

## Development and Validation of Teachers' Occupational Stress Scale



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**ABSTRACT:** Occupational stress has become increasingly common in teaching profession. Elementary school teachers possess the most crucial position in the entire system of education. It is deemed important to identify stressors of teachers to help them assess and manage their occupational stress in the workplace. However, no occupational stress scale has been developed for use among public elementary teachers in the Philippines. The study aimed to develop and validate a contextualized Occupational Stress Scale for public elementary teachers. This study was guided with the classical test theory approach. It utilized exploratory sequential mixed methods research design. Literature reviews and in-depth interviews were used to gather qualitative data that was used in the generation of items. Survey data was collected from elementary public teachers in Region VIII (total N=1417) using proportionate simple random sampling. Exploratory factor analysis was used to discover the underlying latent structure of the test. A 60-item scale with three-factor model was developed and labelled as Poor working environment, Work overload, and Student Misbehavior. The findings provided strong evidence that factors related to poor working environment, work overload and students' misbehavior are the common stressors of public elementary teachers. The Occupational Stress Scale showed excellent overall internal consistency ( $\alpha = .970$ ) with strong coefficient alphas for Poor working environment ( $\alpha = .962$ ), Work overload ( $\alpha = .953$ ), and Student Misbehavior ( $\alpha = .936$ ) factors. Hence, this scale has the potential to be a consequential tool measuring and assessing teachers' level of stress.

**KEYWORDS:** Occupational Stress Scale, Exploratory Factor Analysis, Scale Development, Scale Validation, Teacher Stress

### INTRODUCTION

Work is one of the most important components for human survival. Due to the competitive nature of working environment, most of the people are spending their time on work which causes a great deal of stress. A little bit of stress can keep the worker energetic, focused and motivated to overcome challenges in the workplace. However, in today's hectic world- long hours, tight deadlines, and increasing demands can leave the workers worried, drained and overwhelmed. According to International Labor Organization (ILO), stress related with a job or occupation is called occupational stress. It has been considered as leading stressor among adults and affects all countries, all professions and all categories of workers. World Health Organization defines occupational stress as, "a pattern of reactions that occurs when workers are presented with work demands not matched to their knowledge, skills or abilities and which challenge their ability to cope".

International Labour organization (ILO) considers occupational groups like policemen, prison officers, miners, doctors, nurses, teachers and journalists among the most stressful professions. Recently, teachers' stress has received widespread recognition reflecting difficulties encountered by them. In the last two decades, there have been a lot of studies on occupational stress among school teachers (World Health Organization, 2007). According to Kumar (2017), Occupational stress has become increasingly common in teaching profession largely because of increased occupational complexities and increased economic pressure on individuals. A major source of stress among teachers is result of failure of school to meet the social needs and jobs demands of the teachers.

Moreover, Child (2007) observes that the changes in education system causes stress which affects teachers' motivation, and emphasizes "the introduction of so many innovations into school life, more detailed and time-consuming methods of assessment, more administration and committee meetings within the school have all conspired to increase tension in teaching". He added, teachers portray many roles such as the creators of leaders, scientists, philosophers, advocates, politicians and administrators. Teacher is the principle means for implementing all educational programs of the organizations of educations.

In the 21<sup>st</sup> century education, teachers have to face different demands from school management, parents and society. They are required to acquire many new skills to cope effectively in a very fast changing society. They have to equip themselves in terms of creativity, innovations and critical thinking and that is why stress among teachers is becoming pervasive and serious (Paray et al, 2016).

## Development and Validation of Teachers' Occupational Stress Scale

Internationally, work stress among teachers is apparent. In South Eastern Europe, Shkemi, Melonashi, and Fanaj (2015) conducted a research concerned with teacher or work stress among Kosovo teachers and found out that the most frequently reported work stressors are inadequate wages (36.8%), physical working environment (30.1%), and undisciplined students (26.2%). Another research from Ireland proves that the existence of work stress among teachers is morphing the said profession. Bolton (2015) found out that teachers in urban schools experienced stress more frequently than their counterparts in rural schools. Thus, regardless of the school itself, stress is still occurring.

