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Demographic differences in sources of stress in higher educational institutions in Ghana

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Abstract

Purpose: The current research aimed to investigate demographic differences in job stress prevalence and job stress causes among the staff of universities.

Research methodology: The study is based on a descriptive, quantitative, and cross-sectional research design. A sample of 100 respondents, from Sunyani Technical University, were sampled using the convenience sample method. Data were collected in a survey using a questionnaire which was designed by the researchers and administered to the respondents at their workplaces. The collected data were analyzed using descriptive statistics, regression analysis, and One-Way Analysis of Variance. Results were presented in Tables.

Results: The findings indicate that significant demographic differences exist in job stress prevalence and job stress causes. The management of universities should take into account the current findings of the research in dealing with job stress. Appropriate policies are recommended to be put in place to deal with stress related to the job to improve staff output, so as not to have a deleterious effect on staff professional work and personal welfare.

Limitations: Some respondents felt reluctant to take part in the survey. The causal conclusions cannot be made based on the current findings since a causal investigation was not the focus of the study, and hence was not done. Some respondents also did not answer all the questions asked.

Contributions: The paper contributes to the literature in the area of job stress sources and the role demographic factors in job stress causes in higher institutions. The work is the first of its kinds in the study institution on the role of culture and belief on job stress.

Keywords: *Job stress, Stress prevalence, Causes of stress*

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1. Introduction

Research works consistently report increasing stress rate at the job place with various implications on the well-being of workers and productivity in all countries. Job stress negatively influences health and leads to economic loss in an organization (Dunham, 2001; Perrewe & Ganster, 2002; Landsbergis, 2003). Stress levels are different in different countries. For example, according to the works of Milczarek (2009), the stress rates for Germany were (16%); the UK (12%); Slovenia (38%); and Greece (55%).

In terms of the rate of prevalence of stress, previous works have also indicated different rates of prevalence. For instance, the National Union of Teachers (NUT) (1999) reported 36% for British teachers Ofoegbu and Nwadiani (2006) reported a rate of 75% for Nigeria; Fako (2010) reported 81% for Botswana; Sun et al. (2011) reported of 91% for China; Reddy and Poornima (2012) reported of

74% for India; Ismail et al. (2015) reported of 26% for Malaysia; Yeshaw & Mossie (2017) reported of 28% for Ethiopia, and Kabito et al. (2020) reported of 60.4% for Ethiopia. These differences, according to literature, are accounted for by different educational systems; culture; the standard of living; models and analysis method employed; period of study; population from which data was collected; and the area of study (Perrewé (2006) and Kabito et al. (2020). According to researchers (Blaug et al., 2007; Muchinsky, 2007; Owusu-Ansah, 2008; Gachter et al., 2009; Griffin & Clarke, 2011; Akinyele et al., 2014; Mensah et al., 2017; Kooli, 2019), response to a stimulus in a work that results in a negative outcome for the worker exposed to the stimuli is what causes job stress.

In higher educational institutions, the issue of stress is very important and continues to attract attention by research since the trend continues to increase and some staff also might abandon the work completely with others suffering emotional depletion, as well as premature ageing and death (Cornelius, 1994; Ingersoll, 2003; Lambert et al., 2006; Hanushek, 2007; Zakrizevska & Bulatova, 2015; Mensah et al., 2017; Meng & Wang, 2018; Kooli, 2021). Studies have reported that low levels of stress among respondents have a positive effect on workers productivity and health status (Hepburn & Albonetti, 1980; Grossi & Berg, 1991; Lambert, Hogan, & Allen, 2006; Kooli, 2021).

Various elements such as job characteristics, job-related attributes, and demographic features contribute to job stress and are very important in examining job stress among higher education staff (Dowden & Tellier, 2004). Teaching at higher educational levels is considered very stressful. The current study focuses on the effect of demographic variables on the perception of job stress prevalence and job sources. The current study is expected to add to the literature on what is known, particularly the effect of culture and belief on stress. Moreover, through various empirical studies investigating the association between demographic variables and stress, little is known on the effect of culture, belief and experience on job stress. The literature also points out that what is known is poorly understood (Chuang & Lei, 2011).

The research is based on the assumptions that demographic variables such as gender, age, educational status, marital status, current work status, experience, culture, and belief affect the perception of stress prevalence and job stress sources. The research questions are: first, what are the differences in stress perception and demographic features, and second, the differences in stress sources and demographic features. The rest of the article are organized into the literature review section, methodology section, results section, discussion section, and conclusion section.

