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ORIGINAL RESEARCH

FACTORS CAUSING OCCUPATIONAL STRESS AMONG SENIOR SECONDARY SCHOOL TEACHERS OF AMRITSAR DISTRICT.

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Abstract

The study attempts to investigate the various factors causing occupational stress experienced by senior secondary school teachers. A sample of 100 teachers (50 science teachers and 50 physical education teachers) was randomly selected. They were administered a comprehensive questionnaire which measures various factors of stress. Factor analyses were used to identify underlying factors causing stress. The analysis showed that non cooperation from the colleagues, hastiness to finish the work, unable to perform duty smoothly, unclear instructions and insufficient facilities, unclear expectations of higher authority and having more work load in less time were the significant factors causing occupational stress among the teachers. The monotonous nature of work, ignorance of higher authority and violation of administrative processes and policies were factors also contributing towards occupational stress among teachers.

Introduction

Human beings have many biological, psychological and social needs. When these needs are not satisfied they experience stress. Besides these needs there are many challenges in human life and they all are likely to produce stress. Hans Selye (1978) defines stress as ‘any external events or internal drive which threatens to upset the organismic equilibrium’. Stress is more likely in some situations than others and in some individuals than others. Stress is not always negative or harmful and indeed, the absence of stress is death(Selye,1976). Stress is the non-specific response of the body to any demand, positive or negative, made upon it.

Job life is one of the important parts of our daily lives which cause a great deal of stress. Due to the competitive nature of the job environment most of the people in the world are spending their time for job related work purposes resulting the stressor those are influencing their work and life. Evidence from a growing body of research suggests that certain individuals, in a variety of occupations, are increasingly exposed to unacceptable levels of job-related stress(Schultz & Schultz,2002). Occupational stress is any

discomfort which is felt and perceived at a personal level and triggered by instances, events or situations that are too intense and frequent in nature so as to exceed a person's coping capabilities and resources to handle them adequately (Malta, 2004).

Occupational stress can be defined as the "harmful and emotional responses that occur when the requirements of the job do not match the capabilities, resources or the need of the worker" (Sauter & Murphy, 1999). Numerous studies (House, 1974; Cooper, 1984) etc. implicated stress in the etiology of a number of physical and psychiatric ailments (coronary heart disease, skin disease, ulcers, etc). In addition, occupational stress can hinder effectiveness at work and can lead to low performance, job dissatisfaction, poor motivation, absenteeism and turnover (Cooper, 1981). There is little doubt that teaching has become a more demanding and intense job. Teachers regardless of what level they teach are exposed to high levels of stress. Teacher's work becoming more complex and demanding. The roles of teachers not easily defined and the variables that come into play are growing more complex (Greenberg, 1984). The present study attempts to investigate the various factors causing occupational stress among the teachers of Amritsar district.

Methodology

The present study is entirely based upon primary cross section data, collected from 100 teachers of government and private schools of Amritsar district of Punjab. Out of these hundred teachers 50 are the teachers of physical education and remaining 50 are the teachers of science. A comprehensive designed and pre-tested questionnaire has been used to examine the occupational stress of these teachers.

Discriminant Analysis:-

In the questionnaire there are 46 Variables identify causes of occupational stress among the respondents. These 46 variables are in accordance with the number of question in the questionnaire e.g. first variable represents first question, second variable represents second question and so on. The use of discriminant analysis will confirm us whether we need a separate study of physical education teachers and science teachers or the combined analysis would be sufficient. There are three types of discriminant techniques:-

- I. Fisher's discriminant analysis.
- II. Mahalonobis D^2 Analysis
- III. Hotelling T^2 Analysis.

In present study we apply Hotelling T^2 Analysis because of its power to discriminate to sample of different sizes with same number of variables.

Factor Analysis:-

After discriminating two samples we apply factor analysis. If the samples are identified to be orthogonal then we will study the factors influencing occupational stress separately otherwise a combined analysis would be performed. To apply factor analysis a significant correlation among different variables must exist.

