6 Discussion of Findings and Conclusions

6.1 Introduction

There are five propositions and twenty three associated hypotheses in this research:

**Proposition 1**: There is significant difference in job stress

**H1**: There is significant difference in stress-personality

**H2**: There is significant difference in stress-role

**H3**: There is significant difference in stress-boss

**H4**: There is significant difference in stress-organization

**H5**: There is significant difference in stress-competency

**H6**: There is significant difference in stress-peer

**H7**: There is significant difference in stress-subordinate

**H8**: There is significant difference in stress-time management

**Proposition 2**: Job stress is related to hierarchical level
**H9**: There is significant correlation between hierarchical level and job stress

**Proposition 3**: There is significant difference in the leadership qualities of self and boss

**H10**: There is significant difference in the leadership traits of self and boss

**H11**: There is significant difference in the leadership skills of self and boss

**H12**: There is significant difference in the leadership style of self and boss

**Proposition 4**: There is significant difference in the leadership qualities at junior, middle and top levels of management

**H13**: There is significant difference in traits-self at junior, middle and top levels of management

**H14**: There is significant difference in traits-boss at junior, middle and top levels of management

**H15**: There is significant difference in skills-self at junior, middle and top levels of management

**H16**: There is significant difference in skills-boss at junior, middle and top levels of management

**H17**: There is significant difference in style-self at junior, middle and top levels of management
**H18**: There is significant difference in style-boss at junior, middle and top levels of management

**Proposition 5**: Leadership style of boss has significant influence on job stress of subordinates

**H19**: Leadership style of boss has negative influence on stress-personality

**H20**: Leadership style of boss has negative influence on stress-role

**H21**: Leadership style of boss has negative influence on stress-boss

**H22**: Leadership style of boss has negative influence on stress-competency

**H23**: Leadership style of boss has negative influence on stress-organization.

For proposition 1 and hypotheses H1, H2, H3, H4, H5, H6, H7 and H8, One-Way ANOVA and Post Hoc Gabriel and Hochberg’s GT2 tests were also carried out.

To compare inter-hierarchical level job stress across the five organizations, i.e., to test hypothesis H9 under proposition 2, One-Way ANOVA was done between the three hierarchical levels- junior, middle and top for the job stress groups – personality, role, organization, boss, competency, peer, subordinate and time management. Post Hoc Hochberg’s GT2 and Gabriel tests were also done.

In order to assess the correlation among job stress factors- personality, role, boss, organization, competency, peer, subordinate and time management, Pearson’s correlation coefficient was calculated.
For testing hypothesis H10, H11 and H12 under proposition 3, Pearson’s correlation coefficients were calculated for each of the factors- traits, skills and style to find out the correlation between the leadership qualities of self and boss. To examine the differences in the leadership qualities, i.e., traits, skills and style displayed by the subordinate officer and his/her boss in the five organizations, One-Way ANOVA was done.

For Hypotheses H13, H14, H15, H16, H17 and H18 under proposition 4, One-Way ANOVA was carried out to examine the differences in the levels of leadership traits, leadership skills and leadership styles. Further to this, Post Hoc Gabriel and Hochberg’s GT2 tests between the three hierarchical levels- junior, middle and top were done.

To test the hypotheses H19, H20, H21, H22 and H23 under proposition 5, regression analysis was done. The style of boss at top level influences the job stress of subordinates at middle level. Similarly the style of boss at middle level influences the job stress of subordinates at junior level. To find out the influence of style-boss at top level on job stress at middle level, regression analysis was done with style-boss at top level as predictor and values of five stress factors: stress-boss, stress-competency, stress-organization, stress-role and stress-personality of middle level as dependent variables. To examine the influence of style-boss at middle level on job stress at junior level, a regression analysis was done, with style-boss at middle level as predictor and values of five stress factors: stress-boss, stress-competency, stress-organization, stress-role and stress-personality of junior level as dependent variables.
6.2 Discussion of findings

The general objective of this research is to study the causative factors of stress, strategies adopted to manage stress and leadership qualities of executives. The specific objectives are: (i) To portray the demographic profile of officers from various organizations (ii) To identify the causative factors of stress (iii) To measure the level of stress (iv) To find out whether there is any correlation between hierarchical level and stress (v) To analyse inter- organizational job stress (vi) To find out the strategies used by executives to manage stress (vii) To compare inter- organizational leadership styles (viii) To study the effect of leadership style on job stress (ix) To find out whether or not there is any relationship between the leadership qualities of boss and the leadership qualities of subordinates. Within this framework, the study has been carried out and the resultant findings are discussed below:

1. Out of the eight job stress factors, competency, peer and time management get the maximum score. However, such high level of stress is felt by only less number of the sample as far as competency and peer is considered, as we get 20 for mode in the case of competency and 40 for mode in the case of peer. Stress caused by the dimensions of personality is felt by maximum number of respondents as the mean (61.37), median (61.53) and mode (60) values are close by. The maximum values for job stress due to the variables under personality, role, boss, organization, competency, peer, subordinate and time management substantiate the inference that these are causative factors of stress to some officers in the selected Public Sector Undertakings.
2. Age has positive correlation with stress-time management (r = 0.109 at \( \alpha = 0.05 \), 2 tailed) and negative correlation with stress-role (r = - 0.132 at \( \alpha = 0.05 \), 2 tailed), stress-peer (r = - 0.109 at \( \alpha = 0.05 \), 2 tailed) and stress-subordinate (r = - 0.121 at \( \alpha = 0.05 \), 2 tailed).

3. There is no correlation between hierarchical level and any of the job stress factors such as personality, role, boss, organization, competency, peer, subordinate or time management. From this finding it can be understood that job stress is not hierarchical or management-level specific.

4. Correlation analysis of the job stress factors revealed that:

   Stress-personality has significant positive correlation with stress-role, stress-boss, stress-organization, stress-competency, stress-peer, stress-subordinate and stress-time management at \( \alpha = 0.01 \) level (2-tailed).

   Stress-role has significant positive correlation with stress-personality, stress-boss, stress-organization, stress-competency, stress-peer and stress-subordinate at \( \alpha = 0.01 \) level (2-tailed).

   Stress-boss has significant positive correlation with stress-personality, stress-role, stress-organization, stress-competency, stress-peer, stress-subordinate and stress-time management \( \alpha = 0.01 \) level (2-tailed).
Stress-organization has significant positive correlation with stress-personality, stress-boss, stress-role, stress-competency, stress-peer, stress-subordinate and stress-time management $\alpha = 0.01$ level (2-tailed).

Stress-competency has significant positive correlation with stress-personality, stress-boss, stress-organization, stress-role, stress-peer and stress-subordinate $\alpha = 0.01$ level (2-tailed).

Stress-peer has significant positive correlation with stress-personality, stress-boss, stress-organization, stress-competency, stress-role and stress-subordinate $\alpha = 0.01$ level (2-tailed). Stress-peer has significant positive correlation with stress-time management at $\alpha = .05$ level (2-tailed).

Stress-subordinate has significant positive correlation with stress-personality, stress-boss, stress-role, stress-organization, stress-competency and stress-peer $\alpha = 0.01$ level (2-tailed). Stress-subordinate has significant positive correlation with stress-time management at $\alpha = .05$ level (2-tailed).

Stress-time management has significant positive correlation with stress-personality, stress-boss and stress-organization $\alpha = 0.01$ level (2-tailed). Stress-time management has significant positive correlation with stress-peer and stress-subordinate at $\alpha = .05$ level (2-tailed).

The positive correlation among the job stress factors- personality, role, boss, organization, competency, peer, subordinate and time management indicate that all these factors contribute to job stress.
5. One-way ANOVA carried out to compare inter-organizational stress-role showed:

There is significant difference in stress-role. Further Post Hoc Gabriel and Hochberg’s GT2 tests supports the hypothesis $H_{21}$ as it was found that the mean difference of stress-role between BPCL KR & MFL is significant ($\alpha = .05$).

6. One-way ANOVA carried out to compare inter-organizational stress-boss showed:

There is significant difference in stress-boss. Further Post Hoc Gabriel and Hochberg’s GT2 tests supports the hypothesis $H_{31}$ as it was found that the mean difference of stress-boss between BPCL KR & CPCL; CPCL & BPCL KR is significant ($\alpha = .05$)

7. One-way ANOVA carried out to compare inter-organizational stress-competency showed:

There is significant difference in stress-competency. Further Post Hoc Gabriel and Hochberg’s GT2 tests supports the hypothesis $H_{51}$ as it was found that the mean difference of stress-competency between BPCL KR & MFL is significant ($\alpha = .05$)

8. One-way ANOVA carried out to compare inter-organizational stress-personality showed:

No significant difference in stress-personality. However, Post Hoc Gabriel and Hochberg’s GT2 tests showed that the mean difference of stress-personality between BPCL KR & MFL is significant ($\alpha = .05$). Hence the hypothesis $H_{11}$ is partially supported.
9. One-way ANOVA carried out to compare inter-organizational stress-organization showed:

No significant difference in stress-organization. However, Post Hoc Gabriel and Hochberg’s GT2 tests showed that the mean difference of stress-organization between BPCL KR & MFL/CPCL; MFL & BPCL KR/HOC; CPCL & BPCL KR/HOC; HOC & MFL/CPCL is significant (α = .05). Hence hypothesis H41 is partially supported.