2. Literature review

2.1. Theoretical review

Stress is explained theoretically by authors such as Cox, Griffiths, and Houdmont (2006) and Parent-Thirion, Maccias, Hurely, and Vermeylen (2007). According to them, the theories are Person and Environment Fit theory (P-E Fit Theory); Transactional Model; Job Demand-Control/ Support Theory (JCD); Effort-Reward Imbalance Model (ERI model). In the P-E Fit theory, stress results from the poor fit between the request of a worker work environment and the worker's skills, resources at the worker disposal, and the worker's abilities to work at the job place. According to the ERI theory, a worker in performing a work assigned to him or her expect to be rewarded. When there is a disparity between the expected reward and the actual reward received for the job performed, stress occurs in that worker. In the T theory, stress occurs in a worker when there is a disparity between a worker acknowledged work pressure and the acknowledged potentials to deal with the pressures. The JCD model argued that stress results from the interplay between job command and psychological job pressures. These theories underline the current research paper.

2.2. Empirical review

Empirically, the association among various demographic variables (for example, age, gender, work experience, marital status, educational level) and the causes of stress as well as the consequences of stress have been investigated in the literature with mixed findings on the effect of some of the demographic variables on stress causes and consequences (Smith et al., 2000; Blaug, Kenyon, & Lekhi, 2007; Yahaya, Hashim, & Kim, 2008; Chona & Roxas, 2009; Darmody & Smyth, 2011; Eres & Atanasoska, 2011; Farhat et al., 2013).

In Lackritz (2004) USA study on the effect of demographic features on stress among university faculty members, gender and age were found to significantly explain that stress with age has a negative effect on stress incidence. Race or ethnicity was found not to significantly explaining stress incidence in the study.

In Turkey, Isikhan, Comez, Danis (2004) investigated the effect of demographic characteristics on job stress among health professionals and reported that professional career, age, and marital status were the variables significantly influencing stress in their study.

Khan et al. (2013) explored the association between demographic factors and stress in Pakistan. The respondents were doctors working at the tertiary care hospitals of Karachi. Their study findings show that demographic factors such as marital status, experience, and professional qualification have an inverse relationship with job stress.

In a study of stress among sports personnel in Universities in Kenyan, Rintaugu (2013) explored the association between socio-demographic variables and job stress. The study findings revealed a significant effect of age, marital status, academic rank, experience in sports administration, the status of a university (public/private) except gender, and various job stress sources.

Agai-Demjaha et al. (2015) studied the relationship between job stress and demographic factors among teachers in the Republic of Macedonia. Their research findings indicate that demographic factors under investigation such as age, gender, the position at the job place, level of education, and the current job did not significantly influence job stress among the respondents.

In five cities in Rajasthan, Chaturvedi and Joshi (2015) investigated the correlation between demographic variables and job stress among the employees of public and private life insurance sectors. Their research findings show that age, designation, monthly income and no. of dependents correlate significantly with the level of stress in both private and public sector firms studied. However, age and designation with working did not correlate with stress significantly in the public sector, whereas in the private sector, age did not associate significantly with training and benefits.

In Kosovo, Shkëmbi, Melonashi, and Fanaj (2015) examined the effect of demographic variables on stress among teachers. They reported that only the residence of respondents significantly explained stress and not work experience, age, marital status, and gender. They concluded that the place of residence is the only important variable to be considered in their study area.

Aydin (2018), in a Turkey study, explored the association between stress and demographic features using a sample of hotel employees. The research findings show that gender, marital status, age, tenure, department and educational level significantly influence job stress and how respondents experience stress.

Faraji et al. (2019) investigated the effect of demographic factors on job stress among Iranian nurses and reported that the respondents were experiencing higher levels of stress and also that demographic factors such as sex, age, academic degree and working experience have no significant effects on job stress among the respondents.

Karthikeyan and Lalwani (2019) analyzed the association between demographic variables and stress among Bank employees in India. The findings of their study indicate that the length of service, educational status, gender, and age has no significant influence on job stress incidence among the respondents.

In Pakistan, Ahmad et al. (2021) analyzed the correlation between demographic factors and job stress among workers in the textile and clothing industry. Their research findings indicate a significant influence of demographic factors such as gender, marital status, experience, position, salary, family size, and qualification on job stress.

The review indicates that little is known on the association between the culture of the respondent and demographic factors as well as the belief system of the respondents and demographic factors. No known work exists in the literature that focused on the current study area. According to the literature (Chuang & Lei, 2011), what is known is poorly understood, which calls for further empirical studies.

3. Research methodology

3.1. Research design

The study is based on a quantitative research design. This allows the responses of respondents, which are the data set used, to be quantified. The study is cross-sectional and not longitudinal; hence data were collected from the respondents and analyzed only once.

3.2. Population/Sample size/Sampling method

The target population for the research is the staff of Sunyani Technical University. The sample size is 100 respondents and it consists of males and females between the ages of 18 and 60. The target population for the study is about 300 staff. The sample was selected using the convenience sample method. The convenience sample method was used in the research since the method makes a readily available sample for the required data more efficiently: With this method, the researchers did not have to move around too much for data collection. In this method, the easy to contact sample is taken from the target population.