In addition, according to Sprenger (2011) in a study on stress and coping behaviors among primary school teachers in North Carolina, one hundred percent of teachers interviewed for this study reported that the teaching profession is stressful, with 72% describing the profession as extremely or very stressful. Moreover, Beckley (2011) in his study on the wellbeing of New Zealand teachers, the relationship between health, stress, job demands and teacher efficacy, over 39% of teachers considered teaching to be either very stressful or extremely stressful.

In the Philippines, Under RA 1800, the Civil Service Commission requires government employees, to include the public school teachers, to render eight hours of service per day which entails performing school-related tasks, such as, preparing instructional materials, writing lesson plans everyday, conducting and preparing evaluation, attending meetings, seminars and trainings. However, due to heavy demands made by the society and the administration on the teachers to perform various roles and the heavy workloads, teaching is indeed stressful and demanding (Roxas, 2009).

Pagayanan (2016) conducted a study on the Stress Profile of Public Elementary Teachers in Tacloban City it was found out that most common work stress of the public elementary teachers are the following: lack of teaching guides and learning materials (83.2%), working under deadline pressures (79%), pressure to produce better exam results (77%), having to perform tasks not trained for (76%), and extreme temperature in classrooms (72%). It cannot be denied that work stress among educators is becoming a problem nowadays.

Hence, it can be said that occupational stress among teachers has the potential to impact their own performance; achievement levels of the students' and even the whole education system. Roxas (2009) describes the demands that go with the job of elementary school teachers. She explains that elementary school teachers play a vital role in the development of children. They introduce children to the basic of numbers, language, science and social sciences. They use games, music, artwork, films, slides, computers, and other teaching available teaching technology to teach the basic skills. Elementary school teachers take the time to model and instill the good habits and a curiosity for learning.

Therefore, it is justified to say that elementary school teachers possess the most crucial position in the entire system of education. So to help them inculcate the required potentials the teacher has to be productive in his/her performance, in order to achieve quality service among elementary public school teachers it is deemed important to eliminate or reduce and manage occupational stress in the workplace since it will affect job performance, job satisfaction, organizational commitment, burn out, etc. Therefore, it is necessary to quantify stress and identify potential areas of concern.

This study aimed to develop and validate a contextualized occupational stress scale based on teacher's perception and experiences of stress. The occupational stress scale used by some researchers on occupational stress was adapted and contextualized from foreign countries such as the Teacher Stress Inventory and Occupation Stress Inventory-Revised which can be used as measures of stress by different professions. However, no occupational stress scale has been developed for use among public elementary teachers in the Philippines.

Hence, this study intended to develop a contextualized measure of occupational stress based on public elementary teacher's perception and experiences of stress. Specifically, it described the different dimension of the scale that was developed and found out its psychometric properties as well.

## METHODOLOGY

### Research Design

In this study, an exploratory sequential mixed method research design was used in order to broadly explore and understand the stress experienced by elementary public teachers at work in order to guide the development of occupational stress scale.

There are three phases to creating the scale- item development, scale development and scale evaluation. Item development is the coming up with the initial set of questions for an eventual scale, it is composed of identification of the domain(s) and item generation, and consideration of content validity. The second phase which is the scale development is turning individual items into a harmonious and measuring constructs which is composed of pre-testing questions, sampling and survey administration, item reduction and extraction of latent factors. The last phase is the scale evaluation which requires tests of reliability (Boateng, 2018).

The first phase in the development of scale starts with item development using qualitative exploration of occupational stress dimensions through related literatures and in-depth interviews. Then the findings from this qualitative phase guided the occupational stress scale development of the items in the second phase which was evaluated in the third phase for its reliability.

