## STRESSORS AND STRESS MANIFESTATION INVENTORY (SSMI)

| **Stress Management** | |
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## ABSTRACT

Stress an ubiquitous phenomenon seems to have devastating effects on the well-being of individuals especially workers. This phenomenon is part and parcel of daily living and therefore inevitable. Based on the above, there was the need to develop an inventory to assess the stressors and stress manifestation. Hence, the present study investigated the stressors and stress manifestation using 213 workers purposively and incidentally drawn from higher institutions of learning in Enugu-Nigeria. Factor analysis using SPSS IBM Version 20 two subscales emerged namely: stressors and stress manifestation subscales. It was concluded that the inventory should be made part and parcel of the documents that guide policy makers, clinicians, and individuals to proper stress management.

### INTRODUCTION

Stress could be defined as the inability to cope with a perceived threat (real or imagined) to one's mental, physical, emotional and spiritual well-being, which results in a series of physiological responses and adaptations (Health24, 2018). Stress according to Selye (1974) is the non-specific responses of the body to any demand made on it. It is also a physiological reaction to either internal cognitive stimuli or external environmental stimuli (Seyle, 1974). Stress could be caused by chronic stressful life events, daily hassles, significant life changes, frustration and conflict (Omeje & Agu, 2011). Stress could be emotional, marital, or work-related. Work stress may result from heavy work load or too much responsibility, working longer hours, working under dangerous conditions, facing discrimination or harassment at work, and so on.

Stress therefore could be either good known as eustress or bad called distress. Eustress, for instance, include engaging in physical exercises like running, climbing, jumping or playing all kinds of games, while distress on the other hand ,seem to include negative life events such excess workload, loss of loved ones ,etc. these stressors results in negative feelings such as anger, distrust and depression (Omeje & Agu, 2011).

To ascertain the impact of stress on humans, diathesis stress model asserts that if the combination of an individual's predisposition and stress exceeds a threshold, the person will develop a disorder such as depression, anxiety, or schizophrenia (lazarus, 1993).

On the effect of stressors on health and the progress of illness, Lazarus (1978), Sarason, Sarason, Potter and Antoni (1985), Wilder and Pluchik (1985) observe that more emphasis has recently been given to an individual cognitive appraisal, copying ability, illness behavior and social support than to recent life changes.

Beck (1976) observes that there is the tendency of making one – sided and extreme judgments by those who are vulnerable to stress. This tendency may be explained by the individual's personality or by stress. Koh, Park, Kim and Cho (2001) examined the development of the stress response inventory and its application in clinical practice. The empirical results of the factor analysis yield seven subscale namely, tensions, aggression, somatization, anger, depression, fatigue and frustration. The conclusion drawn is that the stress response inventory is highly reliable and valid and can be utilized as an effective measure of stress for research in stress – related fields.

Robertson, Cooper and Williams (2007) investigated the validity of four subscales of the Occupational Stress Inventory (OSI). The data for the analysis was derived from a sample of British managers. The results indicate that three of the four OSI scales (job satisfaction, mental health and type A behavior) show acceptable validity. The fourth scale (locus of control) needs further developments. Further test was also conducted to explore the validity of the theoretical ideas underlying the OSI. The results of the multiple regression techniques employed reveal that both sources of pressure at work and type A behavior are linked to mental health and job satisfaction.

From the above, stress response inventories have been developed outside the shore of Nigeria. Hence, the need to develop an indigenous inventory that will assess the stressors and stress manifestation among workers to forestall the consequences following stress period.

### METHOD
#### Participants
Two hundred and thirteen (213) workers were sampled from both private and public tertiary institutions within Enugu metropolis, Nigeria. They included 122 females (57.3%) and 91 males (42.7%). The participants were made up of both academic and non-academic workers. Of these, 113(53.1%) were academic while 100(46.9%) were non-academic workers between the ages of 26 to 67 years. These participants came from different religious and ethnic groups of the country, however, 189(88.7%) were Ibos while 24(11.3%) were from other ethnic groups. More so, 211(99.1%) were Christians while 2(0.9%) were Muslims. Purposive and incidental sampling techniques were used to sample the participants in their places of work.

### Procedure
#### Development of the inventory
In this study, the researchers started with a focus group discussion with the population of interest to determine the items the inventory should cover. Items were generated during the discussions which took place at three different places as organized by the researchers. From the discussions and literature reviews, 65 items were put together, after which they were given to five experts: 3 industrial psychologists and 2 clinical psychologists for content validity. Their expert opinions were sought for the contents coverage and relevance of the inventory (Bollen, 1989).