3.3. Data collection instruments

A self-designed questionnaire (Likert scale, 5-point scale) based on the literature review was used to collect data from respondents. The questionnaires were administered by the researchers at the workplaces of respondents. There were no open-ended items on the questionnaire. Demographic variables considered are gender, age, education, marital status, work status, length of service, and region.

3.4. Data analysis and presentation of results

Data collected were analyzed using descriptive statistics such as mean the standard deviation of responses. Regression analysis and One-Way Analysis of Variance (ANOVA) test were also performed. The results were presented using Tables.

3.5. Conceptual framework

The conceptual framework for the study is as shown in figure 1. The model indicates the prevalence of stress and sources of stress as a function of demographic factors. The dependent variables are the prevalence of stress, and sources, whereas the independent variables are the demographic factors.

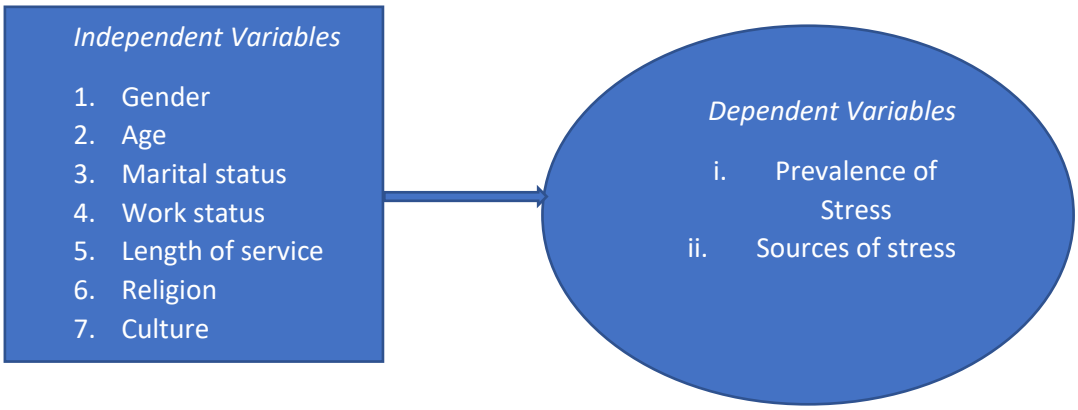

Figure 1. Conceptual framework for demographic factors and job stress

4. Empirical results

4.1. Results

4.1.1. Distribution of demographic information of respondents

The results of the demographic factors are reported in Table 1. Most of the respondents (36%) were aged between 30-39, with most being females (51%). On work experience, most respondents (37%) have worked between 3-5 years in the institution. Most are within the senior staff (39%) rank. Most of them are also married (52%). Most (30%) of the respondents are from the Brong Ahafo Region.

This might be so since the university is located in the Brong Ahafo region. Lastly, the majority of the respondents are Christians (69%).

Table 1. Demographic features of respondents

Variables	Frequency	Percentage (%)
Age		
20-29	24	24
30-39	36	36
40-49	33	33
50-59	6	6
Missing response	1	1
Total	100	100
Gender		
Male	49	49
Female	51	51
Total	100	100
Educational status		
First Degree/Diploma	38	38
Masters	46	46
PhD	16	16
Total	100	100
Length of service in the current position		
2years and less	25	25
3-5years	37	37
6-8years	21	21
9years and above	17	17
Total	100	100
Current work status		
Junior staff	32	32
Senior staff	39	39
Senior member	29	29
Total	100	100
Marital status		
Single	36	36
Married	52	52
Divorced	12	12
Total	100	100
Region		
Upper West	10	10
Upper East	7	7
Northern	11	11
Brong Ahafo	30	30
Ashanti	16	16
Western	6	6
Eastern	4	4
Central	6	6
Greater	6	6
Volta	4	4
Total	100	100

Religion		
Christian	69	69
Muslim	21	21
Traditional	3	3
Other religion	3	3
Missing response	4	4
Total	100	100

Source: Author's field survey, December 2020

4.1.2. Test of reliability of responses

Table 2 shows the results of the reliability test for the causes of job stress and the consequences using the Cronbach alpha, which is used to measure internal consistency (how closely related a set of items are as a group) of the responses collected from the respondents. The values of the Cronbach alpha coefficients are all above 0.7, which indicate the data sets are adequate and appropriate for the analysis.

Table 2. Results of reliability analysis for stress dimensions

Categories of Statements	**Cronbach's alpha**	**No. of Items**
Causes of stress:	0.821	18

Source: Author's field survey, December 2020

4.1.3. The nature of stress

4.1.3.1 Prevalence of stress

The study explores the prevalence rate of stress among the respondents. Table 3 presents the results. The results show there is a high prevalence rate of stress among the respondents.