Results and Discussion

To analysis whether the variables into two samples show different characteristics or not, we have applied Hotelling – T^2 Analysis to test the difference of characteristics among the two samples

Results of Hotellign – T^2 Analysis

The comparison of two samples obtained from the teachers of physical education and the teachers of science show the value of t^2 as.

$$T^2 = 0.0004508$$

Converting, the value 2 T^2 into F-statistics using the formula,

$$\begin{aligned}
 F &= \left[\frac{n_1 + n_2 - P - 1}{n_1 + n_2 - 2} \right] T^2 \\
 &= \left[\frac{50 + 50 - 46 - 1}{50 + 50 - 2} \right] T^2 \\
 &= \left(\frac{53}{98} \right) 0.0004508 \\
 &= (0.5408)(0.0004508) \\
 &= 0.00024
 \end{aligned}$$

for $V_1 = P = 46$ and $V_2 = n_1 + n_2 - P - 1 = 53$ degree of freedom the tabulated value of F hence between 1.5343 and 1.6373. However, the calculated value of F is less than the tabulated value of F. Hence, we concluded that two samples relating to the teachers of physical education and science do not differ significantly and thus there is no need to study the characteristics of these two samples separately because both will provide same results.

The distribution of discriminant course also conform that 94.58 percent items are correctly distributed among two categories and thus the distribution error to the tune of 5.42 percent.

Factor Analysis

We proceed further and operationalize the factor analysis on combined data set of physical education teachers and science teachers. The prerequisite condition for the application of factor analysis is that the variables included for the study purpose must be significantly correlated with each other. The existence of significant correlation among 46 variables selected for the study purpose was confirmed.

The next step is to analysis the factors causing variation in the over all data set. To pursue this objective the techniques of principles components has been used. 12 factors have been identified which causing 75.64 percent variation in the overall data set.

Table -1 Results of factor analysis.

