OCCUPATIONAL STRESS, ORGANIZATIONAL COMMITMENT, WORK ENGAGEMENT OF STEM TRACK PUBLIC SCHOOL TEACHERS: A PROPOSED EMPLOYEE WELFARE PROGRAM

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ABSTRACT

This descriptive-correlational study aimed to assess the occupational stress, organizational commitment and work engagement of teachers in public senior high schools in NCR offering STEM program. Frequencies, percentages, means and standard deviations were used in presenting the descriptive statistics. Confirmatory Factor Analysis (CFA) for verifying factor structures, Mann-Whitney and Kruskal-Wallis for testing differences, and Structural Equation Model (SEM) for determining the relationships of the latent variables were also utilized. The results revealed that teachers have moderate to high level of occupational stress. They also have high levels of organizational commitment and work engagement. Additionally, significant difference was found in the teachers' level of occupational stress when they are grouped according to age generation and years of service. Significant difference was also found in their levels of organizational commitment according to years of service and in their levels of work engagement according to age. The results of Structural Equation Model revealed that negative correlations of occupational stress to organizational commitment and work engagement, and positive correlation between organizational commitment and work engagement are all significant. Aside from the contribution of the study to the body of knowledge, the results of the study will be significant to administrators and policy-makers for creating programs, activities, and policies that will help improve the teachers' welfare.

Keywords: Occupational stress, organizational commitment, work engagement, STEM track teachers, structural equation model, confirmatory factor analysis

INTRODUCTION

Many countries are allocating significant portion of their budget for education. Education is one of the major factors that contribute to economic growth (Hanushek & Woessmann, 2010) and it plays a very significant role in reducing development gap of countries in ASEAN region (ASEAN State of Education Report, 2013).

Quality education is possible if there are competent teachers who are motivated, committed, and willing to engage. Teachers who are the main actors in delivering quality instructions deserve considerable attention. Policies, programs, and other activities that will help improve their welfare should be taken into consideration. Teaching is being considered as a noble profession (Muthuvelayutham & Mohanasundaram, 2012). However, it is still a problem on how to encourage potential students to pursue teaching career. Aside from the fact that teaching profession is not financially rewarding, there are other reasons why it is not attractive to many people. According to Jackson and Rothmann (2006), teaching is a demanding profession. It is one of the most stressful professions (Kaur, 2011; Kokkinos, 2007) that received great attention (Lazuras, 2006) and now becamea major field of interest in research (Antoniou, Ploumpi, & Ntalla, 2013). The study conducted by Aghar (2008) revealed that high school teachers in Tehran are experiencing moderate to high level of stress. High level of stress was also experienced by California teachers (Richards, 2012) and Chinese teachers (Yang et al., 2009). According to Yeboah and Ansong (2014), sources of occupational stress in the workplace are work demand, control, support, role, change, and relationship.

Several studies about the relationships of occupational stress to organizational commitment and work engagementwere already conducted. Harun et al. (2014) determine the relationship between stress and organizational commitment and found out that they are negatively correlated. This was supported by the study conducted by Alipour and Monfared (2015) who also found out that job stress is inversely related to overall organizational commitment and its dimensions such as affective, continuance, and normative commitment. Additionally, job stress is also negatively correlated with work engagement (Derbis, 2012),which was supported by the study of Ramos, Alés, and Sierra (2014) who also found out that stressors such as role conflict and role ambiguity are negatively correlated to work engagement.

Research findings showed that greater part of teachers' occupational stress is related to rapid pace of changes in education (Muthuvelayutham & Mohanasundaram, 2012). The K to 12 program, which was implemented in the Philippine educational system last 2012, created a lot of adjustments not only on the part of the government but also to all stakeholders. According to Tan (2017), Filipino teachers are experiencing occupational stress due to different personal- and school-related factors such as low salary that is not enough for their financial needs, high job demand, attendance in meetings, absence of congruency among their personal goals, the goals of the institution, and the department where they belong. However, high stress level of the teachers is also due to the absence of proper consultations regarding the changes, no authority to make decisions, lack of resources, and limited access to professional development (Agai-Demjaha, Minov, Stoleski, and Zafirova, 2015).

The Department of Education (DepEd) created a "Conceptual Framework for Basic Education Research Agenda," which consists of different research agenda that will help the agency gather information needed for formulating evidence-based policies, plans, programs, projects, and other activities (DepEd Order No. 39, s. 2016). One of the research agenda is on human resource development that gives emphasis on employees' welfare. The agency needs basis for determining capacity building activities and mechanisms most appropriate in promoting teachers' welfare that will sustain their commitment and work performance. The poor performance of the students in the National Achievement Test and other assessments such as Program for International Student Assessment (PISA) and Trends in International Mathematics and Science Study (TIMSS) (Care et al., 2015) served as basis for choosing the public STEM track teachers who are the key players for advancing mathematics and science education. The study assessed their levels of occupational stress, organizational commitment, and work engagement in order to provide information that are needed in creating evidence-based policies, plans, programs, projects, and other activities needed for improving the welfare of the teachers as stated in the DepEd Basic Education Research Agenda (BERA). Furthermore, the relationships of these latent variables and connections to their personal factors were also explored.

The study is significant in the field of research due to its contribution to the body of knowledge about the occupational stress of senior high school teachers and how it is related to their organizational commitment and work engagement. Results of the study are very useful for policy makers and administrators in creating policies, programs, and activities that will help improve the welfare of the teachers and for further improvement of the K to 12 implementation.

LITERATURE REVIEW

Studies were already conducted about the relationships among the teachers' level of occupational stress, organizational commitment, and work engagement. Differences in the teachers were also explored considering some personal characteristics.

Theoretical Framework

The study utilized the Job Demands-Resources Model (JD-R) to determine the relationship of occupational stress to organizational

commitment and work engagement. The job characteristics were measured depending on how stressful the job demands (demand factor, role factor, and change factor) and the resources (control factor, support factor, and relationship factor) in the workplace. A lot of studies showing the effectiveness in predicting important characteristics of the employeeswere already conducted. The model was used to predict employees' burnout and performance (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001), as well as to highlight the strengths and weaknesses of individuals, work groups, departments, and organizations as a whole (Bakker & Demerouti, 2007). It has been established that different job resources have an effect on the employees' future work engagement, which, in turn, can predict their organizational commitment (Hakanen, Schaufeli, & Ahola, 2008).

In this study, JD-R model was used as the framework for measuring occupational stress and extending it to see how it is related to organizational commitment and work engagement of the employees.

Occupational Stress

Every employee is experiencing stress in their work. It happens when the work demand does not match the employees' ability to perform and fully accomplish the work assignment (Kaur, 2011). Stress is also the result when too much pressure at work is not properly handled (Muthuvelayutham & Mohanasundaram, 2012).

There are different factors that are associated with occupational stress (Antoniou et al., 2013). Previous studies revealed that stress is the result of role overload, role insufficiency, social support, monthly income, and role limitations (Sun, Wu, and Wang, 2011), as well as performance pressure (Ahsan, Abdullah, Fie, & Alam, 2009; Iqbal, Khan, and Iqbal, 2012).

Tytherleigh, Webb, Cooper, and Ricketts (2005) revealed that job insecurity is the most significant source of stress of employees in higher education, while Wu, Zhu, Wang, Wang, and Lan (2007) found out that the most significant predictors of emotional exhaustion are role overload, responsibility, role insufficiency, and self-care. Other factors that may cause stress are physical condition of the workplace (Tiwari and Mishra, 2008), interpersonal relationships (Mokdad, 2005), organizational constraints and interpersonal conflicts (Mazzola, Schonfeld, & Spector, 2011), and work demand, control, support, role, change, and relationship (Yeboah & Ansong, 2014).

Teaching as a noble profession (Muthuvelayutham & Mohanasundaram, 2012) is now becoming demanding and more complex (Jackson & Rothmann, 2006). It is being considered as one of the most stressful professions (Kaur, 2011; Kokkinos, 2007). Teachers' stress received great attention (Lazuras, 2006) and becomes major field of interest in research (Antoniou, Ploumpi, & Ntalla, 2013). A lot of researches about occupational stress of elementary and secondary school teachers were already conducted (Pei & Guoli, 2007). In Turkey, teachers experienced mild level of stress (Eres & Atanasoska, 2011),while Macedonian teachers have moderate stress levels. Secondary school teachers in Tehran are experiencing moderate to high level of occupational stress (Ahghar, 2008). High level of stress was also experienced by California teachers (Richards, 2012) and Chinese teachers (Yang et al., 2009).