## Development and Validation of Teachers' Occupational Stress Scale

### Respondents of the Study

The respondents of the study were public elementary school teachers in Region VIII. A total number of 29200 public elementary school teachers in Region VIII, the researcher got 1500 respondents using proportionate stratified random sampling since the researcher considered the size of respondents per division, specifically, computer generated selection of respondents was done. However, only 1417 public elementary teachers participated in the survey administration. For phase 1, item development, participants who were part of the in-depth interview were purposively chosen based on the result of the screening test. The Occupational Stress Inventory-Revised was used as the screening test and was administered to public elementary school teachers using convenient sampling. For phase 2, scale development, 100 teachers were chosen as respondents in the pre-testing of the instrument and 1417 teachers for the actual survey administration of the generated items in Phase I.

### Research Instruments

For Phase I, item development, a semi-structured interview protocol was used to gather data on work-related stress experiences of the elementary public teachers who were selected to participate in an in-depth interview. The semi-structured interview protocol was designed to elicit teachers' occupational stress. It was validated by two experts (one doctorate Psychology student, one Registered Guidance Counselor) and one lay expert (Master Teacher). Moreover, a standardized test which is a 140-item Occupational Stress Inventory-Revised Scale was used for the screening of the participants who were part of the qualitative data gathering.

### DATA ANALYSIS

For the qualitative part, analysis was done using Collaizi (1978) thematic data analysis. This process of analysis involved sorting or coding the data into themes and categories by identifying and analyzing repeating patterns that exist in the data. Also, Hyper RESEARCH software was used to code, retrieve and conduct qualitative data analysis. It is a licensed commercial software package used by researchers within the sciences, social sciences, and professions including education and medicine.

Consent from the participants were considered. Teachers were asked if they are willing to participate in the conduct of the study. Permission to audio-taped the interview was asked. The researcher explained the sustained commitment required of participants to gather meaningful data and remind them that they could withdraw their participation of the study anytime. To ensure confidentiality and anonymity of the participants, the names and locations was not reported as this could lead to identification.

Research reflexivity was also observed. The researcher is also a teacher who is also experiencing stress in her profession, however, in this study the researcher placed herself as Doctor of Philosophy major in Social Science Research student of Leyte Normal University seeking to describe the lived experiences of elementary teachers.

For the quantitative part, all of the statistical analyses were performed using IBM Statistical Package for the Social Sciences (SPSS) v21. In this study, exploratory factor analysis was used in the development, refinement and evaluation of the Occupational Stress Scale. It allows the researcher to explore the main dimensions to generate a theory or model from a relatively large set of latent constructs often represented by a set of items (Pett, 2003). The following Five Step Exploratory Factor Analysis Protocol provided the researcher with starting reference point in developing clear decision pathways. Step 1. Is the data suitable for factor analysis? Step 2. How will the factors be extracted? Step 3. What criteria will assist in determining factor extraction? Step 4) Selection of rotational method and Step 5) Interpretation and labelling.

### RESULTS AND DISCUSSION

The initial pool of items was developed from two sources. This included a thorough review of existing literature and qualitative data derived from in-depth interview with public elementary teachers regarding their lived experiences of occupational stress.

In this qualitative phenomenological study, the researcher discovered data about elementary teachers' experiences of stress in relation to their occupation. Nine themes emerged from the interviews as the dimensions of occupational stress. These dimensions are: (1) *Work overload*, (2) *Students Misbehavior*, (3) *Poor Supervisory Style*, (4) *Lack of Parental Support*, (5) *Minimal Compensation*, (6) *Unconducive Physical Environment*, (7) *Poor working relationship with colleagues*, (8) *Lack of Available Resources*, and (9) *Poor Organizational System*.

Almost all of the participants asserts that they are experiencing work overload which made their job stressful. This claim is supported by the study of Luinga (2013) on Magnitude and Impact of Occupational Stress Among Secondary School Teachers in Kinondoni Municipality. It was found out that one of the factor that causes stress at the workplace is increased workloads which manifest into high turnover, impaired decisions, absenteeism and low service production. Moreover, Ncube and Tshabalala (2013) studied work stress among 200 teachers in Zimbabwe, and found that most of the teachers perceived work overload as one of the major causes of stress in their work. Teachers need to manage their time to be more productive at work failure to accomplish all those given task causes them stress.

