3.8612	.88564	-.969	.091	.286	.183

The results of these preliminary analyzes indicate that the data samples are adequately distributed to carry out the statistical tests. Skewness and kurtosis support the normality in data distributions since values of the four dimensions are close to zero.

4.2 Cronbach Alpha & K.M.O

Variables in the questionnaire present excellent reliability and validity with a Cronbach's alpha and a KMO index above 0.5 (international threshold). The quality of these coefficients is an obligatory condition to validate the questionnaire. Therefore, items have good internal consistency and good sampling adequacy. The combination of items establishing these four scales within the same questionnaire is reasonable to calculate an overall agreement score concerning scales of occupational stress and instructors' productivity.

Table 2. Cronbach Alpha & KMO

Variables	Academic Overload	Lack Of Job Stability and Security	Nepotism	Instructor's Productivity
Cronbach alpha	0.794	0.820	0.750	0.735
KMO	0.881	.0882	.0884	0.899
SIG.	.000	.000	.000	.000
Items	5	5	4	4

The KMO coefficients of the four dimensions are between 0.881 and 0.889. Therefore, the sampling adequacy is excellent. The reliability indices of the dimensions are well above the standard of 0.5. Indices are between 0.735 and 0.820. Cronbach's alpha is acceptable. Each set of items is correlated and consistent with each other. They can be added together to form a scale for one dimension.

4.3 Matrix of Correlations

Table 3. Matrix of Correlations

		Academic Overload	Lack Of Job Stability and Security	Nepotism
Lack Of Job Stability and Security	Pearson Correlation	.298**	1	.017
	Sig. (2-tailed)	.000		.659
	N	715	715	715
Nepotism	Pearson Correlation	.128**	.017	1
	Sig. (2-tailed)	.001	.659	
	N	715	715	715
Instructor's Productivity	Pearson Correlation	**.197****	**.210****	**.182****
	Sig. (2-tailed)	**.000**	**.000**	**.000**
	N	**715**	**715**	**715**

The correlations between dimensions are suitable. The determinants of the correlation matrices for academic overload and instructors' productivity have a 0.000 significance and an average Pearson correlation; however, this value is different from zero. This index highlights the absence of information redundancy and the absence of the data collinearity phenomenon. These results demonstrate that the partial correlations are high, and their variance is not shared by more than one variable. The multicollinearity test (VIF, tolerance) is evaluated in a table (6).

4.4 Multiple Linear Regression (Hypotheses Testing)

Statistical analysis (linear regression tests) makes it possible to estimate the contribution (the "weight") of each factor to the level of stress. It establishes a classification of occupational stress practices according to this level of correlation with instructors' productivity.

Table 4. Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
-.300[a]	-.090	.086	.84660

The change in occupational stress practices induced minimum alteration in instructors' productivity. The direction of the correlation is negative, and the association between the IV. And DV. variables equal to 30% average since R=-0.30. In other words, any alteration in occupational stress practices causes a decrease (variation) in instructors' productivity.

Table 5. ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	50.438	3	16.813	**23.457**	**.000**
Residual	509.598	711	.717		
Total	560.035	714			

The Sig. tests for the aggregated dimensions are significant ($p<0.05$). The significance of the P-value rejects the null hypotheses indicating a correlation between occupational stress practices (independent variables) and instructors' productivity (dependent variable). It represents an identity matrix for this correlation in the table (6) of coefficients.

Table 6. Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
Model	B	Std. Error	Beta			Tolerance	VIF
(Constant)	2.459	.170		14.438	.000		
Academic Overload	.101	.031	-.125	3.313	.001	.896	1.116
Lack Of Job Stability and Security	.153	.034	-.170	4.526	.000	.911	1.098
Nepotism	.141	.031	-.164	4.533	.000	.983	1.017
DV: Instructor's Productivity							

The correlation between academic overload as an occupational stress dimension and productivity is significant since p=0.001, UB=101; B=-125. The direction of the correlation is negative, and the association between the two variables is average since the value of beta B=-0.125. The unstandardized beta of 10% induces a negative impact on instructors' productivity (a decrease of 12%). Consequently, those indices validate the first hypothesis. ***H.1: Academic overload has a direct statistical influence on instructors' productivity.***

The correlation between the lack of job stability and security and instructors' productivity is significant since p=0.000, UB=153; B=-170. The beta coefficient validates that the correlation is negative. The unstandardized beta of 15% negatively impacts instructors' productivity (a decrease of 17%). Consequently, those indices validate the second hypothesis. ***H.2: Lack of job stability and security has a direct statistical influence on instructors' productivity.***

The correlation between Nepotism and instructors' productivity is significant since p=0.000, UB=141; B=-164. The beta coefficient validates that the correlation is negative. The unstandardized beta of 15% negatively impacts instructors' productivity (a decrease of 16%). Consequently, those indices validate the third hypothesis. **H.3: Nepotism has a direct statistical influence on instructors' productivity.**

The correlation between the three dimensions of occupational stress and instructors' productivity is significant since p=0.06. The beta coefficient validates that the lack of job stability and security negatively influences instructors' productivity. Indeed, instructors being exposed to stress factors and stressful situations are less productive. In other words, occupational stress factors induce a variation in productivity. Consequently, stress factors in the workplace have a clear impact on instructors' productivity in Lebanese technical schools.