The experts reviewers, observed and suggested that the inventory be divided into two parallel subscales: 1.) Stressors Subscale and 2.) Stress Manifestation Subscale. However, items that failed to get 70% approval of the five experts were dropped. Hence, 23 items were retained each for the two subscales. The items were scaled on 5-point Likert response format, ranging from 1= Rarely, 2 = Sometimes, 3 = Often, 4 = Very Often and 5 = Most Often. All the items are directly scored. An overall score of a participant will be gotten by summing the responses of the participant on all the items in the inventory.

#### Administration
A total of 270 copies of the inventory were administered within 3 weeks. The participants completed the inventory within 10 minutes on the average. It was administered by the researchers with the help of research assistants. At the end, 243 copies of the questionnaires were

returned, and out of which, 30 copies were discarded due to error in completion hence, 213 copies properly filled were scored and used for the factor analysis. Meanwhile, rapport was established between the researchers and the participants to enhance confidentiality and informed consent. The participants were first of all briefed about the purpose of the study and their consent to participate sought. So, all the participants gave their consent to participate in this study.

## RESULTS

Stressors and Stress Manifestation Inventory items were examined using SPSS IBM Version 20. According to Tabachnick and Fidell (2007) inspecting the correlation matrix coefficients of 0.30 is termed factorability of $R$ and it was observed that out of the 46 items, 6-items (3 from each scale) failed to correlate at .30 hence, they were deleted. However, 40-items (20 from each scale) correlated at least .30. It was observed that the *Kaiser-Meyer-Olkin (KMO)* measure of sampling adequacy was .86 for Stressors inventory and .83 for Stress Manifestation inventory which portray a good sampling adequacy, because any coefficient above .50 is good and the items should be factorized (Hair, Anderson, Tatham & Black, 1995; Tabachnick & Fidell, 2007). Also, Bartlett's test of sphericity was significant at $X^2(190)$ =1391.079, and 1499.219,$p$<.001 level of significance respectively which showed that there were patterned relationships between the items on the two subscales (Barlett, 1950).

Furthermore, the Stressors subscale was loaded on one factor and as such out of 20-items, only 19-items met the cut-off point of 0.3 and has 19-items measuring Stressors . Also, Stress Manifestation subscale was loaded on one factor and as such 8-items were dropped out of 20-items, hence, the subscale has 12-items measuring Stress Manifestation . According to Comrey and Lee (1992), in using "variance explained" criteria for deciding the importance of factor loadings, loadings in excess of .71 (i.e., 0.71x0.71=50% of common variance) are considered excellent, 0.63 (i.e., 40% of common variance) very good, 0.55 (i.e., 30% of common variance) good, 0.45 (i.e., 20% of common variance) fair, and0.32 (i.e., 10% of common variance) poor. They concluded that only variables with loadings of 0.32 or greater should be interpreted. From the tables below, all the items are for determining the symptoms of stress a worker exhibits as a result of his/her work and other environmental stressors, also the ways by which these stresses manifest in his/her daily work life. Based on the above, tables below show items and their loadings for Stressors and Stress Manifestation Inventory as follows;

### Table1. Stressors Subscale

| Item | Loading |
|---|---|
| Item1. Working without having time for myself | .600 |
| Item2. Shouldering too much responsibilities in spite of my workload | .718 |
| Item3. Covering more than 5 kilometers to work/school everyday | .673 |
| Item4. Not having steady power supply to carry on with my activities | .721 |
| Item5. My work/study environment is not conducive | .622 |
| Item6. Always work to meet up with a set target | .671 |
| Item7. Family responsibilities always interfere with my work/school activities | .655 |
| Item8. Not having income that satisfies my needs | .695 |
| Item9. Always feeling bad waking up on a working day | .485 |
| Item10. Waking up at the sound of alarm to meet up with work-time | .581 |
| Item11. Living with family a member or friend older than me | .455 |
| Item12. Feeling hunger pangs | .372 |
| Item13. Being neglected by loved one | .587 |
| Item14. unstable relationship | .460 |
| Item15: Not Knowing what future holds for me | .361 |
| Item16. Always in debt | .481 |
| Item17. Not meeting up with my expectations | .348 |
| Item18. Being with unfriendly people | .319 |
| Item19. Being Shouted at by my boss/instructor | .355 |