Occupational stress must be given considerable attention due to its effect to physical and emotional conditions of teachers that could affect their level of commitment and work engagement. Meams and Cain (2003) pointed out that stress can result to burnout and affect the teachers' decision to leave the profession. Therefore, there is a need to analyze the personal and social characteristics of the employees including their working environment, which could contribute to their occupational stress (Eres & Atanasoska, 2011). Proper stress management is necessary to lower its adverse effects on employees' commitment and their performance (Alipour and Monfared, 2015). Programs such as psychological counseling should be provided to help teachers on how to manage their stress (Yang et al., 2009).

In the Philippines, stress level of elementary and secondary school teachers is relatively high. This is due to many work-related factors, such as too many paper works, additional non-teaching-related activities, crowded classes, and incompetent superiors; personal factors, which include relationships; and economic factors, which involve inadequate salary and high cost of living (Mingoa, 2017).

Several studies focusing on some personal characteristics that are significantly related to occupation stresswere conducted. It had been posited that female teachers experience higher occupational stress than their male counterpart (Antoniou et al., 2013; Yang et al., 2009). Alternatively, there were also studies that point to male teachers having more occupational stress (Afrab & Khatoon, 2012;EresandAtanasoska, 2011) but no significant difference for male and female teachers in Macedonia (Eres & Atanasoska, 2011). Additionally, gender was established not a significant factor in teachers' job stress (Darmody & Smyth; 2011).

Aside from gender, teachers' years of service was found not significantly related to occupational stress (Antoniou et al., 2013; Eres & Atanasoska, 2011). However, this is contrary to the finding in Turkey where teachers who are teaching for at least 21 years are experiencing lower level of stressthan those who have been teaching for 10 years or less (Aftab & Khatoon, 2012).

There are contrasting results on the effect of age in occupational stress. Darmody and Smyth (2011) proved that those teachers who are in their forties are experiencing higher level of stress, while Chaplain (2008) claimed that as stress scores increased with age, these increases are not significant. İpek et al. (2018) found out that teachers from the 22 – 30 age group are experiencing the highest level of occupational stress, while teachers from 41 – 50 age group are the ones experiencing the lowest level.

Other variables were explored by Eres and Atanasoska (2011) who found that monthly salary and educational background are not significantly related to occupational stress. However, Lunau, Siegrist, Dragano, and Wahrendorf (2015) revealed that teachers with lower education are experiencing higher level of stress. In view of the foregoing discussion, it is hypothesized that

H1: There is significant difference in the teachers' level of occupational stress according to their profile.

Organizational Commitment

Organizational commitment is considered as one of the major interests of researchers in the field of organizational behavior and human resources management (Tella, Ayeni, andPopoola, 2007). Organizational commitment refers to a person's attitudes and attachment towards their organization (Ariani, 2013), and is "a person's dedication to a person, job or organization that drives him to face all the challenges in the workplace" (Tolentino, 2013). It is the "employees' desire to give power and responsibility for the welfare and success of the organization" (Chairuddin, Riadi, Hariyadi, & Sutadji, 2015).

To be more effective, an organization should create a spirit of cooperation and develop the employees' sense of commitment in the workplace (Tella et al., 2007). There are those who claimed that organizational commitment has three components: affective, normative and continuance commitment (Meyer & Allen, 1990, as cited inKhatibi, Assadi, & Hamidi, 2009), while Delobbe and Vandenberghe (2000) claimed it has four factors, namely affective, continuance, internalization, and compliance commitment.

Opportunities for professional growth and participation in decision-making may contribute to the teachers' commitment to their organization (Bogler and Somech, 2004) while giving appreciation to major accomplishment of the employees is necessary to build a strong commitment that will contribute to the achievement of the university's vision and mission (Bay, An, & Laguador, 2014).

Previous researches indicated that there are personal factors associated to organizational commitment. Aydin, Sarier, and Uysal (2011) found out that gender is significantly related to organizational commitment where male have higher level of commitment indicating that male teachers can adapt easily to the organizations' norms and values. However, Al-Ajmi (2006) found no difference in the organizational commitment of male and female government employees in Kuwait, which is consistent to the findings

of Naderi (2012). Additionally, Wong and Tong (2014) revealed that gender is not significantly related to organizational commitment, age is significantly related only to passive continuance commitment, education is significantly related to passive continuance commitment and normative commitment, and monthly salary is significantly related to passive continuance commitment. Farooq and Zia (2013) found out that the university teachers have medium commitment level. They also found out the male teachers are more committed to their organizations as compared to female teachers, which issimilar to the findings of Hulpia, Devos, and Van Keer (2009). Personal factors suspected to be related to organizational commitment of senior high school teachers were investigated to determine effective mechanism on how to further deepen their commitment to their respective organizations. Thus, it is hypothesized that:

H2: There is significant difference in the teachers' level of organizational commitment according to their profile.

Studies were already conducted on the relationship between occupational stress and organization commitment. It has been established that job stress is negatively correlated with organizational commitment in the banking sector employees that caused a decrease in their commitment (Bhatti et al., 2016), as well as among nurses in hospitals (Alipur & Monfared, 2015), and oil company employees are stressed working long hours in a remote and risky environment (Harun et al., 2014).

Negative significant relationship between the affective and normative dimensions of organizational commitment and job stress was also established among employees of National Olympics and Paralympic Academy (Khatibi et al., 2009). Additionally, the physical and health-related stress among railway employees can be used as predictor of normative, affective, and overall organizational commitment of the employees (Tiwari & Mishra, 2008).

In contrast, among employees of multinational company in Malaysia and Pakistan, although overall job stress and its dimensions, such as work overload, work ambiguity, work conflict, and resource inadequacy, are not significantly correlated with organizational commitment, organizational commitment moderated the effect of job stress to employees' performance (Jamal, 2011). Additionally, job stress and organizational commitment of employees who are taking further studies in the university were found to be positively correlated (Tang, 2008). Continuous and affective commitments were found to be positively related to job stress (Ziauddin, Khan, Jam, & Hijazi, 2010). Also, it was established that employees with high organizational commitment do not always have low work stress level (Bytyqi, Reshani, & Hasani, 2010).

In the case of senior high school teachers, there is a need to determine not only their occupational stress level but also its association to organizational commitment. Thus, the following is hypothesized:

H3: There is significant negative relationship between occupational stress and organizational commitment of the respondent-teachers.

Work Engagement

Engagement is a motivational construct that can be shared by employees in the workplace (Ariani, 2013). Schaufeli, Salanova, Gonzalez-Roma, and Bakker (2002) described it as the "employees' positive and fulfilling work-related state of mind characterized by vigor, dedication, and absorption."

According to Karatepe and Olugbade (2009), age, gender and education are not significantly related to work engagement of employees. Likewise, found to be not significantly related to work engagement is gender (Torrente, Salanova, & Llorens, 2013) and educational level (Lawrence, 2011).

Agarwal, Datta, Blake-Beard, and Bhargava (2012) revealed that male has higher level of work engagement compared to female, while Mauno, Kinnunen, and Ruokolainen (2007) found out that women felt more absorption and vigor than men.In some studies, age is found to be significantly related to work engagement (Shimazu & Schaufeli, 2009), and that there is a significant positive relationship between age and work engagement (Bezuidenhout & Cilliers, 2011; Schaufeli, Bakker, & Salanova, 2006).

According to Bay et al. (2014), enough services provided to teachers can lead to better work engagement. High level of employees' work engagement can bring greater commitment (Alzyoud Othman, and Mohd Isa, 2015), and that engagement predicts various work outcomes such as job satisfaction and intent to quit (Burke and El-Kot, 2010).

Ariani (2013) also found out that employee engagement is positively related to individual job performance of the employee. Because of the positive and beneficial consequences at the individual and organizational levels (Alzyoud et al., 2015), assessing the employees' personal characteristics together with their work engagement is necessary in order to generate information that can be used as basis for creating programs that will help improve work engagement level of the employees. Thus:

H4: There is significant difference in the teachers' level of work engagement according to their profile.