| Variables | Factors | | | | | | | | | | | | Communalities |
|-----------|---------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|---------------|
| | Factor1 | Factor 2 | Factor 3 | Factor 4 | Factor 5 | Factor 6 | Factor 7 | Factor 8 | Factor 9 | Factor 10 | Factor 11 | Factor 12 | |
| S1 | 0.1707 | -0.0592 | -0.1608 | 0.2125 | 0.0003 | 0.1140 | 0.1894 | 0.8090 | -0.0252 | -0.0497 | 0.0134 | 0.1449 | 0.8313 |
| S2 | 0.2926 | 0.2737 | -0.2337 | 0.1324 | 0.0276 | -0.1940 | 0.3308 | 0.2982 | 0.4080 | -0.2235 | 0.1497 | 0.0015 | 0.7084 |
| S3 | 0.3253 | 0.2812 | -0.1703 | 0.1250 | -0.0274 | -0.1678 | 0.3094 | 0.0282 | 0.1374 | -0.0409 | 0.3562 | 0.4605 | 0.7145 |
| S4 | 0.2972 | 0.2736 | 0.0352 | -0.0219 | -0.0546 | 0.0907 | 0.6244 | 0.2899 | -0.0286 | 0.1952 | 0.1830 | -0.1891 | 0.7582 |
| S5 | 0.2241 | 0.4569 | 0.1564 | 0.1569 | -0.3395 | 0.1733 | 0.0758 | 0.1301 | 0.0751 | 0.3467 | 0.0209 | 0.3027 | 0.6940 |
| S6 | 0.1376 | -0.2388 | 0.7417 | 0.1611 | 0.0055 | 0.0636 | -0.3187 | 0.0656 | -0.0100 | -0.1513 | 0.0400 | -0.1575 | 0.8115 |
| S7 | -0.4123 | 0.1520 | 0.6151 | 0.0987 | 0.0622 | 0.3061 | -0.1341 | -0.1027 | 0.0955 | 0.1186 | 0.1183 | -0.1070 | 0.7559 |
| S8 | 0.1118 | -0.8355 | 0.1944 | -0.0026 | 0.0862 | 0.0354 | -0.0395 | 0.1144 | 0.01406 | 0.1245 | -0.0876 | -0.0140 | 0.8149 |
| S9 | 0.0958 | 0.6207 | -0.0808 | 0.0839 | -0.0859 | -0.2025 | -0.0666 | 0.0603 | 0.0655 | 0.0213 | -0.1049 | 0.5362 | 0.7676 |
| S10 | 0.1303 | -0.0208 | 0.0947 | 0.8585 | -0.0033 | -0.0033 | -0.0103 | 0.1143 | 0.0904 | -0.0142 | -0.0177 | 0.0545 | 0.7882 |
| S11 | 0.3732 | 0.1551 | -0.2148 | 0.4752 | 0.1372 | -0.0532 | 0.1649 | 0.3688 | 0.1859 | 0.1758 | 0.1862 | -0.1073 | 0.7318 |
| S12 | 0.4151 | 0.5831 | 0.1834 | -0.0166 | 0.1407 | 0.1182 | 0.1344 | 0.1136 | 0.0790 | 0.0736 | 0.0600 | 0.0470 | 0.6285 |
| S13 | 0.4022 | 0.1857 | 0.0476 | 0.2765 | -0.3985 | 0.3348 | -0.0760 | 0.2200 | 0.0533 | 0.3401 | 0.2852 | 0.1613 | 0.8276 |
| S14 | -0.2012 | -0.1687 | 0.3007 | 0.4256 | 0.1062 | 0.0931 | 0.1473 | -0.0468 | -0.5195 | 0.2636 | -0.0966 | -0.1452 | 0.7541 |
| S15 | 0.2183 | -0.1991 | 0.1944 | 0.0055 | 0.5237 | 0.0017 | -0.3784 | -0.2176 | -0.2246 | 0.3107 | -0.0891 | 0.1333 | 0.7626 |
| S16 | 0.4111 | 0.3018 | 0.2825 | 0.0022 | -0.0907 | -0.0398 | 0.3074 | 0.2507 | 0.0147 | -0.0549 | 0.4484 | -0.0582 | 0.7153 |
| S17 | -0.1270 | -0.0564 | 0.003 | -0.0339 | -0.0178 | -0.1332 | 0.0369 | -0.0179 | -0.0850 | 0.7855 | -0.0633 | 0.0330 | 0.6699 |
| S18 | -0.0139 | 0.1274 | 0.2748 | -0.0472 | 0.0608 | 0.8030 | 0.0684 | 0.0532 | -0.1022 | -0.0949 | -0.0604 | -0.1087 | 0.7852 |
| S19 | -0.4615 | -0.1938 | 0.4276 | 0.1351 | -0.1365 | -0.0691 | -0.0691 | -0.3025 | -0.2542 | -0.1626 | -0.0376 | 0.3823 | 0.8091 |
| S20 | 0.6998 | 0.3268 | -0.0053 | 0.2022 | 0.0149 | -0.0767 | -0.0382 | -0.0132 | 0.1207 | 0.1065 | 0.1320 | -0.1045 | 0.6994 |
| S21 | -0.0881 | -0.0675 | 0.0635 | 0.0514 | 0.8269 | 0.1219 | 0.0381 | 0.0736 | -0.0959 | -0.0169 | 0.0074 | -0.2018 | 0.7772 |
| S22 | 0.3000 | -0.2405 | -0.0252 | 0.6516 | -0.0166 | 0.3987 | 0.0997 | 0.1207 | -0.1014 | -0.0366 | 0.1822 | -0.2025 | 0.8427 |