Table 3. Results on the presence of stress at the workplace

Prevalence of Stress	Number of observations (N)	Mean	Standard deviation
Your job gives you stress	99	3.6667	1.3777

Source: Author's field survey, December 2020

4.1.3.2. Regression results on the association between job stress prevalence and demographic factors

The rate of prevalence of stress was assessed using the multiple regression method. The results are shown in Table 4. The results indicate that only the educational level is significantly associated with a prevalence rate of job stress, at the 5% significance level. Current work status is negatively related to the prevalence rate, though insignificant. The rest of the factors have a positive but insignificant association with the prevalence rate.

Table 4. Job stress prevalence and demographic factors

Variables	**coefficients**	**Standard Errors**	**t-ratios**	**P-values**
Constant	1.720	0.700	2.458	0.016
gender of respondents	0.066	0.282	0.621	0.536
age of respondents	0.105	0.260	0.608	0.545
educational status	0.285	0.263	2.033	0.045**
marital status	0.000	0.267	0.002	0.998
current work status	-0.157	0.240	-1.077	0.284
experience	.215	0.182	1.519	0.132
religion of respondents	0.158	0.150	1.444	0.152
region of respondents	0.000	0.059	0.007	0.995

Note: ** denotes 5% significance level

Source: Author's field survey, December 2020

4.1.3.3. Descriptive and ANOVA test results on gender and job stress prevalence

Gender differences in prevalence rate were examined and Table 5 report the results. The results show that females consider stress more prevalent than males. However, the difference according to the ANOVA test results [F = 0.084: P = 0.772] indicates the difference is not significant. The value of the Eta Square [0.001] used to measure the strength of the correlation indicate the association is very weak.

Table 5. Descriptive analysis and the ANOVA test results

Gender	Mean	Number of observation (N)	Standard Deviation
Male	3.6250	48	1.3625
Female	3.7059	51	1.4042
Total	3.6667	99	1.3777
ANOVA			
Question	F Value	P-Value	
Your Job gives you Stress	0.084	0.772	
Measures of Association			
Eta	0.029		
Eta Squared	0.001		

Source: Author's field survey, December 2020

4.1.3.4. Descriptive and ANOVA test results on age and job stress prevalence

Age differences in prevalence rate were investigated and Table 6 show the results. The results indicate that respondents within the age group of 50-59 (4.3333) consider stress as more prevalent than other age groups. According to the ANOVA test results, the differences in age and prevalent rate are significant [F = 3.573: P = 0.017**]. The value of the Eta Square [0.153], which is the measure of the strength of the correlation, indicates a weak correlation.

Table 6. Descriptive analysis and the ANOVA test results

Age	Mean	Number of observation (N)	Standard Deviation
20-29	2.9565	23	1.6646
30-39	3.7778	36	1.3755
40-49	4.0000	33	1.0000
50-59	4.3333	6	0.5164
Total	3.6939	98	1.3577
ANOVA			
Question	F Value	P-Value	
Your Job gives you Stress	3.573	0.017**	
Measures of Association			
Eta	0.391		
Eta Squared	0.153		

Note: ** denotes 5%, significance level

Source: Author's field survey, December 2020

4.1.3.5. Descriptive and ANOVA test results on educational level and job stress prevalence

The difference in educational level and the prevalence rate was studied. The results are depicted in Table 7. The results show that respondents with a master's level of education (4.0870) rank stress as more prevalent than other educational levels. The difference is significant according to the ANOVA test results [F = 8.663: P = 0.000***]. The value of the Eta Square [0.153], which is the measure of the strength of the correlation, indicates a weak correlation.

Table 7. Descriptive analysis and the ANOVA test results

Educational Level	Mean	Number of observation (N)	Standard Deviation
first degree/HND Diploma	2.9730	37	1.6413
masters	4.0870	46	1.1121
PHD	4.0625	16	0.5737
Total	3.6667	99	1.3777
ANOVA Test Results			
Question	F Value	P-Value	
Your Job gives you Stress	8.663	0.000***	
Measures of Association			
Eta	0.391		
Eta Squared	0.153		

Note: *** denotes 1% significance level

Source: Author's field survey, December 2020

4.1.3.6. Descriptive and ANOVA test results on marital status and job stress prevalence

The difference in marital status and prevalence rate was analyzed. As depicted in Table 8, the results show that respondents who are divorced (4.5833) rank stress as more prevalent than those who are single and married. The difference is significant according to the ANOVA test results [F = 3.496: P = 0.034**]. The value of the Eta Square [0.068], which is the measure of the strength of the relationship, indicates a weak correlation.

Table 8. Descriptive analysis and the ANOVA test results

Marital Status	Mean	Number of observation (N)	Standard Deviation
single	3.4000	35	1.6306
married	3.6346	52	1.2529
divorce	4.5833	12	0.5149
Total	3.6667	99	1.3777
ANOVA			
Question	F Value	P-Value	
Your Job gives you Stress	3.496	0.034**	
Measures of Association			
Eta	0.261		
Eta Squared	0.068		

Sources: Author's field survey, December 2020. Note: ** denote 5% significance level

4.1.3.7. Descriptive and ANOVA test results on work status and job stress prevalence

The difference in work status and prevalence rate was investigated. As shown in Table 9 indicate respondents who are senior members rank [4.0690] stress as more prevalent than the other staff. The difference is not significant according to the ANOVA test results [F = 1.780: P = 0.174]. The value of the Eta Square [0.036], which is the measure of the strength of the relationship, indicates a weak correlation.

