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Students' Geopathic Stress: Its Influence on Their Work-Related Stress, Burnout and On-the-Job Training Performance

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Abstract – Geopathic stress is a natural phenomenon which affects certain places and can be damaging to human health. This study determined the extent of geopathic stress (GS) among 253 randomly selected fourth-year college students and its influence on their work-related stress, burnout, and on-the-job training (OJT) performance. Using descriptive-correlational method, the study utilized published on-line GS questionnaire, stress test, burnout inventory, and students' final ratings in OJT. The extent of GS among graduating college students revealed that 13.83% had "few feelings" of GS, 32.81% had "some strong feelings" of GS, 39.13% had "substantial GS feelings", and 14.23% were "experiencing" GS. They had "fair" work-related stress, "some strong" feelings of burnout and "outstanding" OJT performance. Significant differences were found in students' burnout when grouped as to the level of GS. A positive and significant relationship was found between GS and burnout and among work-related stress and the OJT performance. However, a negative and significant relationship was found between burnout and OJT performance. Hence, GS is a major stressor that triggered burnout and eventually affects students' OJT performance.

Keywords – Geopathic Stress, work stress, burnout, ojt performance, influence, descriptive-correlational, Iloilo, Philippines

INTRODUCTION

Well-being can be location dependent and that this might be caused by a so-called geopathic stress zone (Augner et al., 2010). Likewise, there remains that geopathic stress (GS) could be partially responsible for good health and high productivity (Clements-Croome, 2002). However, GS is always ignored and considered as one of the common underlying factor to many health problems because most people are not aware of the existence in the selected location (Freshwater, 1997).

Dharmadhikari et al. (2011) affirm that the occurrence of stress as a factor in ill health is now widely accepted, and its effects on the body are relatively very well-documented. Likewise, Hacker et al. (2012) explains that several studies showed a high level of relationship between major illnesses and staying for a long time over an area of GS. People who live in homes above areas of GS, most likely to have disturbed sleep patterns. They may be unable to sleep, or they awake frequently, or they might suffer from a strange dream and wake up feeling tired and irritated. Staying over GS zone for a frequent number of hours a day can lead to ill health, lack of stress tolerance and general feelings of depression and lower performance.

Parker and Kulik (1995) explain that the level of job stress significantly predict burnout. Additionally, burnout levels are significantly associated with poorer self-rated and supervisor-rated job performance, more sick leaves, and more reported absences for mental health reasons.

The West Visayas State University (WVSU) Lambunao Campus fielded fourth-year students to various firms and institutions for on-the-job-training (OJT) in compliance with the requirements of the graduation course. It is part of the college curriculum to train and orient students about the work for their future career and considered as the primary method used for broadening skills and increasing productivity.

Considering that these student-trainees are new to the working environment, they most likely experience pressures, uncertainties, worries, and anxieties that may trigger stress. If their stress prolonged, it may lead to burnout and eventually affect their OJT performance. According to Hacker et al. (2012), GS can have considerable negative industrial and commercial impact. The number of personnel on sick leave will probably increase in the long run when all employees work at geopathically stressed work places. Likewise, it is one of the major causes of recurring sickness among students' trainees and personnel, tensions and low

concentration at work (Life Techno, 2008) and eventually decrease performance (Hacker et al., 2012).

Freshwater (1997) affirms that the true range of the causes of stress is not much of the evidence. Perhaps, GS is one of the unknown causes that trigger stress and consequently affects students' academic and work performance. Hence, it is an important area of concern for further research and effective intervention for college students' health and academic performance.

From the foregoing theoretical constructs, the investigator deemed necessary to delineate the influence of GS on work-related stress, burnout and the OJT performance among fourth-year college students.

Consequently, this question was posed: Do students' work-related stress, burnout and OJT performance were influenced by the levels of GS? Hence, this prevailing question must be answered.