Lebanese instructors research job stability and security. According to the study population, those two facets are the most prevalent stressors, as is typically observed in most work stress studies. In terms of the overall stress influence, these factors certainly weigh, but others variables, such as academic overload and nepotism.

5. Conclusion and Recommendations

Stress remains a significant problem in Lebanese universities and partakes various negative repercussions in daily life. Stress is not always a destructive entity with negative consequences. Positive stress (eustress) can motivate and stimulate the team. It is an inspiration source for creativity and enhanced productivity. However, negative stress consequences, namely physical, emotional, and organizational, can lead to difficulties and impede success when managers increase pressure to meet expectations in conditions of uncertainty. Excessive stress is called burnout. Instructors who suffer from extreme stress or burnout feel drained and personally and professionally pressured. Unhealthy stress and the resulting burnout can severely impact a team's performance. Direct and indirect costs that the organization will incur include diminished productivity. Anxiety caused by excessive stress and apathy associated with burnout disrupts the workflow and reduces instructors' abilities to meet deadlines or compel them to complete academic tasks.

University executives should create a pleasant atmosphere to promote working conditions and reduce stress-related roots. However, the stress basis cannot be reformed instantly. It's imperative to find the root causes of stress and take action to remediate it. Several methods could be implemented to be proactive in dealing with stressful situations. Stress management courses and counseling can help instructors and employees.

Instructors should be motivated to show creativity. As it is possible to predict and decrease the academic workload due to budget cuts, heads of departments and deans should organize meetings to discuss expected results, provide guidelines to overcome obstacles, and facilitate the execution of academic tasks. They should give efficient plans according to each instructor's capabilities. Every instructor can contribute in different methods. Setting out clear work plan deadlines and expectations helps reduce stress. Consequently, instructors know exactly how to manage their time. Additional courses of action were proposed to promote favorable work contexts to reduce occupational stress and leverage productivity.

Academic institutions should promote a culture of stress prevention that considers a fair distribution of academic workload and favors work-life balance. In other words, HODs should adjust the workload to inspire the practice of work-life balance measures. Instructors should rely on the support of immediate superiors by strengthening knowledge and skills in management practices that promote academic productivity.

Core contributive angles emerged from this research. The results of this study could guide Lebanese technical schools as employers in implementing effective measures in terms of work-life balance to impact employees' stress levels positively. Results should inspire the development, updating, and promotion of policies that integrate well-being at work, reduce occupational stress, and improve productivity. This project contributes with effective interventions that help managers reduce the adverse effects of stress, mobilize the team energy to motivate it and strengthen cohesion. Therefore, as a managerial axis, this research helps to develop a policy and a corporate culture oriented towards productivity and well-being. The core policy should focus on training employees to develop their ability to manage stress and thus increase their resistance to stress.

This research has many limitations. The first restriction is the time limitation that confines the generalization of the results obtained. Besides, the simple random technique supports this fact since the sample does not represent the opinion of the entire education field. To exceed these limits, subsequent studies may reinforce these perspectives and work on more promising horizons. The first limitation is addressed in the conceptual framework of this research. This study only took into account the stance of Lebanese instructors in a quantitative method. Qualitative research is helpful to introduce additional variables from the point of technical schools' managers and heads of departments. The final limitation is represented in the quantitative analysis results since they are simple and descriptive. This study didn't explore the problem in depth.

Finally, it provides an improved consideration of the effects of occupational stress on productivity. A qualitative method deepening the relationship between the variables in an exploratory stage could lead to future research. Besides, integrating additional variables could expand the horizon for future studies. These variables could include working conditions and their consequences in terms of quality of service, and students' satisfaction is of great importance to be explored in the future. In this regard, examining the weight of other consequences that manifest themselves simultaneously, namely absenteeism and the intention to leave (turnover), would be interesting. The second line of research concerns the principle of reciprocity between professional stress and work commitment to specify the two-way relationships between the two variables. Indeed, this research concludes that stress is an antecedent of organizational commitment.

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