Table 9. Descriptive analysis and the ANOVA test results

Variable: Current Work Status	Mean	Number of observation (N)	Standard Deviation
junior staff	3.4839	31	1.4577
senior staff	3.5128	39	1.5021
senior member	4.0690	29	1.0327
Total	3.6667	99	1.3777

ANOVA		
Question	F Value	P-Value
Your Job gives you Stress	1.780	0.174
Measures of Association		
Eta	0.189	
Eta Squared	0.036	

Sources: Author's field survey, December 2020.

4.1.3.8. Descriptive and ANOVA test results on work experience and job stress prevalence

The difference in work experience and the prevalence rate was examined. As shown in Table 10, the results indicate respondents who have worked for 9 years and above rank [4.3529] stress as more prevalent than the other respondents who have worked for other numbers of years. The difference is significant according to the ANOVA test results [F = 3.016: P = 0.034]. The value of the Eta Square [0.087] which is the measure of the strength of the relationship indicates a weak association.

Table 10. Descriptive analysis and the ANOVA test results

Work Experience	Mean	Number of observation (N)	Standard Deviation
2 years and less	3.4167	24	1.61290
3-5 years	3.3243	37	1.47298
6-8 years	4.0000	21	1.09545
9 years and above	4.3529	17	.70189
Total	3.6667	99	1.37766
ANOVA			
Question	F Value	P-Value	
Your Job gives you Stress	3.016	0.034**	
Measures of Association			
Eta	0.295		
Eta Squared	0.087		

Note: ** denotes 5% significance level

Source: Author's field survey, December 2020

4.1.3.9. Descriptive and ANOVA test results on belief (proxied by religion) and job stress prevalence

The difference in belief and stress prevalence rate was analyzed. The results, as shown in Table 11, indicate respondents who belong to other religion ranks [4.6667] stress as more prevalent than respondents belonging to other religion. The difference is not significant according to the ANOVA test results [F = 1.072: P = 0.375]. The value of the Eta Square [0.045], which is the measure of the strength of the relationship, indicates a weak association.

Table 11. Descriptive analysis and the ANOVA test results

Belief (Proxied by Religion)	Mean	Number of observation (N)	Standard Deviation
Christian	3.7794	68	1.2559
Muslim	3.3333	21	1.5275
Traditional	3.6667	3	2.3094
other religion	4.6667	3	0.57735
Missing response	5.0000	1	NA
Total	3.7188	96	1.3433
ANOVA			
Question	F Value	P-Value	
Your Job gives you Stress	1.072	0.375	
Measures of Association			

Eta	0.212
Eta Squared	0.045

Source: Author's field survey, December 2020

4.1.3.10. Descriptive and ANOVA test results on belief (proxied by religion) and job stress prevalence

The difference in culture (proxied by regions of respondents) and the stress prevalence rate was explored. As indicated in Table 12, the results show respondents who belong to other region ranks [4.3333] stress as more prevalent than respondents from the other region. The difference is significant according to the ANOVA test results [F = 1.133: P = 0.348]. The value of the Eta Square [0.103], which is the measure of the strength of the relationship, indicate week association.

Table 12. Descriptive analysis and the ANOVA test results

Region	Mean	Number of observation (N)	Standard Deviation
Upper West	4.2000	10	0.9189
Upper East	2.7143	7	1.7044
Northern	3.6364	11	1.4334
Brong Ahafo	3.7000	30	1.3933
Ashanti	3.3333	15	1.3973
Western	4.0000	6	1.5492
Eastern	2.7500	4	2.0616
Central	4.3333	6	0.5164
Greater Accra	4.1667	6	0.4083
Volta	3.7500	4	1.8929
Total	3.6667	99	1.3777
ANOVA			
Question	F Value		P-Value
Your Job gives you Stress	1.133		0.348
Measures of Association			
Eta	0.321		
Eta Squared	0.103		

Source: Author's field survey, December 2020

4.2. One-Way Analysis of Variance (One-Way ANOVA) test results on causes of stress and demographic factors

The One-Way ANOVA method was used to explore whether there exist differences between demographic factors and job stress causes. The results are analyzed and presented in the following section.

4.2.1. Results on gender and stress factors

Whether gender differences exist in the causes of stress among respondents was explored using the One-Way ANOVA. The results are reported in Table 13. The results indicate that gender differences exist significantly only in job ambiguity as a cause of job stress [F= 2.884; P= 0.093*].