### Table2. Stress Manifestation Subscale

| Item | Loading |
|---|---|
| Item2. I feel sad shouldering too much responsibilities | .388 |
| Item4. Whenever there is unstable power supply, I get rashes and sweat profusely all over my body | .710 |
| Item5. I get irritated working or studying in untidy environment | .800 |
| Item7. I palpitate whenever a family member calls me | .540 |
| Item10. I feel very weak whenever i wake up t the sound of alarm | .783 |
| Item12. I always get angry whenever I feel hunger | .340 |
| Item13. I become frustrated being neglected by my loved ones | .704 |
| Item15. Not knowing what future holds for me makes me feel sick | .498 |
| Item16. I find it difficult to sleep thinking about my unpaid debts | .608 |
| Item18. I worry a lot trying to know my real friends | .827 |
| Item19. Whenever I am shouted on by my superior, i develop cold feet | .772 |
| Item20. I always fall sick whenever people fail to meet up with their promises to me | .527 |

## DISCUSSION

A factor analysis was carried out which produced two subscales of the Stressors and Stress Manifestation Inventory that will be used in determining stressors and stress manifestations among workers. A Cronbach Alpha coefficient of .86 and .86 were obtained for the two subscales respectively. The study provided norms for the subscales: 59.23 and 38.01 respectively, meaning that scores higher than the norms indicate presence of stressors and stress manifestations, while scores lower than the norms indicate lack of or little presence of stressors and or stress manifestations.

### Implications of the Study

The major implication of this study is that the subscales have practically revealed that stressors and their consequences can be measured there by helping clinicians and other health care providers to monitor and manage stress accruing from the workplace and other areas of life. These subscales will also help individuals to ascertain when stressors and their manifestations set in to enable them monitor and seek help early for proper management.

Moreover, it will serve as guide to policy makers and university management in articulating the conditions of service for workers by ensuring that those stressors in the inventory are minimized or completely eradicated in the work environment/job description. In other words, it could be deduced that the inventory proposes worker-friendly policies.

The researchers hereby recommend Stressors and Stress Manifestation Inventory (SSMI) to clinicians, managers, universities' management, ministry of education, stakeholders in health, industrial and educational sectors, also to individuals to utilize this inventory in determining the symptoms and consequences of stress and managing it appropriately.

## CONCLUSION

To this end, it was concluded that 'Stressors and Stress Manifestation Inventory" developed and designed to determine stressors and stress manifestation among working population, found reliable and valid should be adopted as one of the documents by university administrators and ministries of employment, labour, productivity, and health to guide their decisions.

## STRESSORS AND STRESS MANIFESTATION INVENTORY

The following items are meant to access the presence of stressors and stress manifestation. Could you please respond as it applies to you.

### Stressors subscale

| S/N | ITEMS | Rarely | Sometimes | Often | Very Often | Most Often |
|---|---|---|---|---|---|---|
| 1. | Working without having time for myself | | | | | |
| 2 | Shouldering too much responsibilities | | | | | |
| 3 | Covering more than 5 kilometres to work/school everyday | | | | | |
| 4 | Not having steady power supply to carry on with my activities | | | | | |

| 5 | My work/study environment is not conducive | | | | | |
|---|---|---|---|---|---|---|
| 6 | Always work to meet up with a set target | | | | | |
| 7 | Family responsibilities always interfere with my work/ school activities | | | | | |
| 8 | Not having income that satisfies my needs | | | | | |
| 9 | Always feeling bad waking up on a working day | | | | | |
| 10 | Waking up at the sound of alarm to meet up with work time | | | | | |
| 11 | Living with a family member or friend older than me | | | | | |
| 12 | Feeling hunger pangs | | | | | |
| 13 | Being neglected by loved one | | | | | |
| 14 | Unstable relationship | | | | | |
| 15 | Not knowing what future holds for me | | | | | |
| 16 | Always in debt | | | | | |
| 17 | Not meeting up with my expectations | | | | | |
| 18 | Being with unfriendly people | | | | | |
| 19 | Being shouted at by my boss/instructor | | | | | |

**Stress Manifestation subscale**

| S/N | ITEMS | Rarely | Sometimes | Often | Very Often | Most Often |
|---|---|---|---|---|---|---|
| 1. | I feel sad shouldering too much responsibilities | | | | | |
| 2 | Whenever there is unstable power supply, I get rashes and sweat profusely | | | | | |
| 3 | I get irritated working or studying in untidy environment | | | | | |
| 4 | I palpitate whenever a family member calls me | | | | | |
| 5 | I feel very weak whenever I wake up at the sound of alarm | | | | | |
| 6 | I always get angry whenever I feel hunger | | | | | |
| 7 | I become frustrated being neglected by my loved ones | | | | | |
| 8 | Not knowing what future holds for me makes me feel sick | | | | | |
| 9 | I find it difficult to sleep thinking about my unpaid debts | | | | | |
| 10 | I worry a lot trying to know my real friends | | | | | |
| 11 | Whenever I am shouted on by my superior, I develop cold feet | | | | | |
| 12 | I always fall sick whenever people fail to meet up with their promises to me | | | | | |

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