Another major cause of stress mentioned by the participants are the negative behavior of the students. Feng (2010) found that teacher turnover was positively correlated with levels of disciplinary incidents. The participants felt overwhelmed by the students misbehavior such as being naughty and having difficulty disciplining the students. Paulse (2005) reported student behavior

## Development and Validation of Teachers' Occupational Stress Scale

as most stressful for teachers, followed by support, the parents, personal competency, classroom and professional competency. Teachers having this experience were having higher level of stress. Similarly, Chaplain (1995) found significant differences between male and female teachers and experienced and inexperienced teachers. Men reported higher stress compared to women on pupil behavior and attitude. Also, Morton et al, (1997) reported students behavior significantly associated with stress among teachers. Similarly, Axup et al (2008) found that students behavior was significant cause of anxiety among teachers. Present study reveals that student behavior is a contributory factor to teachers' stress.

The kind of supervisory style also add to teachers' stress. This claim is supported by the study of Howard and Johnson (2004) it was found out that when teachers feel unwanted and feel the administration structure is very hierarchal and concentrated in the hands of few are experiencing stress. The study also revealed that teachers also experience stress when the principal has an autocratic leadership style. Although the participants in this study feel it is the principal's job to make leadership decisions, they feel not being included in the decision making process can be very stressful. Teachers revealed that immediate supervisor can also be the source of stress.

This present study also reveals that low salary of teachers is also one of the sources of stress. This claim is supported by the study of Mafuno & Chitsiko (2012) that reported having low salaries can cause teachers stress. Finances in school can add up to their expenses. Also, Kyriacou (1998) found out that teachers struggle with poor prospects relating to pay result in their stress. Participants experience of delayed salary, low pay and allowances is causing them stress.

Physical environment can also be the source of stress as revealed on this study. This is supported by the study of Hastings (2003) and Guglielmi (1998) which revealed that most stressors are associated with the working environment which includes unfavorable working condition. The working environment may also include physical stressors such as noise associated with teaching assignments, accrued classrooms, size of the classroom and/or school, security and violence among youth. Teachers claim that physical environment plays a vital role in the teaching and learning process.

Another stressor to the teachers is their relationship with their colleagues. Some of the participants' experience negative and poor interpersonal relationship with their workmates. Sabherwal, et al (2015) found out that poor relationships with the administration and colleagues cause occupational stress among teachers. In addition, Akpınar (2008) stated that teachers experience stress is originating from colleagues are competition and ambition, widespread gossiping, shirking duties, having discords and not receiving support. Also, Kyriacou (2001) found that being exposed to a large amount of change and having difficult or challenging relationships with colleagues and administration can increase the amount of stress for teachers. This present study also revealed that poor relationship with colleagues contributes to teachers' stress.

Participants of this study also revealed that lack of resources regarding instruction and materials to meet the student's needs was a job stressor for them. Jazaar, Lambert & O'Donnell (2007) reported that elementary teachers reporting an intention to leave their current job for professional reasons such as higher classroom demands and fewer school-provided resources can result to higher occupational stress. In addition, Mafuno & Chitsiko (2012) pointed out that with the declining resources and increasing student population, teachers experience more stressful situations. This present study also concurs to the above mentioned studies since lacking and unavailable resources causes the participants to experience stress.

Lastly, organizational system was found to be one of the sources of stress among elementary teachers. This finding is supported by the study of Hanif, et.al., (2011) on identifying personal and job related predictors of teacher stress among the school teachers in Pakistan. In this study they cited the other predictors of job stress for teachers that were situational demands and appraisal to that situation. They found that school system is one of the significant predictors of teacher stress. Communication line between higher authorities and teachers in the system must be open and teachers should be guided properly considering that they are the implementers of guidelines, orders and memorandum. They should clearly understand what is going on in the organization. Poor organizational system in one way or another contributes to teacher stress.