Occupational stress may also be related to work engagement. In the workplace, stress is one of the factors that negatively affect the work engagement of the employees (Iqbal et al., 2012). Stressors such as role conflict and role ambiguity are negatively correlated to work engagement (Derbis, 2012; Ramos, Alés, and Sierra, 2014), while job insecurity significantly affects work engagement and burnout (Bosman, Rothmann, & Buitendach, 2005). Job stressors arealso positively correlated with burnout (Derbis, 2012).

Padula et al. (2012) found out that occupational stress is significantly related to work engagement and it influenced how employees deal with work frustrations. There is also a significant relationship between job stress and different dimensions of employee engagement (Iqbal et al., 2012) and a significant association between employees' different sources of job stress and levels of work engagement (Coetzee and De Villiers, 2010). Thus, the importance of minimizing stress in the workplace is emphasized in order to encourage more engagement from the employees.

Hakanen, Bakker, and Schaufeli (2006) investigated teachers' burnout and work engagement and found out that the effect of job resources to organizational commitment is mediated by work engagement. Job resources, such as autonomy, performance feedback, and social support, were found to be all significant factors affecting the work engagement of academicians (Alzyoudet al., 2015); thus, they have to be given importance to help improve their work engagement.

On the contrary, Rothmann (2008) found out that job demand being considered a job stress is not significantly correlated to work engagement, specifically to vigor and dedication, and that lack of support, another stressor, is negatively correlated with vigor and dedication. This implies that support to the employees should be taken seriously in order to improve their work engagement. Further, the influence of organizational support to work engagement is not significant while work engagement of the employees is significantly influenced by supervisors' support (Chairuddin et al., 2015). This means that supervisors and managers who are in direct contact with the employees play an important role in helping the organization to encourage the employees attain their highest level of work engagement.

For senior high school teachers, assessing their occupation stress is necessary in order to create programs that will improve their work engagement.

Thus:

H5: There is significant negative relationship between occupational stress and work engagement the respondent-teachers.

Organizational commitment and work engagement are important factors that must be given attention by organizations in order to meet the desired performance of the employees. Previous studies revealed that work engagement has significant influence on the employees' organizational commitment (Chairuddin et al., 2015; Beukesand Botha, 2013). It was also established that employees with high level of job and organizational commitments will also have high level of affective and normative

commitments (Albdour & Altarawneh, 2014). Additionally, high level of job engagement can significantly affect the continuance commitment of the employees (Albdour & Altarawneh, 2014).

A comparative study about the work engagement and organizational commitment of employees working in private and public sector organizations in Ghana revealed that significant positive correlation exists between work engagement of the employees and their commitment to the organization (Agyemang & Ofei, 2013). This indicates that employees with higher level of work engagement also have higher level of organizational commitment.

Considering the significant relationships among the employees' organizational commitment, career satisfaction, and engagement, stronger relationship exists between employees' organizational commitment and their engagement (Khalid et al., 2015).

In the higher education institution in South Africa, it was established that significant relationship exists between affective commitment and work engagement, and that work engagement can be used as predictor of affective dimension of organizational commitment (Field & Buitendach, 2011). Eghlidi and Karimi (2016) surveyed female employees who are working in a university and found that among the three dimensions of work engagement, work dedication is the best predictor of employees' commitment to the organization. Additionally, it was posited that the relationship between affective commitment and job performance is mediated by work engagement, and work engagement also mediates the relationship between job satisfaction and intention of the employee to quit (Yalabik, Popaitoon, Chowne, & Rayton, 2013).

In view of the different findings, it is hypothesized that:

H6: There is significant positive relationship between organizational commitment and work engagement of the respondent-teachers.

Conceptual Framework

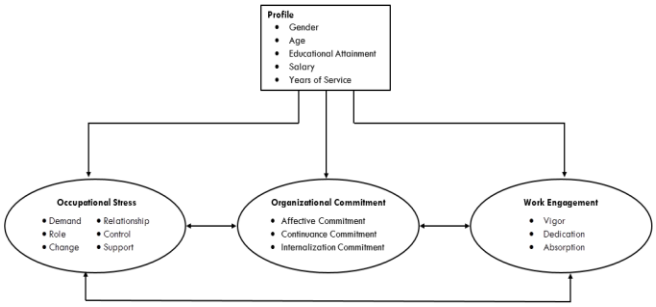

Figure 1. A Model Showing the Relationships of Occupational Stress, Work Engagement, and Organizational Commitment

The profile of the respondent-teachers, namely gender, age, educational attainment, monthly salary, and years in service, are observed variables investigated in the study together with latent variables such as occupational stress, organizational commitment, and work engagement.

METHOD

Research Design

Descriptive-correlational design was used in the study to describe the respondents' occupational stress, organizational commitment, and work engagement. Descriptive research design is normally used to describe and gain more information about the characteristics of the respondents while correlational research design helps determine the relationship or association between two or more variables. Furthermore, the study attempted to determine if significant associations exist between the three latent variables.

Respondents and Study Sites

Data regarding the different variables and their dimensions were obtained from the teachers teaching in the public senior high schools in Metro Manila offering Science, Technology, Engineering, and Mathematics (STEM) program. Data gathering was conducted in Metro Manila during the first term of academic year 2018 – 2019.There are a total of 159 public high schools in Metro Manila with senior high schools. Of these, 58 schools offer STEM program.

There are 53 teachers from the 7 schools in the first district (Manila); 147 teachers from the 23 schools in the second district (Mandaluyong, Marikina, Pasig, Quezon City, and San Juan); 92 teachers from the 5 schools in the third district (Caloocan, Malabon, Navotas, and Valenzuela); and 200 teachers from the 23 schools in the fourth district (Las Pinas, Makati, Muntinlupa, Paranaque, Pasay, Pateros, and Taguig). This resulted to a total of 492 teachers chosen purposively with the help of the school principal.

Sampling Technique

A complete list of public high schools in Metro Manila was obtained from the website of the Department of Education (DepEd). The schools were grouped according to districts or divisions and using stratified sampling technique, target schools were selected. All schools from each district or division offering STEM program were considered. Using GPower software and considering 95% confidence level, 80% statistical power and small effect size (e.s. = .02), at least 311 teachers are needed. The 492 teachers who participated exceeded the minimum sample size requirement and achieved 93% statistical power for correlation and regression analysis, and approximately 99% statistical power for comparing means.

Research Instruments

The survey questionnaire was composed of instruments adapted from published articles.

Variable	Dimensions	Number of items and reliability	Source
Occupational Stress	demand	9 items, α = .925	Mahmood, Coons, Guy, and Pelletier (2010), and YeboahandAnsong (2014)
	relationship	7 items, α = .823	
	control	5 items, α = .883	
	support	5 items, α = .828	
	role	6 items, α = .885	
	change	6 items, α = .913	
Organizational Commitment	affective	5 items, α = .887	Meyer and Allen (2004), and DelobbeandVanden berghe (2000)
	continuance	3 items, α = .882	
	internalization	4 items, α = .865	
Work Engagement	vigor	6 items, α = .812	Utretch Work Engagement Scale (UWES) by Schaufeli et al. (2006)
	dedication	5 items, α = .927	
	absorption	6 items, α = .879	

The instruments were modified and were subjected to validation to make sure that they satisfy the internal consistency level. Pilot testing was conducted to a group of teachers manifesting the same characteristics as the actual respondents in order to determine its cultural adaptability. The required Cronbach's alpha value of .70 or higher was satisfied in all the instruments both in the overall and dimensional level.

Data Gathering Procedure

Survey method was used for data gathering. The endorsement of the DepEd NCR regional office and division offices were sought. The endorsement letters were attached to the letter for the school principal together with the survey instruments for the target participants. Questionnaires were retrieved upon the completion by the teacher respondents.