| S23 | 0.3796 | 0.3315 | -0.3099 | 0.3943 | 0.2072 | 0.1789 | 0.0204 | 0.1065 | 0.0927 | -0.1238 | 0.0201 | 0.1290 | 0.6332 |
| S24 | 0.2408 | 0.2007 | -0.0611 | 0.3463 | -0.4350 | 0.3358 | 0.1013 | 0.2027 | 0.3382 | -0.1791 | -0.3441 | 0.0450 | 0.8422 |
| S25 | 0.5325 | 0.0401 | -0.0831 | 0.1225 | -0.2427 | 0.4363 | 0.2996 | -0.1297 | 0.0728 | 0.1094 | -0.1710 | 0.1454 | 0.7306 |
| S26 | 0.6017 | 0.0914 | -0.0586 | 0.1688 | -0.1283 | 0.3124 | -0.0437 | 0.3396 | 0.1969 | 0.0878 | -0.0581 | -0.1658 | 0.7110 |
| S27 | 0.7952 | 0.0743 | -0.0884 | 0.0826 | -0.0627 | -0.2167 | -0.0433 | 0.1224 | 0.0585 | 0.0006 | 0.1067 | 0.0449 | 0.7370 |
| S28 | 0.4700 | -0.0191 | 0.1451 | 0.1591 | -0.2559 | 0.1685 | 0.0346 | 0.0378 | 0.0588 | -0.0481 | 0.5497 | 0.1671 | 0.7000 |
| S29 | 0.0403 | -0.4251 | 0.3087 | 0.3258 | 0.2048 | -0.3456 | -0.0130 | 0.3784 | 0.0859 | 0.1599 | 0.0649 | -0.1645 | 0.7528 |
| S30 | -0.0935 | -0.0558 | 0.5070 | -0.0350 | 0.2077 | -0.2817 | -0.0461 | -0.1385 | 0.0919 | -0.2380 | 0.4634 | -0.1362 | 0.7090 |
| S31 | 0.0421 | -0.2189 | 0.7019 | -0.0145 | 0.3328 | -0.0535 | 0.1783 | -0.0757 | 0.1304 | 0.1769 | -0.2558 | -0.0360 | 0.8087 |
| S32 | 0.2737 | -0.3182 | 0.1196 | 0.3143 | 0.0436 | 0.4123 | 0.0297 | -0.4414 | -0.0385 | -0.0808 | 0.3549 | -0.1193 | 0.8050 |
| S33 | -0.2448 | -0.1200 | 0.2081 | 0.0976 | 0.7863 | 0.0582 | -0.0096 | 0.0309 | -0.0663 | -0.0932 | -0.0364 | 0.0868 | 0.7717 |
| S34 | 0.2652 | 0.6291 | 0.0391 | -0.1039 | -0.0202 | 0.1017 | 0.2457 | 0.1240 | 0.3993 | -0.0849 | 0.0707 | 0.0775 | 0.7425 |
| S35 | 0.2480 | 0.6301 | 0.1068 | -0.0869 | -0.0913 | -0.0554 | 0.3755 | -0.0002 | 0.3095 | -0.0994 | 0.1369 | 0.0801 | 0.7608 |
| S36 | 0.1845 | 0.1373 | 0.1038 | 0.2828 | -0.3196 | 0.1248 | 0.1457 | -0.0805 | 0.7235 | 0.0098 | 0.0185 | 0.0870 | 0.8205 |
| S37 | 0.6799 | 0.0988 | -0.1563 | 0.0187 | -0.1326 | 0.0469 | 0.2828 | -0.2933 | 0.0244 | -0.2606 | -0.0856 | 0.1665 | 0.7861 |
| S38 | -0.1013 | -0.1568 | -0.0295 | 0.1806 | 0.1258 | 0.7820 | -0.1108 | 0.0386 | 0.1180 | -0.0512 | 0.1653 | -0.0444 | 0.7552 |
| S39 | 0.1905 | 0.7243 | -0.2313 | 0.0609 | -0.0987 | -0.0118 | 0.3333 | -0.0364 | 0.0995 | 0.1362 | -0.1350 | -0.0544 | 0.7901 |
| S40 | -0.3221 | -0.1981 | 0.6984 | -0.0505 | 0.0407 | 0.0249 | 0.0523 | -0.0241 | -0.2594 | 0.1079 | 0.0764 | 0.0944 | 0.7326 |
| S41 | -0.0210 | -0.0542 | 0.2186 | 0.4576 | 0.2554 | 0.1958 | -0.0045 | -0.1180 | -0.1200 | -0.2263 | -0.0438 | -0.6044 | 0.8109 |
| S42 | 0.4322 | 0.2093 | -0.3315 | 0.3642 | -0.1735 | 0.0080 | 0.1039 | -0.1988 | 0.2684 | 0.3014 | -0.0289 | 0.1022 | 0.7278 |
| S43 | -0.0559 | -0.5747 | 0.3463 | 0.2470 | 0.0443 | 0.1014 | 0.0104 | 0.0380 | -0.3953 | 0.0014 | 0.1680 | 0.1713 | 0.7419 |
| S44 | 0.5465 | 0.2912 | 0.1199 | 0.1601 | -0.2473 | 0.0065 | 0.2255 | 0.3091 | -0.0809 | 0.0446 | -0.2917 | -0.0561 | 0.7278 |
| S45 | 0.1852 | 0.2036 | -0.0717 | 0.0953 | 0.0312 | -0.0242 | 0.8224 | 0.0359 | 0.0748 | -0.0052 | -0.0569 | 0.0968 | 0.7874 |
| S46 | 0.8023 | -0.0276 | -0.0839 | 0.0319 | -0.0550 | 0.0491 | 0.2068 | 0.0943 | 0.1144 | -0.1129 | 0.1363 | 0.1002 | 0.7640 |