In this study, the qualitative phase provided an opportunity for item development. The researcher derived a total of 137 initial items for development of a scale to measure the occupational stress scale. There were 42 items generated from literature and 95 items from interview.

The thorough review of related literature provides the basis for defining the domain, the use of in-depth interview moves the domain from an abstract point to the identification of its manifest forms. Hence, the statements to measure teacher stress were expressive of teachers' experiences and perception of stress considering that the main goal of this study is to develop a contextualized occupational stress scale. In this study, the definition of occupational stress was adapted and based on western definition of stress but the measure was contextualized based on teachers' experiences.

After generating the initial item pool, content validity was conducted. The pool of 137 items were given to the experts. During the first validation process, the quantitative analyses showed that based on the result of the content validity index, there are fifteen (15) items that need to be revised. Moreover, based on the content validity coefficient (Aiken), there are fourteen (14) items that were subject for revision. Comments and suggestions from the experts were used as guide in revising items. The researcher consolidated all the result from the first validation and revised the items. There were 17 items that were subjected to revisions and resulted to 22 revised items.

## Development and Validation of Teachers' Occupational Stress Scale

The researcher re-validated the instrument to the experts. After the expert validation is carried out twice, all items were valid using both content validity index and content validity coefficient, also, no further comments/suggestions were given by the experts. After the content validation of the experts, from the initial pool of 137 items, the developed test has now 141 items. Pre-testing of revised instrument was conducted.

The revised occupational stress scale that was pre-tested was found to be highly reliable using Cronbach's alpha coefficient (141 items;  $\alpha=.992$ ).

After the pre-testing of questions, actual survey was administered to 1500 elementary public school teachers in Region VIII. Out of 1500 questionnaires distributed to the participants, only 1417 were retrieved from the respondents. Participants who were included in the baseline test, in-depth interview and pilot testing were excluded in the actual administration of the instrument. After the conduct of the actual administration of the scale, item reduction analysis was done. In this study, exploratory factor analysis was used in reducing items.

In the first step of the exploratory factor analysis, the data was screened using the boxplot to identify outliers. Outliers are extreme values that would result in additional factor (Yuan,2002) or reduced the number of factors (Bentler, 1999). Hence, outliers were deleted. The number of factors one extracts for an EFA is sensitive to outliers and can unduly influence the psychometric properties. There were 25 items that were deleted because they were considered as outliers. Another thirteen (13) items were deleted because of duplication. Out of 141 items, only 103 items were considered for the exploratory factor analysis.

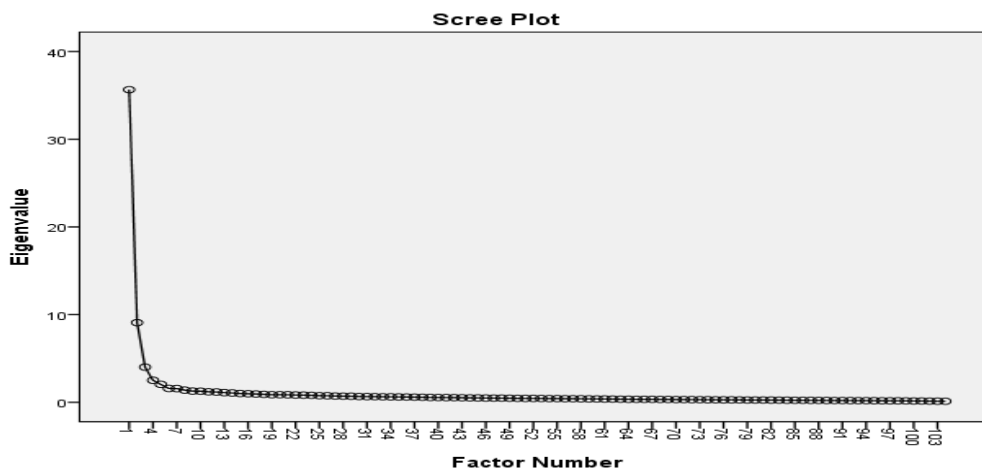
The technique of Principal Axis Factoring with oblique rotation (promax) was used to examine whether the remaining items measured a single construct of occupational stress or whether multiple constructs underlay the set of items. Furthermore, Pallant (2007) recommended measures that can be generated in SPSS to assess the factorability of the data: Bartlett's test of sphericity, which should be significant at  $p < .05$ , and the Kaiser-Meyer-Olkin measure of sampling adequacy, which should be 0.6 or above. For these items, Bartlett's test of sphericity was significant at  $p < .000$ , and the Kaiser-Meyer-Olkin measure of sampling adequacy value was 0.97. These items are therefore clearly factorable.