Ethical Considerations

Attached to the questionnaire was a letter of consent for the participants to inform them about the purpose of the study and giving them idea on who will benefit from the results. Respondents' participation was on a voluntary basis where they can answer the survey instruments free from intimidation and possible anxiety. Questions were constructed in such a way that no item is offending to the participants. The respondents were assured of the confidentiality of the data to be gathered and guaranteed

them that it will be used only for the purpose of the research. For anonymity, participants were not required to write their names in the survey instruments. Codes were used only for verifying the accuracy of data encoding.

Data Analysis

The data was processed and analyzed using SPSS version 24 and Analysis of Moment Structure (AMOS) version 24. Mean, standard deviation, frequencies, and percentages were used to present the descriptive statistics of the study. Confirmatory Factor Analysis (CFA) was used to verify if all the indicators of the sub-dimensions are contributing significantly in measuring the construct. Mann-Whitney and Kruskal-Wallis test were used in testing for differences while Structural Equation Model (SEM) using AMOS was utilized to determine the relationships among the latent variables.

RESULTS

Profile of the Respondent-Teachers

The profile or personal characteristics of the participants include gender, age, educational attainment, salary, and years of teaching experience.

Table 1

Profile or background of the respondent teache

Age Cohort	Frequency	Percent
Generation Z	32	7.8
Generation Y	258	62.8
Generation X	98	23.8
Baby Boomers	23	5.6
Total	411	100.0
Gender	**Frequency**	**Percent**
Male	221	45.8
Female	262	54.2
Total	483	100.0
Educational Attainment	**Frequency**	**Percent**
College Graduate	93	19.5
With MA/MS units	213	44.7
MA/MS Graduate	105	22.0
With PhD units	55	11.5
PhD Graduate	11	2.3
Total	477	100.0

Salary Grade	Frequency	Percent
Salary Grade 11	119	25.8
Salary Grade 12	92	19.9
Salary Grade 13	151	32.7
Salary Grade 15	6	1.3
Salary Grade 16	4	.9
Salary Grade 17	2	.4
Salary Grade 18	28	6.1
Salary Grade 19	57	12.3
Salary Grade 20	3	.6
Total	462	100.0
Years of Service	**Frequency**	**Percent**
5 or less	315	74.6
6 to 10	59	14.0
11 to 15	21	5.0
16 to 20	13	3.1
21 or more	14	3.3
Total	422	100.0

Table 1 shows the profile of the participants in terms of age group, gender, salary, educational attainment, and years of teaching experience. Majority of the participants (n = 258, 62.8%) are generation Y teachers, commonly called as millennial who were born within the year 1977 – 1994 and 24 – 41 years of age. Very few teachers were baby boomers (n = 23, 5.6%) who were born on or before 1965 and currently 53 to 63 years of age. Approximately 45.8% are male (n = 221) and 54.2% are female (n = 262). Most of the teachers are receiving salary grades 11 to 13 (n = 362, 78.4%). When it comes to educational attainment, only 19.5% (n = 93) are not pursuing graduate studies. Majority of the teachers have masteral degree units (n = 213, 44.7%), or finished masteral degree (n = 105, 22%). Approximately 13.8% (n = 66) of the teachers have doctorate degree units or are doctorate degree holder. Around 74.6% (n = 315) are serving the current institution within 5 years while only 27.3% (n = 118) have total teaching experience of at most 5 years.

Confirmatory factor analysis

Table 2

Model Fit Measures of confirmatory factor analysis of occupational stress, organizational commitment, and work engagement using structural equation model

Measure	Threshold	Occupational Stress		Organizational Commitment		Work engagement	
		Estimate	Meaning	Estimate	Meaning	Estimate	Meaning
CMIN	--	2024.031	--	120.341	--	225.528	--
DF	--	613.000	--	48.000	--	73.000	--
CMIN/DF	Between 1 and 3	3.302	Acceptable	2.507	Excellent	3.089	Acceptable
CFI	>0.95	0.922	Acceptable	0.982	Excellent	0.971	Excellent
SRMR	<0.08	0.058	Excellent	0.051	Excellent	0.029	Excellent
RMSEA	<0.06	0.068	Acceptable	0.055	Excellent	0.065	Acceptable

CFA was used to determine the construct validity and dimensionality of occupational stress, organizational commitment, and work engagement.

Table 2 showed the acceptable values of the different model fit indices such as the ratio of chi-square and degree of freedom (CMIN/DF), comparative fit index (CFI), standardized root mean square residual (SRMR), and root-mean-squared error of approximation (RMSEA). For occupational stress, CFA revealed acceptable values of CMIN/DF, which is between 3 and 5, CFI that is greater than .90, and RMSEA that is less than .08 but with excellent value of less than .08. For the organizational commitment, CFA resulted to excellent values of the different model fit indices where CMIN/DF = 2.507, CFI = .982, SRMR = .051, and RMSEA = .055. For work engagement, CFA revealed also acceptable and excellent values of model fit indices where CMIN/DF = 3.089, CFI = .971, SRMR = .029, and RMSEA = .065. The values of the different model fit indices indicated good fitting model.

Table 3

Model validity measure of occupational stress (OS), organizational commitment (OC), and work engagement (WE)

	Construct	CR	AVE	Demand	Relationship	Control	Support	Role	Change
Occupational Stress (OS)	Demand	0.921	0.565	1					
	Relationship	0.876	0.503	0.577***	1				
	Control	0.926	0.715	0.527***	0.870***	1			
	Support	0.898	0.644	0.457***	0.908***	0.881***	1		
	Role	0.938	0.719	0.470***	0.801***	0.867***	0.862***	1	
	Change	0.927	0.681	0.588***	0.729***	0.761***	0.707***	0.778***	1

	Construct	CR	AVE	Affective	Continuance	Internalization
Organizational Commitment (OC)	Affective	0.912	0.679	1		
	Continuance	0.777	0.540	0.371***	1	
	Internalization	0.897	0.691	0.723***	0.501***	1

	Construct	CR	AVE	Vigor	Dedication	Absorption
Work Engagement (WE)	Vigor	0.859	0.550	1		
	Dedication	0.936	0.747	0.902***	1	
	Absorption	0.848	0.533	0.803***	0.815***	1

*** Significant at p < .001

Table 3 above showed the model validity measures of the 3 latent variables. Average variance extracted (AVE) measures the explained variance of the construct. For occupational stress, the values of AVE of the different constructs range from .503 to .719. For organizational commitment, AVE ranges from .540 to .679. And for work engagement, AVE ranges from .533 to .747. The AVEs of the different constructs satisfied the required value of at least .50, which indicated good discriminant validity (Fornell & Larcker, 1981). Composite Reliability (CR), which measures the internal consistency of the responses to the different items considering the actual loading of the items is greater than .70.

The CFA result of occupational stress confirmed the six factors with significant indicators and factor loadings ranging from .57 to .92. Best indicator of demand factor is the unrealistic time pressure, for relationship factor is the relationship with school administrators and supervisors, for control factor is the teachers' participation in making decisions, for support factor is the support of the colleagues, for role factor is their clear

understanding about their goals and objectives in the organization, and for change factor is related to communication.

The CFA result of organizational commitment confirmed the three factors with significant indicators and factor loading ranging from .62 to .94. Some of the items such as items 6 (This organization doesn't have a great deal of personal meaning for me), 7 (I would be unhappy to spend the rest of my career with this organization), 8 (I feel that I have enough options to consider leaving this organization), 9 (One of the few consequences of leaving this organization would be the scarcity of available alternatives), and 12 (Right now, staying with my organization is a matter of necessity as much as desire) were removed because of low and insignificant standardized loading. For affective commitment, best indicator is the teachers' feelings that they are like a part of the family at their organization. For continuance commitment, best indicator is their willingness to stay because leaving the organization would require personal sacrifice in their part due to inability of other organizations to give the same benefits they are currently receiving. For internalization commitment, it is best reflected in their reason why they prefer their organization to others is because of what it stands for and what its values are.

The CFA result of confirmatory factor analysis also confirmed the three factors with significant indicators and factor loading ranging from .60 to .89. However, items 1 (At my work, I feel like bursting with energy) and 13 (When I work, I forget everything else around me) were removed due also to low and insignificant standardized loading. CFA revealed that the best indicator of vigor is the teachers' excitement that when they get up in the morning, they feel like going to work. For dedication, best indicator is their feeling of enthusiasm in their job and the meaning and purpose they found in their work. While for absorption, best indicator is their feelings and experiences that they are immersed in their work.