10. One-way ANOVA carried out to compare inter-organizational stress-peer showed:

No significant difference in stress-peer. However, Post Hoc Gabriel and Hochberg’s GT2 tests showed that the mean difference of stress-peer between BPCL KR & CPCL/HOC; CPCL & BPCL KR; HOC & BPCL KR is significant (α = .05). Hence the hypothesis H61 is partially supported.

11. One-way ANOVA carried out to compare inter-organizational stress-subordinate showed:

No significant difference in stress-subordinate. However, Post Hoc Gabriel and Hochberg’s GT2 tests showed that the mean difference of stress-subordinate between BPCL KR & CPCL; BHEL & CPCL; CPCL & BPCL KR/BHEL is significant (α = .05). Hence hypothesis H71 is partially supported.

12. One-way ANOVA carried out to compare inter-organizational stress-time management showed:
No significant difference in stress-time management. Further analysis by Post Hoc Gabriel and Hochberg’s GT2 tests shows that there is no significant difference in stress-time management. Hence the hypothesis H8 is not supported.

13. An examination of stress levels across the five organizations between the three hierarchical levels – junior, middle and top by One-way ANOVA and Post Hoc Gabriel and Hochberg’s GT2 tests revealed that under the factor stress-organization alone the mean difference between the levels middle and top is significant (α = .05). This leads to the conclusion that difference in job stress due to stress-organization experienced by officers at middle and top levels is significant.

14. Correlation analysis between leadership traits, skills and style of self (subordinate officer) and boss (superior officer) showed:

   There is significant positive correlation between traits-self and traits-boss (α = .01)

   There is significant positive correlation between skills-self and skills-boss (α = .01)

   There is significant positive correlation between style-self and style-boss (α = .01)

It can be concluded that leadership qualities of superior officer influences the leadership qualities of subordinate officer.
On examination of the differences in the leadership qualities by One-way ANOVA, i.e., traits, skills and style displayed by the executives in top, middle and junior levels of management- self vs. boss in the five organizations, it is found that:

*Traits exhibited by self:* In BPCL KR, BHEL & HOCL, minor difference is found. In the other two organizations, there is no significant difference.

*Traits exhibited by boss:* There is minor difference in the traits exhibited by boss in various hierarchical levels in BPCL KR, MFL and CPCL. In the other three organizations, there is no significant difference.

*Skills exhibited by self:* There is borderline difference in the skills- self in BPCL KR. In the other four organizations, there is no significant difference.

*Skills exhibited by boss:* Borderline difference is found in the skill levels of boss in MFL and CPCL. There is no significant difference in the other three organizations.

*Style exhibited by self:* There is significant difference in the style in MFL, CPCL and HOCL. There is minor difference in style in BPCL KR and there is no difference in style in BHEL.

*Style exhibited by boss:* Minor difference is found in the style of boss in various hierarchical levels in BHEL, CPCL and BPCL KR. There is no significant difference in the other two organizations.
16. One-way ANOVA carried out to examine the differences in the levels of leadership traits, leadership skills and leadership styles in the five organizations revealed:

There is no significant difference in traits-self at junior, middle and top levels. However, Post Hoc Tukey, Gabriel and Hochberg’s GT2 tests showed that the mean difference of traits-self between BPCL KR & CPCL; MFL & CPCL; CPCL & BPCL KR/MFL is significant ($\alpha = .05$)

There is no significant difference in traits-boss at junior, middle and top levels. However, Post Hoc Tukey, Gabriel and Hochberg’s GT2 tests indicated that the mean difference of traits-boss between BPCL KR & MFL/CPCL/HOC; MFL & BPCL KR; BHEL & CPCL; CPCL & BPCL KR/BHEL; HOCL & BPCL KR is significant ($\alpha = .05$)

There is no significant difference in skills-self at junior, middle and top levels. However, Post Hoc Tukey, Post Hoc Gabriel and Hochberg’s GT2 tests showed that the mean difference of skills-self between BPCL KR & CPCL/HOCL; MFL & CPCL; CPCL & BPCL KR/MFL; HOCL & BPCL KR is significant ($\alpha = .05$)