FRAMEWORK

Geopathic Stress

Geopathic stress is a natural radiation that rises up through the earth altered by weak electromagnetic fields created by underground streams, certain underground water streams, mineral cavities and fault lines. The wave of radiation or GS can seriously affect human health, causing cancer, Chronic Fatigue Syndrome, infertility, and miscarriage. Supposedly, while a person is asleep, the body is at rest so that can repair its cells, fight against infections and take in nutrients from food. However, if one stayed over an area of GS zone, the body has to maximize all energy just to keep vital organs functioning. As a result, the body's immune system becomes weak that eventually disrupt absorption of nutrients or resistance against infections effectively (Hacker, 2009).

According to Saunders (2003), there are other geographical locations that can have a negative effect upon health and these are known as geopathic stress zones. It is believed that such zones can interfere with the brain's normal function that inhibits the release of melatonin and other endocrine secretions needed to replenish the immune system

Moreover, Hacker et al. (2008) explain that GS zones have considerable negative commercial impact. Conversely, at "highly burdened" workplaces, performance will decrease, discontentment grows, and the vulnerability to diseases resulting to increase employees' health problems.

Work-Related Stress and Burnout

Stress is an important component of life. Although stress has a negative connotation, it is not necessarily bad. A certain degree of stress is needed by the body to maintain normal functioning. In the workplace, a little amount of stress is needed to motivate employees toward satisfactory job performance (Dewey, 2007).

Davis and Newstrom (1986) add that in almost any job condition can cause stress, depending upon an employee's reaction to it. These may include work overload and time pressures, poor quality supervisions, role conflict and ambiguity, difference between company and employee values, change of any type, and frustration.

On the other hand, burnout refers to the extent to which workers have become separated from the original meaning and purpose and the degree to which workers express estrangement from the clients, jobs, co-workers, or agency (Armstrong, 1979). Most writers on professional burnout have identified stress as the cause (Cherniss, 1995).

On the Job Training

On-the-job training (OJT) emphasizes the acquisition of skills within the work environment under usual working conditions. Through OJT, workers acquire both general and specific skills that they can apply from one job to another. Through OJT, workers build their skills through experiences and knowledge (Pulley, 2010).

Siele (1990) described OJT as training done in the workplace, where the trainer performs the task of a supervisor. Likewise, he emphasized that OJT supplement all other forms of training comparable to other training avenues in various group of people working in an industry. Furthermore, the objectives of OJT is to acquire and apply the knowledge and skills learned by the students from actual work setting, work schedule, policies, rules and regulations, and other related matters in industries.

A study of Parker and Kulik (1995) on how job stress and work support predict the experience of burnout and how burnout be related to absenteeism and job performance among nurses found out that levels of work support and job stress were both significant predictors of burnout. Additionally, burnout levels were significantly associated with poorer self-rated and supervisor-rated job performance. It was noted that due to mental health reasons resulting from burnout additional sick leaves and reported absences occurred.

The studies of Hacker (2009), Davis and Newstrom (1986), Cherniss (1995), and Parker and Kulik (1995) stressed the possible influence of GS on work-related stress, burnout, and OJT performance. The level of stress of the students and its possible influence to their OJT performance can be determined through sets of GS, stress, and burnout questionnaires and ratings in OJT. The result from the data gathered will serve as the bases for improving stress management among college students.

OBJECTIVES OF THE STUDY

This study aimed to determine the extent of perceived GS among randomly selected fourth-year college students of WVSU Lambunao Campus during the second semester of school year 2011-2012. It also determined the influence of students' level of GS on work-related stress, burnout and OJT performance.

METHODOLOGY

This descriptive-correlational research utilized the partly modified published Banis' (2014) Biomedicine GS Questionnaire; the Sehnert's Stress Test (1981); the modified Maslach's (2010) Burnout Inventory; and students' final rating in their OJT.

The dependent variables in this study were students' work-related stress, burnout, and OJT performance and the independent variable was levels of GS.

The respondents of this study were the 253 randomly selected fourth-year college (BSHRM, BS Information Technology, BS Industrial Technology and BS Criminology) students of WVSU Lambunao Campus during S.Y. 2011-2012. The students were classified according to sex and course. To comply with research ethics protocol, the researchers obtained informed consent from the respondents.

The respondents of the study included 118 (46.64%) males and 135 (53.36%) females; age, 141 (55.73%) younger, 112 (44.27%) older; and course, 51 (20.16%) Teacher Education, 53 (20.95%) Criminology, 48 (18.97%) Information Technology, 60 (23.72%) Management, and 41 (60.20%) Industrial Technology students.