Occupational Stress of teachers

Table 4

Descriptive statistics of the respondent-teachers' occupational stress

	Mean	SD	Skewness		Kurtosis		Interpretation
	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error	
Demand	5.04	1.16	-.55	.11	.16	.22	High
Change	4.28	1.38	-.26	.11	-.39	.22	Moderate
Role	3.73	1.39	.12	.11	-.58	.22	Moderate
Relationship	3.67	1.37	.15	.11	-.53	.22	Moderate
Control	3.88	1.37	.02	.11	-.44	.22	Moderate
Support	3.61	1.36	.22	.11	-.37	.22	Moderate
Occupational Stress	4.12	1.10	.06	.11	.07	.22	Moderate

Table 4 above showed the descriptive statistics of the level of teachers' overall occupational stress and its six dimensions. It shows that teachers are experiencing moderate level of occupational stress due to demand factors (M = 5.04, SD = 1.16) followed by change factor happening in the organization (M = 4.28, SD = 1.38). Teachers' level of stress in the area of relationship factor (M = 3.67, SD = 1.37) and support factor (M = 3.61, SD = 1.36) were the lowest. The table also shows that demand (skew = -.55) and change (skew = -.26) factors are skewed to the left while role (skew = .12), relationship (skew = .15), control (skew = .02), and support (skew = .22) are positively skewed. Among the six dimensions, only demand factor has positive kurtosis (.16), which indicates high level of stress. The STEM track teachers are experiencing moderate to high occupational stress in different aspects.

Table 5

Major factors contributing to teacher high level of occupational stress

Item	Statement	Mean
OS2	Too much work	5.45
OS7	Unrealistic time pressures	5.26
OS4	Conflicting demands	5.11
OS9	Too much pressure	5.07
OS3	Additional committee works	5.06

Mean is computed and used to determine the indicators with high contributions to the overall occupational stress level of the respondent-teachers. Table 5 shows that all indicators with the highest means are from the demand factor. This is the reason why the demand factor is the major contributing factor to the occupational stress of the respondent-teachers. Teachers' too much work (M = 5.45), unrealistic time pressures (5.26) and too much pressure (5.07), conflicting demands (5.11), and additional committee works (M = 5.06) contributed to respondent-teacher moderate to high level of occupational stress.

Table 6

Test of difference in the teachers' level of occupational stress according to their profile

Occupational Stress	Mann-Whithney (U) Test		Kruskal-Walls (H) Test							
	Gender		Age Generation		Salary		Education		Years of Service	
	U (1)	p-value	H (3)	p-value	H (2)	p-value	H (4)	p-value	H (4)	p-value
Demand	29211	.559	3.464	.325	.207	.902	3.223	.521	1.700	.791
Change	27123	.056	12.465	.006**	.570	.752	1.346	.854	18.349	.001**
Role	26616	.025*	7.589	.055	1.274	.529	3.173	.529	14.242	.007**
Relationship	26849	.037*	5.898	.117	2.817	.245	5.758	.218	13.736	.008**
Control	26096	.010*	9.785	.020*	3.916	.141	1.941	.747	10.665	.031*
Support	28071	.190	8.004	.046*	3.086	.214	7.168	.127	7.774	.100
Overall	27355	.078	11.403	.010*	1.156	.561	2.593	.628	12.618	.013*

** Significant at p < .01, * Significant at p < .05

Table 6 showed the test of difference between the male and female occupational stress levels using Mann-Whitney test. Significant difference was found in the male and female stress levels for role (U(1) = 26,616, p < .05), relationship (U(1) = 26,849, p < .05), and control (U(1) = 26,096, p < .05) factors. Results showed that male teachers are experiencing higher level of stress in these aspects. However, no significant difference was found in their overall occupational stress (U(1) = 27,355, p > .05). Both male and female teachers are experiencing moderate to high level of occupational stress with the demand factor giving the highest contribution.

Test of significant difference in the occupational stress of the teachers according to their age generation, salary, education and years of service was conducted using the Kruskal-Wallis (H) test. Results revealed that there was significant difference in their overall occupational stress (H(3) = 11.40, p < .05). Specifically, there were significant differences in their stress levels in the change factor (H(3) = 12.47, p < .05), control factor (H(3) = 9.79, p < .05), and support factor (H(3) = 8.00, p < .05). Occupational stress' mean ranking of generation Y teachers (M_{rank} = 218.87) is significantly higher than the mean ranking of baby boomer teachers (M_{rank} = 146.39). It also showed that generation Y teachers are experiencing the highest level of stress compared with the other groups. Their stress levels in the change, control and support factors are significantly higher than the baby boomer teachers. All the groups are experiencing equally high level of stress considering the demand, role, and relationship factors.

No significant differences was found in the level of occupational stress of teachers according to their salary grade (H(2) = 1.16, p > .05). It showed that the teachers' level of occupational stress does not significantly change according to salary grade. Regardless of salary grade, teachers are experiencing the same level of occupational stress. None of the occupational stress dimensions is following a consistent increasing trend.

There was no significant difference in the overall occupational stress level of the teachers according to educational attainment (H(4) = 2.59, p > .05). This indicated also that teachers' level of occupational stress does not change significantly according to their educational attainment.

There was significant difference in the overall occupational stress level of the teachers according to years of service in the current institution (H(4) = 12.62, p < .05). Significant difference was also observed in the different dimensions such as change (H(4) = 18.35, p < .05), role (H(4) = 14.24, p < .05), relationship (H(4) = 13.74, p < .05), and control (H(4) = 10.67, p < .05) factors. Teachers who served the current institution for 6 to 10 years

experienced the highest level of stress (M_{rank} = 241.93). However, teachers who served the institution for 11 to 15 years experienced the lowest level of stress (M_{rank} = 140.48). It also shows that each group is experiencing highest level of stress due to the demand factor.

These results showed that there is enough evidence to say that hypothesis 1 (There is no significant difference in the occupational stress level of the teachers according to their profile) should be rejected. Teachers' occupational stress is significantly different when they are grouped according to age and years of service.

Organizational commitment

The level of organizational commitment and test of its difference according to the profile of the respondent-teachers are presented in this section.

Table 7

Descriptive statistics of the respondent-teachers' organizational commitment

	Mean	SD	Skewness		Kurtosis		Interpretation
	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error	
Affective	5.27	1.02	-.52	.11	.59	.22	High
Continuance	4.62	1.31	-.47	.11	.06	.22	High
Internalization	4.99	1.14	-.43	.11	.07	.22	High
Organizational Commitment	5.01	.92	-.46	.11	.48	.22	High

Table 7 showed the descriptive statistics of the teachers' level of organizational commitment. Results revealed that among the three dimensions of organizational commitment, highest level was observed in the teachers' affective commitment (M = 5.27, SD = 1.02), followed by internalization commitment (M = 4.99, SD = 1.14), and lowest is continuance commitment (M = 4.62, SD = 1.31). All dimensions are negatively skewed with values between -1 and 0 while kurtosis is positive with values between 0 and 1. This indicates that majority of the teachers have high level of organizational commitment.