Table 13. Gender and causes of job stress

Variables (Causes of Stress)	**F-Value**	**P-value**
funding, resources and support of services	0.155	0.695
Time	1.675	0.199
departmental influence	0.101	0.751
task overload	0.179	0.673
professional identity	0.021	0.886
leadership and management	0.082	0.775
Student Interaction	0.162	0.689

Job security/ Tenure.	0.241	0.624
Reward and recognition	1.505	0.223
Promotion	0.645	0.424
Conversion to Technical university	0.132	0.717
Transfers	0.005	0.945
Hazards	1.499	0.224
Job Conflict	1.076	0.302
Work method ambiguity	0.001	0.979
Performance criteria ambiguity	1.459	1.087
Job ambiguity	2.884	0.093*

Note: * denotes 10% significance level

Source: Author's field survey, December 2020

4.2.2. Results on age and stress factors

Whether age differences also exist in the causes of stress among respondents was analysed using the One-Way ANOVA. The results are shown in Table 14. The results depict that age differences exist significantly in causes of job stress such as departmental influence [F=5.266: P= 0.002***]; task overload [F= 2.355: P= 0.077*]; professional identity [F = 3.178: P= 0.028**]; leadership and management [F = 3.044: 0.033**]; reward and recognition [F =3.152: P = 0.029**]; promotion [F = 2.509: P = 0.064*].

Table 14 Age and Causes of Stress

Variables (Causes of Stress)	**F-Value**	**P-value**
funding, resources and support of services	3.149	.029
Time	1.605	0.194
departmental influence	5.266	0.002***
task overload	2.355	0.077*
professional identity	3.178	0.028**
leadership and management	3.044	0.033**
Student Interaction	1.093	0.356
Job security/ Tenure.	1.367	0.258
Reward and recognition	3.152	0.029**
Promotion	2.509	0.064*
Conversion to Technical university	1.783	0.156
Transfers	1.698	0.173
Hazards	.527	0.665
Job Conflict	1.340	0.266
Work method ambiguity	1.169	0.326
Performance criteria ambiguity	.168	0.918
Job ambiguity	1.698	0.173

Note: *; **; and * denotes 1% ; 5%, and 10% significance levels**

Source: Author's field survey, December 2020

4.2.3. Results on education and stress factors

Differences in educational level and causes of stress was investigated using the One-Way ANOVA. The results are shown in Table 15. The results indicate that differences exist in educational level and causes of job stress such as funding, resources, and support of services [F= 6.119: P= 0.003***]; time [F= 3.439: P= 0.036**]; departmental influence [F = 6.677: P= 0.002***]; task overload [F= 2.494: P = 0.088*]; professional identity [F = 7.608: P = 0.001***]; leadership and management [F = 3.273: 0.042**]; students interaction [F= 4.093: P = 0.02**]; job security/tenure [F= 3.968: P= 0.022**]; reward and recognition [F = 6.017: P = 0.003**]; transfer [F = 2.610: P = 0.079*]; and job conflict [F= 3.534: P = 0.033*].

Table 15. Education and causes of stress

Variables (Causes of Stress)	F-Value	P-value
funding, resources and support of services	6.119	.003***
Time	3.439	.036**
departmental influence	6.677	.002***
task overload	2.494	.088*
professional identity	7.608	.001***
leadership and management	3.273	.042**
Student Interaction	4.093	.020**
Job security/ Tenure.	3.968	.022**
Reward and recognition	6.017	.003***
Promotion	1.793	.172
Conversion to Technical university	.944	.393
Transfers	2.610	.079*
Hazards	.796	.454
Job Conflict	3.534	.033**
Work method ambiguity	.762	.469
Performance criteria ambiguity	.062	.940
Job ambiguity	.609	.546

Note: *; **; and * denotes 1% ; 5%, and 10% significance levels**

Source: Author's field survey, December 2020

4.2.4. Results on marital and stress factors

Differences in marital status and causes of stress were investigated using the One-Way ANOVA. The results are shown in Table 16. The results indicate that differences exist in marital status and causes of job stress such as departmental influence [F = 2.958: P= 0.057*]; professional identity [F = 4.400: P = 0.015**]; reward and recognition [F = 2.869: P = 0.062*]; and conversion to technical university [F = 2.734: P = 0.070*].

Table 16. Marital status and causes of stress

Variables (Causes of Stress)	F-Value	P-value
funding, resources and support of services	2.772	.067
Time	1.744	.180
departmental influence	2.958	.057*
task overload	1.411	.249
professional identity	4.400	.015**
leadership and management	1.113	.333
Student Interaction	.112	.894
Job security/ Tenure.	.421	.658
Reward and recognition	2.869	.062*
Promotion	1.773	.175
Conversion to Technical university	2.734	.070*
Transfers	1.340	.267
Hazards	.162	.851
Job Conflict	1.231	.297
Work method ambiguity	.499	.609
Performance criteria ambiguity	.346	.708
Job ambiguity	.523	.594

Note: ***; **; and * denotes 1% ; 5%, and 10% significance levels

Source: Author's field survey, December 2020.