In this study, data were collected with the use of Personal Data Forms, GS Questionnaire, Burnout Scale, and Stress Test.

For ethical consideration, the protection of human participants is required of all research conducted through the University. Each participant was over 18

years of age, and was properly informed about the purpose and nature of the study, which their consent was asked prior to their acceptance as respondents. Participants were guaranteed the privacy and confidentiality of the data gathered. Pseudonyms were used in reporting research to protect the anonymity of the participants.

Geopathic Stress Questionnaire. To collect the data for GS, the researcher utilized the consolidated 15 items GS questionnaire adopted from Banis (2014) published Biomedicine GS Questionnaire validated in the researcher's two previous studies conducted (Year 2009 & 2011).

The respondents were required to encircle the numerical weight corresponding to the selected responses based on frequency of occurrence (1 - Almost Never/ Strongly Disagree, 2 - Infrequent/Disagree, 3 - Sometimes/Neutral, 4 - Frequently/Agree, 5 - Almost Always/Strongly Agree).

The test is scored by adding all the scores together to determine the respondents' level of perceived GS using the scale: 15 – 25, "Few feelings" of GS; 26 – 35, "Some strong feelings" of GS; 36 – 45, "Substantial" GS feelings; 46 – 55, "Experiencing" GS.

The Stress Tests. The stress test (Sehnert, 1981) consisted of ten items and required the respondents to encircle the numerical weight corresponding to the selected responses based on frequency of occurrence. The answering systems are as follows: 1 - Almost Never, 2 – Infrequently, 3 – Sometimes, 4 – Frequently, 5 - Almost Always.

The test was scored by adding, the encircled numbers and interpreted by means of the scale as follows: 2.00 and below, Not Stressed; 2.10 – 3.00, Fairly Stressed; 3.10 – 4.00, Stressed; and 4.10 – 5.00, Extremely Stressed. "Not Stressed" means that the respondents do not react to any work demand or pressure placed upon them. "Fairly Stressed" means that the respondents somehow reacted to any work demand and pressure placed upon them. "Stressed" means that they react to any work demand or pressure placed upon them. "Extremely Stressed" means that the respondents strongly react to any work demand or pressure placed upon them.

Burnout Scale. To gather the data for burnout, the researcher used the partly modified published Maslach's (2010) Burnout Inventory consist of 15 items and require the respondents to encircle the numerical weight corresponding to the selected responses based on frequency of occurrence are as follows: 1- Strongly Disagree, 2 – Disagree, 3 – Neutral, 4 – Agree, 5 – Strongly Agree.

The test was scored by adding all the scores to determine the respondents' level of perceived GS using the scale: 15 – 27.50, "Few feelings" of burnout;

27.60 – 40.00, "Some strong feelings" of burnout; 40.10 – 52.50, "Substantial" burnout feelings; 52.60 – 65.00, "Experiencing" burnout.

OJT Training Performance. The data on students' achievement was taken from the students' final rating in OJT reflected on form 9 in the Registrar's office. The numerical grade and qualitative description were based on the University Student's Handbook (Revised 2011) as follows: 1.00 – Excellent, 1.25 – Highly Outstanding, 1.50 – Outstanding, 1.75 – Very Good, 2.00 – Good, 2.25 – Very Satisfactory, 2.50 – Satisfactory, 2.75 – Fair, 3.00 – Passing, 5.00 – Failure.

Permission was sought from the office of the School Directors, Dean of Instruction, and Campus Administrator prior to the conduct of a study among selected students of WVSU Lambunao Campus during S.Y. 2011 – 2012, respectively.

The researcher personally distributed the questionnaires to the concerned students and retrieved the same. Upon retrieval of the questionnaires, accomplished copies were tallied, classified, statistically treated, and interpreted.

The data gathered for the study were subjected to certain computer processed statistics. Statistical tools employed were percentage, mean, standard deviation, One –Way Analysis of Variance, and Pearson Product- Moment Coefficient of Correlation (Pearson's r) with probability level set at 0.05. All statistical computations were computer-processed through the statistical Package for the Social Sciences (SPSS) software.