The principal axis factoring (PAF) extraction method has been shown to generate reliable solutions whether communalities are high or low (Kahn, 2006). Three techniques that are helpful in providing information to decide the number of factors are Kaiser's criterion (Kaiser, 1960), Scree test (Cattell, 1966), and parallel analysis (Horn, 1965)

The Total Variance Explained provides the Initial Eigenvalues for the components with Eigenvalues greater than 1.0. There were fifteen components recorded eigenvalues above 1.0, and explain a total of 63.383 percent of the variance.

The scree plot (Figure 1.), suggests a five-factor solution. This is in contrast to the fifteen-factor solution offered by Kaiser's criterion, which has been criticized for the retaining too many factors in some circumstances (Pallant, 2007).

**Figure 1. Scree Plot of the Items in the initial EFA**



The result of the parallel analysis shows that there are five components from the actual data where eigenvalues exceeded the 95<sup>th</sup> percentile eigenvalues.

Based on the extraction results above, five factors will be retained because both the scree plot and parallel analysis suggest a five-factor solution. While extraction helps the researcher determine the number of factors, rotation helps the researcher with interpreting the nature of those factors, by clustering the factors according to latent variables (DeVellis, 2012; Pallant, 2007).

In this study, oblique rotation (Promax) was used since the underlying constructs are assumed to be correlated. Criteria for item deletion was determined by the values of the item loadings and cross-loadings on the factors, as well as communality estimates. Pett et al. (2003) specified that an item should be deleted if its factor loading is less than .40. Some have argued that an item communality below .40 is seen as potentially problematic; thus, it should not be retained (Costello, & Osborne, 2005).

## Development and Validation of Teachers' Occupational Stress Scale

In the first round of EFA, it revealed a five-factor model, however, no item was loaded on factor 4 and 5 which means that there are only three possible factor model. Twenty-one (21) items were omitted because its factor loading is less than .40. Moreover, there was no crossloadings of items on this analysis but there were sixteen (16) items that did not load to any factor.

The researcher interpreted the factor loadings associated with each variable by examining the factor pattern matrix. Comrey and Lee (1992) recommends a .50 or higher as a rule of thumb for the minimum loading of item with no crossloadings. In this study, .05 was considered as the minimum loading. Factors with fewer than three variables loading on them should be dropped from further analysis (Pett et al, 2003).

Accordingly, 75 items were retained in the initial EFA. There were 25 items for factor 1, 26 items for factor 2 and 24 items for factor 3. After eliminating problematic items, the researcher repeated the factor analytic process to determine the new factor structure parameters. Second round of EFA was conducted. Two (2) items were deleted because the communalities is less than .40. There were six (6) items that did not load to any factor. Five (5) items were crossloaded to another factor which were considered for deletion also. An item was also considered for deletion if it had a cross-loading that exceeded .32 on two or more factors (Tabachnick & Fidell, 2001). Furthermore, a five-factor model was revealed on this analysis. In this case, factor 4 and 5 did not load more than 3 items, hence, only 3 factors were considered.

The second round of EFA resulted to the retention of 62 items, for factor 1 there were 22 items that were retained, 24 items for factor 2 and 16 items for factor 3. Since there were still items below .04 communalities in the second round of EFA the researcher repeated the analysis. In the third round of EFA, two (2) items were removed. This time, there was no item with less .04 communalities, however, there were still items seven (7) items that did not load to any factors. There were three items that were crossloaded. Only one item was loaded to factor 4.