| | | | | | | | | | | | | |
|------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Initial Eigen Values | 11.2791 | 5.3012 | 2.9232 | 2.4900 | 2.3222 | 2.0538 | 1.8121 | 1.5770 | 1.5203 | 1.3106 | 1.1731 | 1.0340 |
| Percentage of Variance | 24.5197 | 11.5243 | 6.3549 | 5.4131 | 5.0483 | 4.4649 | 3.9393 | 3.4282 | 3.3050 | 2.8491 | 2.5503 | 2.2477 |
| Cumulative | 24.5197 | 36.0440 | 42.3989 | 47.8120 | 52.8603 | 57.3252 | 61.2644 | 64.6927 | 67.9977 | 70.8468 | 73.3971 | 75.6449 |



In above table-1, the first factor is causing 24.5197% variation. Where as the second factor is causing 11-5263% of variation except these two factors all other factors are causing 10% of the overall variation. Thus we will concentrate on the variables included within first 2 factors. The rotated components matrix given in table-1 explains that first factor is the principle component of variable S20, S25, S26, S27, S37, S44 and S46. The communalities provided in table-1 explain that S1 which explain 83.1% variation in the model is explained as the workload which is measured at 5.5 point scaling system. In our questionnaire this is our first question which appears as dependent variables in our analysis. Thus the variables included with in first component are explaining 24.5197 percentage points of 83.11% explained variation in the depended variables. The first most important factor included by first component is the 20th question. The 20th question is “sum of my colleges, subordinate try to defame and malign me as unsuccessful”. It simply means that the nature of colleges significantly effect occupational stress among the select nature. The second factor is S25 which is the variable depicting the dispose of the work as soon as possible. It means the hastiness to finish the work also causes occupational stress among the teachers of physical education and science. Further the existence of S26 in principle components 1 conform that failure to perform duty smoothly is causing occupational stress among the teachers. Unclear instructions and insufficient facilities regarding the new assignments justify the existence of variables S27 in principles component I. Therefore provision of appropriate facilities and clear instructions will work to reduce occupational stress among the teacher of selected subjects. Further the unclear expectations of higher authority is (S37) are also responsible to create occupational stress. Thus if the expectations of the authority are not clear, the proper tuning with the authorities may not be established which may result occupational stress. The variable in S₄₄ which is cooperating in doing the other’s work is also an important factor causing occupational stress. It simply means whenever the teacher have to do some other job which are to be done either by clerical staff or by some other worker of the school will cause occupational stress. The last variable that is S46 which explains the assignment of having work load and lack of the time is also responsible for maintaining occupational stress and job dissatisfaction among the selected teacher. The factors included by the principle component two are S9, S12, S34, S35 and S39. Here S9 explains the “Monotonous nature of assignment”. S12 and S34 explain the ignorance of higher authority and dissatisfaction job respectively. S₃₅ and S39 explain the violation of former and administrative processes and policy owing to group operatically pressure respectively. All these significant factors included by principle component two are psychological in nature and explain introspective nature of the teachers. If they are dissatisfied from their job they will think negatively and the factors included by components two are the result of this negative thinking. Accept these two components all other factor are causing less than 10% of the variation and thus do not found any significant place for the exploration.

Conclusion

The results of the study indicates that the nature of colleagues effect the occupational stress among teachers. The hastiness to finish the work, failure to perform duty smoothly, unclear instructions and insufficient facilities, unclear expectations of higher authority, cooperation in doing other’s work and the assignment of having workload and lack of time are the significant factors included by the component 1, which are responsible for maintaining occupational stress and job dissatisfaction among the teachers. Monotonous nature of assignment, ignorance of higher authority and violation of administrative processes and policies are significant factors included by principle component two, causing occupational stress among the teachers. Better cooperation from the colleagues, clear instructions and sufficient facilities from higher authority would help to reduce occupational stress in the teachers. More interesting assignments and better policies regarding administrative processes would also lead to job satisfaction and more productivity.

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