There is no significant difference in skills-boss at junior, middle and top levels. According to Tukey test, the mean difference of skills-boss between BPCL KR & CPCL/HOCL; BHEL & CPCL/HOCL; CPCL & BPCL KR/BHEL; HOCL & BPCL KR/BHEL is significant ($\alpha = .05$). As per Post Hoc Gabriel and Hochberg’s GT2 tests, the mean difference of skills-boss between BPCL KR &
There is significant difference in style-self at junior, middle and top levels since the calculated value of F (6.397) is much higher than the critical value of F (6.079). Post Hoc Tukey test revealed that the mean difference of style-self between BPCL KR & CPCL; MFL & CPCL; CPCL & BPCL KR/MFL is significant (α = .05). However, Post Hoc Gabriel and Hochberg’s GT2 tests, gave the result that the mean difference of style-self between BPCL KR & CPCL; CPCL & BPCL KR is significant (α = .05).

There is significant difference in style-boss at junior, middle and top levels since the calculated value of F (6.740) is much higher than the critical value of F (6.079). Post Hoc Tukey, Gabriel and Hochberg’s GT2 tests, gave the result that the mean difference of style-boss between BPCL KR & MFL/CPCL/HOCL; MFL & BPCL KR; BHEL & CPCL/HOCL; CPCL & BPCL KR/BHEL; HOCL & BPCL KR/BHEL is significant (α = .05).

The above findings are based on the self-assessment of officers against their assessment of the leadership qualities of their bosses. From the above findings it can be concluded that leadership style of subordinate officers as well as superior officers is different in the organizations selected for the study.
17. Comparison of leadership qualities- traits, skills and style of self and boss using One-way ANOVA and Post Hoc Tukey, Gabriel and Hochberg’s GT2 tests between the three hierarchical levels- junior, middle and top, gave the results:

The mean difference of style-self between junior level & top level; middle level & top level; top level & junior/middle levels is significant (α = .05)

This finding indicates that self-assessment of leadership style shows significant difference between junior level & top level; middle level & top level; top level & junior/middle levels. Something to be noticed here is that the leadership style between junior level & middle level does not show any difference. It can mean that the junior officers have tendency to emulate the leadership style of the middle level superior.

18. To test the hypotheses H19_1, H20_1, H21_1, H22_1 and H23_1, a regression analysis was done, with style-boss at top level as predictor and values of five stress factors: stress-boss, stress-competency, stress-organization, stress-role and stress-personality of middle level as dependent variables. Thus the influence of style-boss at top level on job stress at middle level was found out.

It is found that the regression coefficient has negative value. This indicates that the leadership style of boss at top level has negative influence on stress-personality, stress-role, stress-boss, stress-organization and stress-competency at middle level. Thus H19_1, H20_1, H21_1, H22_1 and H23_1 are supported.

19. To examine the influence of style-boss at middle level on job stress at junior level, a regression analysis was done, with style-boss at middle level as predictor and values of

It is found that the regression coefficient has positive value. This indicates that the leadership style of boss at middle level has positive influence on stress-personality, stress-role, stress-boss, stress-organization and stress-competency at junior level. Thus H19, H20, H21, H22 and H23 are not supported.

Regression analysis to examine the effect of leadership style of boss on job stress of subordinate shows that while the middle level boss causes stress to junior level subordinate, the leadership style of top level boss acts as a moderator on the job stress of middle level subordinate.

6.3 Conclusions

Job stress is caused by the variables under personality, role, boss, organization, competency, peer, subordinate and time management identified in the study. Even though personality, organization, peer, subordinate and time management are causative factors of stress, significant difference in stress level is due to the factors- role, boss and competency across organizations.

Organization is a causative factor when hierarchical level is considered. However, significant difference is found in the stress levels at middle and top only. This may be the reason which explains the absence of correlation between hierarchical level and any of the stress factors such as personality, role, boss, organization, competency, peer,
subordinate or time management. It further lays emphasis that stress is felt more at the middle and top level.

Another interesting finding was that all the variables department, gender and qualification have no correlation with job stress.

The finding of positive correlation of age with stress-time management point to the fact that as age advances, time constraint can cause stress. But advancement of age helps a person to manage himself/herself better and consequently develops patience to counter stress, if any, that may arise out of interaction with peers and subordinates. The finding of negative correlation of age with stress-peer and stress-subordinate substantiates the above inference.