Table 8

Major factors contributing to teacher high level of organizational commitment

Item	Indicators	Mean
OC1	I feel a strong sense of belonging to my organization (school).	5.59
OC3	I feel like 'part of the family' at my organization.	5.44
OC2	I feel 'emotionally attached' to this organization.	5.23
OC4	I enjoy discussing my organization with people outside it.	5.16
OC15	The reason I prefer this organization to others is because of what it stands for, its values.	5.11

Table 8 shows the indicators contributing to the respondent-teachers' high level of organizational commitment. Strong sense of belongingness (M = 5.59) and family spirit in the organization (M = 5.44) are very important for the employees for them to be more committed to the organization. Teachers are emotionally attached to the school organization (M = 5.23) due to its values and what it stands for (M = 5.11). These feelings made them proud to talk about their organization even to people outside the school community (M = 5.16)

Table 9

Test of difference in the organization commitment levels according to the profile of the respondent-teachers

Organizational Commitment	Mann-Whithney (U) Test		Kruskal-Walls (H) Test							
	Gender		Age Generation		Salary		Education		Years of Service	
	U (1)	p-value	H (3)	p-value	H (2)	p-value	H (4)	p-value	H (4)	p-value
Affective	29091.0	.508	2.435	.487	8.639	.013*	5.737	.220	17.991	.001**
Continuance	26522.5	.021*	4.512	.211	.231	.891	1.843	.765	1.246	.871
Internalization	28999.5	.471	2.117	.549	3.616	.164	5.075	.280	12.333	.015*
Overall	27764.5	.133	2.466	.481	5.090	.078	4.442	.350	9.937	.042*

** Significant at p < .01, * Significant at p < .05

Table 9 showed the test of difference in the teachers' level of organizational commitment according to their profile. Mann-Whithney (U) test results revealed that male and female teachers'level of organizational commitment is not significantly different (U(1) = 27,764.50, p > .05), although male teachers have significantly higher continuance commitment compared to female teachers (U(1) = 26,522.50, p < .05). No significant difference was found in their affective commitment (U(1) = 29,091, p > .05) and internalization commitment (U(1) = 28,999.50, p > .05). Both male and female have high affective commitment, followed by internalization commitment, and the lowest is continuance commitment.

Test of significant difference in the organizational commitment of the teachers according to their age generation, salary, education and years of service was conducted using the Kruskal-Wallis (H) test also. According to age generation, no significant difference was found on the teachers' overall organizational commitment (H(3) = 2.47, p > .05). Considering its dimensions, no significant difference was also found in the teachers' level of affective (H(3) = 2.44, p > .05), continuance (H(3) = 4.51, p > .05) and internalization (H(3) = 2.12, p > .05) commitments. There is an increasing trend on affective and internalization commitments but a decreasing trend for the continuance commitment.

According to salary grades, no significant difference was found in the teachers' level of organizational commitment (H(2) = 5.09, p > .05), although significant difference was obtained in their affective commitment (H(2) = 8.64, p < .05). Continuance commitment is low for those teachers who are receiving salary grades of 11 to 13 (teacher level). However, teachers have the highest level of organizational commitment considering affective commitment. There is no pattern of increasing level of organizational commitment according to salary grades.

Considering educational attainment, results revealed that there were no significant differences in the teachers' level of affective (H(4) = 5.74, p > .05), continuance (H(4) = 1.84, p > .05), internalization (H(4, 66) = 5.08, p > .05), and overall organizational commitments (H(4) = 4.44, p > .05). Only continuance commitment followed consistent increasing trend according to educational attainment of teachers; however, the increase is not significant.

According to years of service, there were significant differences in the teachers' level of affective (H(4) = 17.99, p < .05), internalization (H(4) = 12.33, p < .05), and overall organizational commitments (H(4) = 9.94, p < .05). However, no significant difference was found in their continuance commitment (H(4) = 1.25, p > .05). Teachers who are serving the current institution for 11 to 15 years have the highest level of affective commitment (M_{rank} = 310.43) while teachers who are serving the institution for 21 years or more have the highest internalization commitment (M_{rank} = 279.04). An increasing level of organizational commitment according to years of teaching at the current institution was only found in internalization aspect.

The results proved that there is enough evidence to say that hypothesis 2 (There is no significant difference in the organizational commitment of teachers according to profile) should be rejected. Specifically, there is significant difference in the teachers' level of organizational commitment when they are grouped according to their years of service.

Work Engagement

The teachers' level of work engagement at test of its difference according to profile are presented in this section.

Table 10

Descriptive statistics of the respondent-teachers work engagement

	Mean	SD	Skewness		Kurtosis		Interpretation
	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error	
Dedication	5.16	.83	-1.23	.11	1.61	.22	High
Vigor	4.84	.80	-1.08	.11	2.30	.22	High
Absorption	4.81	.85	-.89	.11	1.41	.22	High
Work Engagement	4.94	.75	-1.13	.11	1.74	.22	High

Table 10 indicated that among the three dimensions of work engagement, highest level was observed in the teachers' dedication (M = 5.16, SD = .83) followed by vigor (M = 4.84, SD = .80). All dimensions are negatively skewed with values between -1 and 0 while kurtosis are positive with values between 0 and 1. This indicates that majority of the teachers have high level of work engagement.

Table 11

Major factors contributing to teachers' high level of work engagement

Item	Indicators	Mean
WE10	I am proud of the work that I do.	5.24
WE11	My job is challenging enough.	5.19
WE7	I find the work that I do meaningful and purposeful.	5.14
WE9	My job inspires me.	5.14
WE8	I am enthusiastic about my job.	5.11

Table 11 shows the indicators contributing to the respondent-teachers high level of work engagement. Teachers are proud (M = 5.24) and find meaning and purpose in their work (M = 5.14). They feel inspired (M = 5.14), enthusiastic (M = 5.11), and challenged by the teaching job (M = 5.19). These indicators were considered as the top contributing factors to respondent-teachers high level of work engagement.

Table 12

Test of difference in the work engagement levels according to the profile of the respondent-teachers

Work Engagement	Mann-Whithney (U) Test		Kruskal-Walls (H) Test							
	Gender		Age Generation		Salary		Education		Years of Service	
	U (1)	p-value	H (3)	p-value	H (2)	p-value	H (4)	p-value	H (4)	p-value
Dedication	27422.5	.081	5.504	.138	1.863	.394	1.669	.796	9.714	.272
Vigor	28928.5	.442	7.545	.056	2.232	.328	3.593	.464	8.435	.046*
Absorption	27917.5	.158	8.230	.041*	6.213	.045*	1.700	.791	8.983	.077
Overall	27639.5	.113	8.267	.041*	2.308	.315	1.455	.835	5.153	.062

** Significant at p < .01, * Significant at p < .05

Table 12 showed the test of differences in the teachers' level of work engagement was conducted again using Mann-Whitney U test when they are grouped according to gender and Kruskal-Wallis if according to age, salary, education, and years of service. Results revealed that there was no significant difference between the male and female level of dedication (U(1) = 27,422.50, p > .05), vigor (U(1) = 28,928.50, p > .05), absorption (U(1) = 27,917.50, p > .05) , and overall work engagement (U(1) = 27,639.50, p > .05).

According to age generation, the results of Kruskal-Wallis test revealed that there was significant difference in the teachers' overall level of work engagement (H(3) = 8.27, p < .05). Baby boomer teachers have the highest level of work engagement (M_{rank}= 245.96) while generation Z teachers have the lowest level (M_{rank}= 162.89). Specifically, significant difference was found only in their level of absorption (H (3) = 8.23, p < .05), but not in dedication (H(3) = 5.50, p > .05) and vigor (H(3) = 7.55, p > .05). An increasing trend in the teachers' level of dedication, vigor, and absorption were found in relation to age generation.

Results also revealed that there were no significant difference in the teachers' level of dedication (H(2) = 1.86, p > .05), vigor (H(2) = 2.23, p > .05), and overall work engagement (H(2) = 2.31, p >. 05) according to salary grade. However, there was significance difference in the teachers' level of absorption (H(2) = 6.21, p < .05). Teachers who are receiving salary grades of 18-20 or the master teachers have the highest level of absorption (M_{rank} = 273.68) while teachers who are receiving salary grades of 11 to 13 have the lowest level (M_{rank} = 236.99).

According to their educational attainment, the results of Kruskal-Wallis test revealed that there were no significant differences in the teachers' level of dedication (H(4) = 1.67, p > .05), vigor (H(4) = 3.59, p > .05), absorption (H(4) = 1.70, p > .05), and overall work engagement (H(4) = 1.46, p > .05).

According to years of service,the results of Kruskal-Wallis test revealed that there were no significant differences in the teachers' level of dedication (H(4) = 9.71, p > .05), absorption (H(4) = 8.98, p > .05), and overall work engagement (H (4) = 5.15, p > 05). However, there was significant difference in the teachers' level of vigor (H (4) = 8.435, p < 05). Teachers who are serving the institution for 11 to 15 years have the highest level of vigor (M_{rank}= 287.95).

The results showed that there is enough evidence to say that hypothesis 3 (There is no significant difference in the work engagement level of the respondent-teachers according to profile) should be rejected. Specifically, there was significant difference in the teachers' level of work engagement when they are grouped according to age generation.