RESULTS AND DISCUSSION

The students' level of perceived GS, work-related stress, Burnout, and OJT performance were determined in this research. The obtained frequencies, percentages, mean scores, and corresponding standard deviations were used in the analysis.

Extent of perceived GS among College Students.

Of the 253 college students**,** 35 (13.83%) had "few feelings" of GS, 83 (32.81%) had "some strong" feelings of GS, 99 (39.13%) had "substantial" GS feelings, and 36 (14.23%) were "experiencing" GS.

The findings imply that nearly ten percent (10%) of the students in this study were affected by GS. The level of GS they experienced seemed to attribute to the nature and degree of their exposure over GS zone. According to Augner and company (2010), well-being can be location dependent (might be caused

by a so-called GS zones). A study of Hackers' et al. (2008) revealed that certain areas above the ground can indeed induce stress. Such zones might cause distress ("malignant stress") even when present for a short time, but there are also reports that (not scientifically proven) energetically stimulating zones ("positive energy zones") might exist, often also referred to as "power places." Clements-Croome (2002) adds that people are not passive recipient of their environment, but adapt physiologically and behaviorally.

Findings of previous researches suggest that the extent of GS one could experience is dependent on the specific location (place), period of exposure (time), the intensity (level) of the radiation, parts of body (focus) of a person which are exposed to, and one's sensitivity (resistance) to radiation working in on their body. Thus, the findings imply that having geopathically stressed is dependent on the place where they stayed (if exposed over GS zone), length of exposure, intensity of radiation, and sensitivity and of body parts directly exposed over GS zone.

Students' Work Stress Grouped as to Their Levels of GS

As an entire group, the college students had a "fair" (M = 2.73, SD =0.63) work-related stress, regardless of their level of GS (Few feelings of GS, M=2.63, SD=0.87; some strong feelings of GS, M=2.80, SD=0.62; Substantial GS Feelings, M=2.70, SD=0.54 and Experiencing GS, M= 2.70, SD= 0.62).

The findings implied that the students were experiencing work-related stress but at a moderate level. The findings also indicated that the students had desirable amount of stress in the performance of their respective job assignment. It is positive when it induces people to work harder and negative when stress level is greater than their coping abilities depending upon an employee's reaction to stress (Davis & Newstrom, 1986). Previous researches proposed that having work-related stress is not necessarily bad in itself (though stress has a negative connotation). Our body needs a desirable amount of stress to motivate towards better job performance.

Students' Burnout Grouped as to Levels of GS

As an entire group, the college students had a "some strong" (M = 36, SD=0.64) feelings of burnout. However, when grouped as to their level of GS, those with "few" (M=28.8, SD=0.40), "some strong" (M=32.25, SD=0.56), and "substantial" (M=38.25, SD=0.54) GS feelings had "some strong" feelings of burnout except those who were "experiencing" GS (M=45.9, SD=0.64) who had

"substantial" burnout feelings.

The results of the present study suggest that having burnout may correspond to one's high level of GS. The finding indicates that GS trigger burnout. This result agrees with Hacker et al. (2008) claiming that certain areas above the ground (over GS zone) can indeed stimulate stress. Such zones might cause distress ("malignant stress") even when stay for a short time. Likewise, Freshwater (1997) affirmed that GS as a causal factor associated to ill health is usually ignored because most people are unaware of its existence. Thus, the findings of the previous studies suggest that GS is an unknown factor that triggers burnout.

Students' OJT Performance Grouped As to Levels of GS

The college students in this study had an "outstanding" (M = 1.44, SD = 0.27) OJT performance. However, when grouped as to their level of GS, those with few feelings of GS (M=1.35, SD=0.30) had "highly outstanding" performance, while those with "some strong" feelings of GS (M=1.40, SD=0.26), had "substantial" GS feelings (M=1.50, SD=0.26), and those who are "experiencing" GS (M=1.50, SD=0.30) had "outstanding" OJT performance.