There is significant difference in the leadership qualities, i.e., traits, skills and style exhibited by the target leaders as per the judgment by subordinate officers. But the self-assessment reveals that the difference in leadership qualities is only in the matter of leadership style whether junior level, middle level or top level.

Among the stress management strategies adopted by executives, prioritization of jobs is the strategy followed by majority of executives followed by time management. Next in line is balancing home and career. Following close behind are delegation and systematic work habits with only negligible difference.

Comparison of leadership traits, skills and style in the five organizations indicated that there is significant difference in leadership style of self across organizations. Similarly
there is significant difference in leadership style of boss across organizations as per the assessment of the respondents.

There is significant positive correlation between leadership qualities of the subordinate officer, whether it is the trait, skill or style and the corresponding leadership qualities of boss. This may be due to the exposure to the leader’s behavior over a period of time affecting the behavior of the subordinate officer, resulting in the subordinate officer emulating the leadership quality of the boss. Comparison of traits, skills and style of subordinate officer and boss indicate that there is significant difference of style-self between junior level and top level; middle level and top level; top level and junior & middle levels.

It is found that leadership style of boss has significant influence on job stress of subordinate officers. The leadership style of top level boss lessens the job stress of middle level executive and the leadership style of middle level boss increases the job stress of junior level officer. Hence a supportive leadership style helps to reduce job stress of subordinate officers.

6.4 Limitations

This study has several limitations. Because of the peculiar nature of the study bearing on Public Sector Undertakings, a standardized questionnaire was not administered for data collection. As there were four parts in the questionnaire, it was lengthy and how far the respondents have taken sincere effort to fill up the questionnaire rather than giving
responses mechanically is questionable. The subordinate officers have been asked to assess the leadership qualities of their bosses. This is under the assumption that the subordinate officers will be impartial in the judgment of the leadership qualities of their bosses. The research concentrated on executives in five organizations. Though the total sample size is 326, the number of respondents in Madras Fertilizers Limited is comparatively less, as only that many have returned the completed questionnaire. The research considers the variables identified by the researcher through exploratory research and experience. There may be other variables missed out by the researcher. Related dimensions are grouped under a particular factor manually.

6.5 Implications of the study

This study helps to throw light upon the causative factors of stress in Public Sector Undertakings. A different approach has been taken by grouping the stress variables of occupational stress under eight headings- personality, role, boss, organization, peer, subordinate, competency and time management. It is an almost exhaustive list of stress variables. The realizations of the stressors, which will affect health of officers if ignored for long period, sets the thinking process on how to cope up/manage stress. The individual can definitely change his/her attitude and make himself/herself acclimatize to the work environment rather than wishing for the systems, policies, rules, procedures and practices undergoing change to suit his/her requirements. The contribution of this research is that it lays emphasis on individual coping strategy in its simplest form- prioritization of jobs and time management. For comparative study, the analysis is not
confined to use of One-way ANOVA alone. Post Hoc tests are adopted for an in-depth analysis. A novel approach taken in the research on leadership is grouping the leadership dimensions under traits, skills and style. A related finding is that leaders influence the followers, as the followers consciously or unconsciously try to emulate the leader’s behavior. A noteworthy contribution is that in Public Sector Companies, leadership style and subordinate’s job stress have a cause-effect relationship.

As an outcome of the study, a model of Job Stress- Stress Management- Leadership Style was developed as displayed in figure 6.1.

![Figure 6.1 Model of Job Stress- Stress Management- Leadership Style](image)

### 6.6 Scope for further research

The career chosen by a person should be the one that capitalizes on his/her talents and (age-bound) competencies, in a way that is compatible with the greater organizational picture. Such a career should provide challenging tasks, with enough room for further development, but without undue stress and health risks. Stressors exist in the workplace
in varying levels depending on the perception by the role incumbents. While so much of research is done on stress and coping strategies, developing a model which will address the root cause of stress and help individuals to be proactive in converting negative stress to attain positive outcomes can be an area where attention could be paid as the present day Public Sector Undertakings are putting pressure on the executives, because on one side they have to fall in line with the working style of a public sector company, and at the same time, on the other side they have to innovate and achieve targets similar to their counterparts in the private sector.

Additional research can deepen our understanding of the dynamics of job stress in conjunction with leadership style. Organizational stress concerns the issues of human struggle and suffering at work. Adoption of appropriate stress management strategies offers an organizational philosophy and methods for managing this problem to improve health and performance at work. Some organizational stress is both inevitable and desirable. The focus of future research should be on preventive stress management in conjunction with enabling leadership so as to maximize eustress and performance, to minimize distress, but not to eliminate stress.