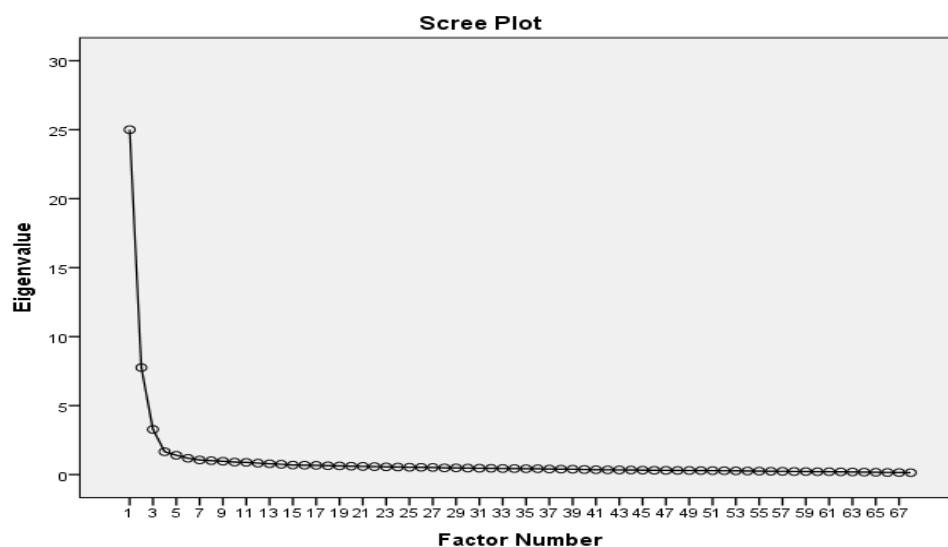
Results of factor loading for the third EFA was also the same with the second round of EFA except for the arrangement of items based on magnitude of correlations. EFA was again repeated for the fourth time removing the items that did not satisfy the criteria. The result showed that one item has a communality below .04, two items did not load, two item were crossloaded to factor 3 and 4 which left only one item loaded in factor 4. These data were considered in repeating the EFA for the fourth round.

In the final round of the Exploratory Factor Analysis, Bartlett's test of sphericity was significant at  $p < .000$ , and the Kaiser-Meyer-Olkin measure of sampling adequacy value was 0.971. These items are clearly factorable.

The Total Variance Explained provides the initial eigenvalues for the components with eigenvalues greater than 1.0. These first five components recorded eigenvalues above 1.0, and explain a total of 57.484 percent of the variance.

The scree plot (Fig 2) suggests a five-factor solution which is in congruence to the five components offered by Kaiser's criterion using eigenvalues above 1.0.

**Fig.2 Scree Plot of the Items in the final round of EFA**



The final round of EFA showed no communalities below .04. It also revealed a five-factor model. However, items were loaded only to factor 1, 2, and 3. Hence, it can be deduced that there were only three factors resulted in the analysis.

The final scale of EFA was composed of 60 items. Factor 1 comprised of 24 items, 22 items for factor 2 and factor 3 is made up of 14 items. A total of 81 items were omitted from its 141 initial pool of items reducing the developed Occupational Stress Scale to 60 items.

The subscales are labeled as: poor working environment, work overload and student misbehavior.

The Poor Working Environment dimension is composed of 24 items which reflects on the physical environment of the teachers as well as their interpersonal relationship with their colleagues and immediate supervisor that can be the source of stress

## Development and Validation of Teachers' Occupational Stress Scale

among elementary public teachers. The aspects of work environment included: (1) physical work environment, (2) psychological work environment, and (3) non-physical work environment. Enjoyable work environment or work situations (non-physical work environment) can encourage someone to work optimally. A healthy work environment involves a fun situation at work, a sense of security, an adequate salary, a career opportunity, and a collegial atmosphere (Baum and Valins, 1978).