The findings of the present study imply that the level of GS affects job performance. The lower the level of GS, the job performance increased. This finding was supported by previous study (Hacker et al., 2008) that in geopathically stressed workplaces, performance will decline, discontentment increase, and the susceptibility to illness and the resulting rise of employees' diseases will be greater. Thus, the finding suggests that GS affects job performance.

Differences in the Work-Related Stress, Burnout and OJT Performance Grouped to Level of GS.

Results of the One-Way ANOVA revealed that the selected college students did not differ significantly in work-related stress and the OJT performance when grouped according to their level of GS (F = 0.590, p > 0.05; F = 0.087, p > 0.05).

However, a significant difference was found in burnout when grouped as to level of GS (F =33.627, p< 0.05). The Scheffe' test revealed a significant increase in burnout from "few" (M=28.8) to "some strong" (M=32.25), and to "substantial" (M=38.25) GS feelings.

The results of the present study suggest that the level of GS significantly corresponds to burnout. The finding indicated that the level of GS influenced burnout.

Relationships among Students' GS, Work-Related Stress, Burnout, and OJT Performance.

Results of the Pearson's r showed that positive and significant relationships was found between GS and burnout (r=0.527, p<0.05), and work-related stress and OJT performance (r = 0.126, p <0.05), and negative but significant relationship was found between burnout and OJT performance (r=-0.178, p<0.05).

However, a positive but not significant correlations were found between GS and work-related stress (r=0.013, p>0.05), a negative but not significant relationship was found between GS and OJT performance (r=-0.107, p>0.05), work-related stress and burnout (r=-0.065, p>0.05).

The result of the present study suggests that the high level of GS was significantly related to burnout. The findings imply that basically having geopathically stressed triggered burnout. These findings agree with the results of the studies (Newerla, 2010) that stress from radiation (such as from GS) triggers a stress response in the human body, with all the associated short-term and long-term consequences. Nerwerla (2010) explains that if a person is exposed to radiation on a continual basis, the stress reaction is frequently stimulated. Stress effect becomes chronic, leading first to constant over stimulation and finally to overtiredness within organism.

Conversely, anyone who sits at office desks for many hours located on area affected by GS, will usually feel uncomfortable, and gradually the amount and speed of their work will reduce, as well as work quality. A person who work permanently in places located above a radiation-free area, report feelings of well-being, tend to work efficiently and effectively, and produce higher quality outputs (Parker & Kulik, 1995).

Previous studies (Hacker et al., 2008) suggested that in geopathically stressed workplaces, performance will decline, discontentment grows, and the vulnerability to diseases resulting to increase employees' illnesses will be greater. Hence, the findings suggest that having geopathically stressed will trigger burnout and eventually affects job performance.

Although the present study has been useful in exploring our understanding on the influence of GS on work-related stress, burnout, and OJT performance, several limitations existed. This study on the assessment of students' level of GS is limited only on perception using the stress questionnaires, and such does not precisely measure the amount of geopathic or electrostatic radiation. According to Newerla (2010), radiation is so subtle that they cannot be measured by means of unusual measuring devices that work according to scientific physical principles.

Other possible sources of stress and factors that may mitigate the effect were not included in the investigation. In addition, this study was confined among fourth-year college students who were still learning to adjust to new learning and working environment. Moreover, the checking of the presence of GS zone in the working and sleeping area or location among students who perceived to have experienced GS for purposes of validation, were not done in the study.

CONCLUSIONS

It appeared that one out of every ten college students is affected by Geopathic Stress. Most likely, a geopathically stressed person has the greater chance to have burnout. On the other hand, a positive amount of work-stress motivates them towards better job performance. Furthermore, burnout negatively affects individual worker's job performance. Finally, GS is one of the major stressors that triggered burnout and eventually affects job performance.

TRANSLATIONAL RESEARCH

The researcher, therefore, deemed it necessary to disseminate the results of the study in the academic communities and work places. In this way, the knowledge and awareness on the existence of GS and adverse effect on human health be further disseminated.

Geopathic stress should be considered as one of the most important issues and concerns in stress management and wellness programs and activities of the academic communities and industries. Considering GS as one of the triggering causes of burnout, the findings might be an aid to effectively address chronic stress health problems among college students.

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