Structural equation model

This section contains the correlation results of occupational stress, organizational commitment, and work engagement using structural equation model.

Table 13

Model fit indices for structural equation model

Measure	Estimate	Threshold	Interpretation
CMIN	73.173	--	--
DF	38.000	--	--
CMIN/DF	1.926	Between 1 and 3	Excellent
CFI	0.995	>0.95	Excellent
SRMR	0.045	<0.08	Excellent
RMSEA	0.043	<0.06	Excellent
PClose	0.752	>0.05	Excellent

Table 13 showed the different model fit indices that were used to assess the structural equation model. The ratio of chi-square to the degree of freedom (CMIN/DF = 1.926), comparative fit index (CFI = .995), standardized root mean square residual (SRMR = .045), and root mean square error approximation (RMSEA = .043) obtained excellent values and indicated good model fit of data.

Table 14
Regression estimates of the different dimensions of occupational stress, organizational commitment, and work engagement

Variable	Dimensions	Unstandardized Estimate	S.E.	Standardized Estimate	P-value
Occupational Stress	Demand	.603	.040	.620	***
	Role	.856	.034	.881	***
	Change	.729	.076	.755	***
	Relationship	.934	.031	.984	***
	Control	.916	.032	.947	***
	Support	.945	.032	.975	***
Organizational Commitment	Affective	.875	.042	.902	***
	Continuance	.416	.043	.462	***
	Internalization	.820	.042	.843	***
Work Engagement	Vigor	.935	.032	.975	***
	Dedication	.951	.032	.970	***
	Absorption	.850	.034	.886	***

***Significant at p < .001

Table 14 indicated that six dimensions of occupational stress, three dimensions of organizational commitment, and three dimensions of work engagement are all important dimensions with significant standardized estimates ranging from .462 to .984 (p < .001). Occupational stress explained the highest variation in relationship (96.83%) and support (95.06%) factors. Organization commitment greatly explained the variation in affective commitment (81.36%), while work engagement greatly explained the variation in teachers' level of vigor (95.06%).

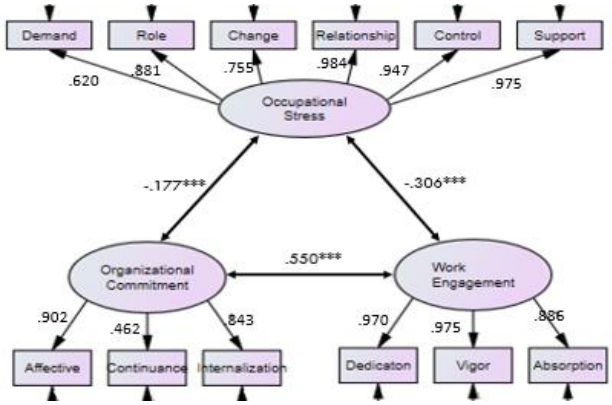

Figure 2. Structural equation model of the relationship between occupational stress, organizational commitment, and work engagement using the maximum likelihood estimates.

The emerging structural equation model shown in figure 5 revealed that significant correlation existed between the three latent variables. Occupation stress is significantly correlated to organizational commitment (β = -.177, p <. 001) and work engagement (β = -.306, p <. 001). However, positive correlation existed between organizational commitment and work engagement (β = .550, p <. 001). It is also shown in the results that overall occupational stress greatly explained the relationship and support factors. However, the overall organizational commitment can be best seen in the teachers' affective commitment while overall work engagement in teachers' vigor and dedication.

The results of SEM proved that there are enough evidences that hypothesis 4 (There is no significant relationship between occupational stress and organizational commitment), hypothesis 5 (There is no significant relationship between occupational stress and work engagement), and hypothesis 6 (There is no significant relationship between organizational commitment and work engagement) should be rejected.

The results of data analysis revealed that there are personal factors significantly related to occupational stress, organizational commitment, and work engagement and that these three latent variables also have significant relationships.

DISCUSSION

Occupational Stress

The data gathered in this study revealed that teachers are experiencing moderate to high level of occupational stress. Too much work, unrealistic time pressures, additional committee works and conflicting work demands contributed to the occupational stress of the teachers. The result is consistent to the findings of Chaplain (2008) that secondary school teachers considered teaching very stressful while according to Sun et al. (2011), even university teachers are also experiencing severe occupational stress. Teachers are experiencing so much pressure due to too much workload or numerous teaching responsibilities that aside from their regular teaching duties, such as lesson preparation and correcting test papers, they need to communicate with parents, perform some administrative duties, and comply with research output (Sun et al., 2011). In addition to their excessive workload, they don't have opportunity to communicate with their school administrators and colleagues, which is the reason why they cannot get adequate support to manage their stress (Yang et al., 2009). Too many changes at work that are not properly communicated also contributed to occupational stress of teachers. According to Yang et al. (2009), the high level of occupational stress is due also to changes in education and in utilizing modern technologies for educational purposes that require time and effort in absorbing the latest knowledge to keep abreast with the latest trends in education.

Occupational stress of teachers does not differ significantly according to gender. However, when considering the dimensions of occupational stress, male teachers experienced significantly higher level of stress reflected in the role, relationship, and control factors. Male teachers are experiencing higher level of stress due to relationship problems in the workplace. They are more affected by damaged relationships and arguments in the workplace compared to female. Understanding the teachers' roles and role conflicts in the workplace also contributed to higher stress level of male teachers. Giving more authority in their job and opportunities to participate and implement decisions can contribute to reduce the stress of male teachers. These findings do no support the study of Yang et al. (2009) and Antoniou et al. (2013), which revealed that female teachers have higher occupational stress than male teachers. According to them, female teachers in China usually accept more responsibility than males. To reduce the gender gap in occupational stress, equal opportunities and adequate support must be provided in order for them to manage occupational stress properly.

Change factors, such as changes at work and speed of change, contributed to the higher occupational stress level of generation Z and generation Y teachers. This result is somewhat parallel to the findings of İpek et al. (2018) who revealed that teachers from the 22 – 30 age group are experiencing the highest level of occupational stress while teachers from 41 – 50 age group are the ones experiencing the lowest level. This also confirms the findings of Sun et al. (2011) that occupational stress decreased for aging teachers. Therefore, the baby boomer teachers who are experiencing the lowest level of occupational stress could help the other teachers on how to manage the stress. Teachers, whether they are receiving high or low monthly salary, are experiencing the same level of occupational stress. This relationship of salary grade to the overall occupational stress is not consistent to the findings of Sun et al. (2011) who revealed that monthly salary is associated with occupational stress. They further explained that teachers who are getting higher salaries are confronted with a lot of pressure due to performance-based management measures. Despite an increasing trend of occupational stress according to educational attainment, the differences failed to reach at significant level. This is contrary to the finding of Lunau et al. (2015) that teachers with lower education are experiencing higher level of stress. Teachers who have longer teaching experiences have the lower level of occupational stress due to change, role, relationship, and control factors. This study supports the findings of Aftab and Khatoon (2012) who revealed that highest level of occupational stress was experienced by teachers who are teaching for 6 to 10 years. The current study revealed that teachers teaching for 11 to 15 years have the lowest level of occupational stress while Aftab and Khatoon (2012) found it to teachers teaching from 0 to 5 years. Therefore, an assessment of additional works should be made in order to have proper delegation of tasks to teachers from different groups where complicated tasks can be assigned to teachers with lower level of occupational stress.

Organizational Commitment

The study revealed that teachers have high level of organizational commitment. This is higher than the university teachers who, according to Farooq and Zia (2013), have medium commitment level. Assessing organizational commitment is important to determine the right people who can contribute in achieving the goals of the organization (Nagar, 2012). The result of this study that there is no significant difference in the organizational commitment of male and female teachers is consistent to the findings of Anari (2012). Contrary to this result, the studies of Farooq and Zia (2013) and Hulpia, Devos, and Van Keer (2009) revealed that male teachers are more committed to their organizations as compared to female teachers. The current study also supported Albdour and Altarawneh (2014) who revealed that there is no significant difference in the organizational commitment of employees according to their educational level. This is also an indication that educational attainment is not significantly related to organizational commitment. In contrary, Wong and Tong (2014) found out that educational attainment is significantly related to continuance commitment.