Another stressor to the teachers is their relationship with their colleagues. Sabherwal, et al (2015) found out that poor relationships with the administration and colleagues cause occupational stress among teachers. In addition, Akpınar (2008) stated that teachers experience stress is originating from colleagues are competition and ambition, widespread gossiping, shirking duties, having discords and not receiving support. The above mentioned studies support the finding of this study that poor working environment can be the source of stress among teachers.

The Work Overload dimension is composed of 21 items that depicts the workload of the teachers, the number of hours devoted to work, the shift of one responsibility to another and the changing curriculum that can contribute to their stress as a teacher. This finding is supported by the study of Ncube and Tshabalala (2013) which revealed that most of the teachers perceived work overload as one of the major causes of stress in their work.

Internal consistency analyses were done for this study. The first was the overall Cronbach's alpha of the 60-item Occupational Stress Scale and the reliability analysis for each of the subscales of the developed instrument. Table 22 shows the Cronbach alpha of each dimension and the overall alpha.

**Table 1. Internal consistency coefficients of the subscales of the Occupational Stress Scale.**

Subscale	Cronbach's alpha
Poor Working Environment	.962
Work Overload	.953
Student Misbehavior	.936
Overall alpha	.970

Results of the internal consistency showed that the Occupational Stress Scale has the potential to be a consequential tool measuring and assessing teachers' level of stress.

## CONCLUSIONS

1. Teaching is one of the most stressful and demanding profession.
2. Common occupational stressors of teachers identified using in-depth interview were work overload, student misbehaviour, poor supervisory style, lack of parental support, minimal compensation, unconducive physical environment, poor working relationship with colleagues, lack of available resources and poor organizational system.
3. Experiencing stress at work can have a negative impact on their performance. It is deemed important to identify, quantify and assess the level of occupational stress of teachers to understand and address issues on managing stress among teachers.
4. A contextualized occupational stress scale for public elementary teachers was developed using the exploratory factor analysis, development of the scale resulted to a 60-item scale with three-factor model, namely: Poor working environment, Work overload, and Student Misbehavior.
5. The findings provided strong evidence that factors related to poor working environment, work overload and students' misbehavior are the common stressors of public elementary teachers.
6. The Occupational Stress Scale showed excellent overall internal consistency ( $\alpha = .970$ ) with strong coefficient alphas for Poor working environment ( $\alpha = .962$ ), Work overload ( $\alpha = .953$ ), and Student Misbehavior ( $\alpha = .936$ ) factors.
7. The Occupational Stress Scale has the potential to be a consequential tool measuring and assessing teachers' level of stress.

## RECOMMENDATIONS

1. Inductive data should be used in conjunction with other methods in gathering data since a self-report information has its limitation such as interviewees' biases when narrating personal experiences.
2. In methodological standpoint, replication of the study be done on a similar sample in order to further explore underlying factors of occupational stress among elementary teachers.
3. A re-analysis of the data in this study can be done using an Item Response Theory model and compare the results with the classical test theory model used in this study.

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## Development and Validation of Teachers' Occupational Stress Scale

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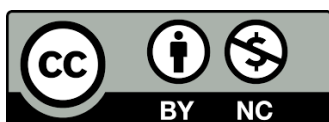
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### APPENDIX A

#### SAMPLE ITEMS DEVELOPED

1. I feel frustrated because I feel I know better than my immediate head.
2. I feel like my school head has personal resentments towards me.
3. My relationship with my supervisor is characterized by a lack of trust and respect
4. I feel bad that school administrators/head do not inform the teachers on what is happening within the system.
5. There is too much administrative paperwork in my job.
6. I don't have enough time to relax at home because of my busy schedule at work.
7. I feel disappointed that there are really pupils who are not showing interest no matter how much I push them.
8. I find it difficult to discipline my student.
9. I feel disappointed that I cannot seek help and advice from my immediate head.
10. Learning environment is not conducive because I am exposed to unpleasant odors.



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