4.2.5. Results on current work status and stress factors

Differences in current work status and causes of stress was investigated using the One-Way ANOVA. The results are shown in Table 17. The results show that significant differences exist in educational level and causes of job stress such as task overload [F= 2.700: P = 0.072*]; students' interaction [F= 2.899: P = 0.060*]; conversion to technical university [F= 2.577: P= 0.081*]; performance criteria ambiguity [F = 2.568: P = 0.082*]; and job ambiguity [F= 2.973: P = 0.056*].

Table 17. Current work status and causes of stress

Variables (Causes of Stress)	**F-Value**	**P-value**
funding, resources and support of services	1.587	0.210
Time	.761	0.470
departmental influence	.213	0.808
task overload	2.700	0.072*
professional identity	.724	0.487
leadership and management	.238	0.789
Student Interaction	2.899	0.060*
Job security/ Tenure.	1.572	0.213
Reward and recognition	.078	0.925
Promotion	.362	0.697
Conversion to Technical university	2.577	0.081*
Transfers	2.165	0.120
Hazards	.684	0.507
Job Conflict	.010	0.990
Work method ambiguity	1.336	0.268
Performance criteria ambiguity	2.568	0.082*
Job ambiguity	2.973	0.056*

Note: * denotes 10% significance levels

Source: Author's field survey, December 2020

4.2.6. Results on experience and stress factors

The differences in job experience and causes of stress was investigated using the One-Way ANOVA. The results are reported in Table 18. The results indicate that differences exist in work experience and causes of job stress such as promotion [F= 4.548: P= 0.005***]; conversion to technical university [F= 3.724: P= 0.014**]; transfers [F = 4.915: P= 0.003***]; job conflicts [F = 2.255: P = 0.087*]; and work method ambiguity [F= 3.193: P = 0.027**].

Table 18. Experience and causes of stress

Variables (Causes of Stress)	**F-Value**	**P-value**
funding, resources and support of services	1.893	.136
Time	.438	.726
departmental influence	.681	.566
task overload	.198	.897
professional identity	.793	.501
leadership and management	1.303	.278
Student Interaction	1.078	.362
Job security/ Tenure.	1.377	.255
Reward and recognition	1.304	.278
Promotion	4.548	.005***
Conversion to Technical university	3.724	.014**
Transfers	4.915	.003***
Hazards	1.592	.196
Job Conflict	2.255	.087*
Work method ambiguity	3.193	.027**

Performance criteria ambiguity	2.003	.119
Job ambiguity	2.061	.111

Note: * denotes 10% significance levels

Sources: Author's field survey, December 2020

4.2.7. Results on a belief system (proxied by religion) and stress factors

The differences in belief (proxied by religion) of respondents and causes of stress was examined using the One-Way ANOVA. The results are indicated in Table 19. The results show that differences exist in religion and causes of job stress and only leadership and management [F= 2.397: P= 0.056*].

Table 19. Religion and causes of stress

Variables (Causes of Stress)	**F-Value**	**P-value**
funding, resources and support of services	1.117	0.353
Time	1.107	0.358
departmental influence	1.207	0.313
task overload	1.480	0.215
professional identity	.920	0.456
leadership and management	2.397	0.056*
Student Interaction	1.911	0.116
Job security/ Tenure.	.999	0.413
Reward and recognition	.416	0.796
Promotion	.896	0.470
Conversion to Technical university	1.387	0.245
Transfers	.731	0.573
Hazards	.637	0.637
Job Conflict	1.183	0.324
Work method ambiguity	1.673	0.163
Performance criteria ambiguity	1.644	0.170
Job ambiguity	1.609	0.179

Note: ***; **; and * denotes 1%; 5%, and 10% significance levels

Sources: Author's field survey, December 2020

4.2.8. Results on culture (proxied by region) and causes of stress factors

The differences in culture (proxied by region) and causes of stress were analyzed using the One-Way ANOVA. The results are shown in Table 20. The results indicate that differences exist in culture and causes of job stress such as job conflict [F= 2.156: P= 0.033**]; and job ambiguity [F= 1.918: P = 0.060*].

Table 20. Culture and causes of stress

Variables (Causes of Stress)	**F-Value**	**P-value**
funding, resources and support of services	.431	.915
Time	.800	.617
departmental influence	.957	.480
task overload	.874	.552
professional identity	.876	.550
leadership and management	1.159	.331
Student Interaction	.363	.950
Job security/ Tenure.	.636	.763
Reward and recognition	.916	.515
Promotion	1.147	.340
Conversion to Technical university	.875	.551
Transfers	1.187	.313
Hazards	1.064	.397

Job Conflict	2.156	0.033**
Work method ambiguity	1.036	.418
Performance criteria ambiguity	1.109	.365
Job ambiguity	1.918	0.060*

Note: **; and * denotes 5%, and 10% significance levels

Sources: Author's field survey, December 2020

4.3. Discussions

The current study is based on a quantitative, cross-sectional survey on job stress prevalence and job causes using primary data collected from respondents who are the staff of Sunyani technical university. The findings of the study indicate that there is a high prevalence rate of job stress among the respondents in the study area, with differences in job stress and demographic factors.