The organizational commitment of the teachers does not differ significantly according to their salary grades. This result is not consistent to the claim of Wong and Tong (2014) that monthly salary is significantly related on passive continuance commitment. The current study supported again Albdour and Altarawneh (2014) who claimed that there is no significant difference in the organizational commitment of employees according to age generation. However, their claim that there was no significant difference in the organizational commitment of employee according to their tenure is not supported. Significant difference in the overall organizational commitment is observed between teachers with 11 to 15 years of teaching experience and teachers with 5 years or less teaching experience. Additionally, significant difference in the affective commitment wasobserved between teachers with 11 to 15 years of teaching experience and teachers with 6 to 10 and 5 years or less teaching experience. For internalization commitment, significant difference was observed between teachers with 21 years or more teaching experience and teachers with 5 years or less teaching experience.

Work Engagement

STEM track teachers manifested high level of work engagement. The insignificant difference between the male and female levels of work engagement is not consistent to the findings of Mauno et al. (2007) who revealed that women have higher level of absorption and vigor compared to men. This is contrary also to the findings of Agarwal et al. (2012) who revealed that male has higher level of work engagement compared to female. The current study also revealed that there is significant difference in the work engagement level of the respondent-teachers according to age generation. Baby boomer teachers have significantly higher level of work engagement compared to generation Z teachers. This is an indication that age is significantly and positively related to work engagement, which support the same claims of many researchers (Agarwal et al., 2012; Bezuidenhout & Cilliers, 2011; Shimazu & Schaufeli, 2009; and Schaufeli et al., 2006).

There is no significant difference in the work engagement level of the respondent-teachers according to their educational attainment. Although teachers with MA degrees have higher level of work engagement, which is also true for dedication and absorption, the differences were not significant when compared to the other groups. The study failed to support other related studies who revealed that significant relationship exists between educational attainment and work engagement (Agarwal et al., 2012; Lawrence, 201; Karatepe & Olugbade, 2009). The current study also found out that there was no significant difference in the work engagement level of the teachers according to their salary. This also indicates that salary is not significantly related to work engagement and thus it cannot explain the work engagement level of the teachers. However, when considering the dimensions, significant difference was found between the absorption level of master teacher and head teacher.

Considering the teachers' years of service, highest level of work engagement was obtained by teachers who are teaching 11 to 15 years and the lowest by the teachers teaching for 5 years or less. Specifically, group of teachers teaching for 21 years or more has the highest level of dedication and absorption, while group of teachers teaching for 11 to 15 years have the highest level of vigor. In general, however, there was no significant difference in the work engagement level of the teachers according to years of service. This indicationof no relationship between years of service and work engagement contradicts the findings of Agarwal et al. (2012).

Occupational stress, organizational commitment, and work engagement

SEM results revealed that significant relationships existed between occupational stress, organizational commitment, and work engagement. The negative relationship between occupational stress and organizational commitment supportedBhatti et al. (2016) who emphasized that occupational stress is one of the factors that contribute to employees' low organizational commitment. The study also supported the findings of Alipour and Monfared (2015) who claimed that occupational stress and organizational commitment are inversely related. They further emphasized that occupational stress is negatively related to affective and continuance commitments. Additionally, the findings of Harun et al. (2014), Khatibi et al. (2009), and Tiwari and Mishra (2008) are also supported by the current study. Among the three dimensions of organizational commitment, affective commitment is the one highly correlated with occupational stress while continuance commitment is not correlated. This is consistent to the findings of Khatibi et al. (2009).

Considering the relationships between the dimensions, affective commitment is significantly and negatively correlated with the six dimensions of occupational stress while internalization commitment is significantly and negatively correlated to all dimensions of occupational stress except to change factor. The overall organizational commitment level of the teachers is significantly correlated to all the six dimensions.

However, the current study failed to support Jamal (2011) who claimed that overall occupational stress and its dimensions, such as work overload, work ambiguity, work conflict, and resources, are not significantly related to organizational commitment. Tang (2008) and Ziauddin et al. (2010) who revealed that occupational stress and organizational commitment are positively relatedwere not supported also. According to Bytyqi et al. (2010), employees with high organizational commitment do not always have low work stress level. Teachers who are more committed to their organization have the tendency to exert more effort, time, and resources, which could contribute to their stress level. When the support of the supervisor or administrator is not enough, the organizational commitment of the employees will not improve (Chairuddin et al., 2015).

The significant negative relationship between occupational stress and work engagement of public STEM track teachers supported the findings of Padula et al. (2012) and Derbis (2012). According to Iqbal et al. (2012), stress is one of the factors that negatively affect the work engagement of the employees in the workplace. Considering the relationship between work engagement and occupational stress, all the six dimensions of occupational stress are significantly and negatively correlated with dedication, vigor, absorption, and overall work engagement. Additionally, the findings of Ramos et al. (2014) about the negative relationship of role conflict and role ambiguity to work engagement were supported. Ways on how to minimize occupational stress should be prioritized in order to encourage higher work engagement of the employees (Iqbal et al., 2012). Giving more autonomy can improve the work engagement (Mustosmäki et al., 2013). For academicians, autonomy and social support are important to encourage higher engagement (Alzyoud et al., 2015). Support factor significantly influenced work engagement (Chairuddin et al., 2015). According to Rothmann (2008), employees who experience high stress due to lack of support have lower level of vigor and dedication. This means that supervisors and administrators who are in direct contact with the employees play an important role in helping the organization to encourage the employees attain their highest level of work engagement.

The positive relationship between organizational commitment and work engagement of public STEM track teachers supported the findings of Chairuddin et al. (2015), Beukes and Botha (2013), and Agyemang and Ofei (2013). This indicates that employees with higher level of work engagement also have higher level of organizational commitment. The current study also showed that significant positive correlation exists between the dimensions of organizational commitment and work engagement. The dimensions of work engagement, namely dedication, vigor, and absorption, are

significantly and positively correlated to affective commitment, continuance commitment, internalization commitment, and overall organizational commitment. According to Field and Buitendach (2011), significant relationship exists between affective commitment and work engagement, and work engagement can be used as predictor of affective dimension of organizational commitment. Additionally, Eghlidi and Karimi (2016) pointed out that among the three dimensions of work engagement, work dedication is the best predictor of employees' commitment to the organization. In the current study, vigor could be the best predictor of organizational commitment and affective commitment to work engagement due to their high correlations.

CONCLUSION

The current study revealed some significant differences regarding the teachers' level of occupational stress, organizational commitment, and work engagement. Generation Y teachers and teachers with 6 to 10 years of experiences have significantly higher level of occupational stress. Teachers with at most 5 years of service have the lowest level of organizational commitment while generation Z teachers have the lowest level of work engagement. Teachers are experiencing high level of stress due to so many factors such as too much work, time pressure, conflicting work demands, involvement in different committee works, and insufficient space for different activities.

To address the needs of the senior high school teachers, a welfare program is proposed. The program is an intervention program to improve the welfare of the teachers especially those who are experiencing higher level of occupational stress and those with the lowest level of organizational commitment and work engagement. Aside from helping the teachers manage their occupational stress, the program should give them the opportunities to experience sense of belongingness and high level of family spirit, which can contribute to further improve their organizational commitment. When teachers feel proud, inspired, enthusiastic, and challenged, and found meaning and purpose in their teaching job, ahigher level of work engagement can be attained.

Since significant relationships were also found among the teachers' level of occupational stress, organizational commitment, and work engagement, this implied that those teachers with higher occupational stress are those with lower organizational commitment and work engagement, and teachers with lower level of commitment are also those with lower level of work engagement. Policy makers and school administrators should consider personal and school related factors when creating policies, programs, or activities that will help improve their welfare. A customized welfare program at the individual school level should be created in order to address the needs of the teachers.

Furthermore, similar studies can be conducted considering bigger scope, different sectors, and other school-and non-school-related factors affecting teachers' work performance. Additional researches related to DepEd research agenda are also suggested. Aside from the contribution to the body of knowledge, the present study and the suggested future researches are expected to contribute not only in improving the welfare of the teachers but also to the improvement of quality of Philippine education in general.

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