The findings are consistent with the findings of previous research findings such as Lackritz (2004) for a USA study in which he concluded that gender and age significantly explained incidence of stress with age have a negative effect on stress incidence. He indicated that Race or ethnicity did not significantly explain stress incidence in the stud, which is contrary to the current research findings. Similarly, Karthikeyan and Lalwani (2019) findings that the demographic difference does not exist in job stress incidence is not in support with the current research findings. Rajasthan, Chaturvedi and Joshi (2015) findings also align with that of the current research findings. They reported that age, designation, monthly income and no. of dependents correlate significantly with the level of stress in both private and public sector firms studied. The study findings are also not in line with that of Karthikeyan and Lalwani (2019) research, in which they reported that the length of service, educational status, gender, and age has no significant influence on job stress incidence among the respondents. The present research findings are in support of the findings of Ahmad et al (2021) study in which they concluded that demographic factors such as gender, marital status, experience, position, salary, family size, and qualification have a significant effect on job stress.

On the causes of job stress, the current research findings indicated that significant differences exist between demographic factors and causes of job stress. Gender differences exist only in job ambiguity. age differences exist significantly in job stress causes such as departmental influence; task overload; professional identity; leadership and management; reward and recognition; promotion. Educational level differences exist in job stress such as funding, resources, and support of services; time; departmental influence; task overload; professional identity; leadership and management; students' interaction; job security/tenure; reward and recognition; transfer; and job conflict. Differences exist in marital status and causes of job stress such as departmental influence, reward and recognition, and conversion to a technical university. Differences exist in current work status and causes of job stress such as task overload, students' interaction, conversion to technical university; performance criteria ambiguity; and job ambiguity. Differences exist in work experience and causes of job stress such as promotion, conversion to a technical university, transfers, job conflicts, and work method ambiguity. Differences exist in the belief system and causes of job stress only in leadership and management. Differences exist in culture and causes of job stress such as job conflict; and job ambiguity.

The conclusion is that significant differences exist between demographic factors and causes of job stress among the respondents in the study. The findings are in agreement with research findings of prior researchers such as Isikhan, Comez, Danis (2004) for Turkey; Khan et al. (2013) for Pakistan; Rintaugu (2013) for Kenyan; Shkëmbi, Melonashi, and Fanaj (2015) for Kosovo; Aydin (2018) for Turkey. The findings of these works conclude that demographic differences exist in job stress causes. However, similar to the current study's findings, different demographic factors explain different causes of job stress.

The current research findings are not in support of previous research findings such as that of Agai-Demjaha et al. (2015) study for the Republic of Macedonia, in which they concluded that demographic factors under such as age, gender, the position at the job place, level of education, and the current job been the first job did not significantly influence job stress among the respondents. The present study findings also are not in agreement with Faraji et al. (2019) for Iranian nurses. The author concludes that gender, age, academic degree, and working experience have no significant effects on job stress among the respondents.

5. Conclusions

The purpose of the research was to investigate the demographic differences in job stress prevalence and job stress causes among the staff of universities using a sample from Sunyani Technical University. A sample size of 100 respondents, selected by the convenience sample method, was used. The mean, standard deviation, regression, and One-Way ANOVA were used to analyze the data collected in the survey.

The research findings show that demographic differences exist in job stress prevalence rates and job stress causes. The major causes of job stress affected by demographic variables are conversion to technical university; departmental influence; funding, resources, support of services; job ambiguity; job conflict; job security/tenure; leadership and management; performance criteria ambiguity; professional identity; promotion; reward and recognition; students' interaction; task overload; time; transfer; work method ambiguity. The only job stress which is not influenced by demographic factors is a hazard.

It is recommended that the management of universities should take into account the current findings of the research in dealing with job stress. Appropriate policies are recommended to be put in place to deal with stress related to the job to improve the output of staff, professional work and personal welfare. There is a need to ensure the efficient running of the various counselling department and other support services in the various universities.

Future research/limitations

The research paper is not without limitations. Respondents might have been economical with their responses to questions asked. The use of one public technical university and A convenience sampling method might cause the findings to lack external validity. The study did not consider how environmental factors affect stress. The consequences of stress and coping strategies were also not investigated. Thus, these issues which were not covered are worth researching. A comparative study of private and public universities will also be appropriate for further research to improve the external validity of the findings. Other demographic factors such as income levels, family size, resident places of staff that were not considered should be included in further studies.

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