CHAPTER 5
SUMMARY AND CONCLUSIONS

The present study intended to determine the stressors and signs of stress of the trainees belonging to three wings of the Indian defence forces – Army, Navy and Air force. An attempt was made to develop and evaluate the effectiveness of the stress management intervention program on stress (symptoms) reactions and coping methods in first year defence trainees.

The major objectives of the study were

(a) To compare the stressors among trainees of the three wings of defence forces during training.
(b) To explore the signs of stress among the trainees across the three years of training.
(c) To test the effectiveness of “Stress Management Program” on stress and coping strategies, on the first year trainees.

Based on the objectives mentioned above, specific hypotheses were formulated and verified with a pre-post experimental design. Null hypothesis were formulated for verification in this study.

H1: There will be no difference in the nature of stressors in the trainees of three wings.
H2: There will be no significant effect of the stress management intervention program on, (a) stress and (b) coping strategies of the trainees.
H2a. There will be no significant effect of stress management intervention program on stressors experienced by the trainees and stress reactions exhibited by the trainees.
H2b. There will be no significant effect of stress management intervention program on 13 coping strategies.
The study was conducted in two phases: **Phase I and Phase II**

A. **Phase I**:
- A stress scale to assess the stress signs in trainees and an inventory of stressors were developed. In the preliminary stage, relevant qualitative data was collected from in-depth interviews with instructors of training academy, practicing clinical psychologists, and psychologists of service selection boards. On the basis of this qualitative data, a schedule for Focus Group Discussion (FGD) was formulated. Eight FGDs were conducted on 64 trainees selected through randomised quota sampling from all three wings of Indian defence—Army, Navy, and Air Force across all four semesters from 3rd semester to 6th semester. Each FGD was conducted with 8 trainees. 4 FGDs from Army wing, 2 FGDs from Navy wing, and 2 FGDs from Air Force wing were conducted and 27 instructors of the academy were interviewed. The data obtained from FGDs and interviews were subjected to qualitative analysis and a stress scale to measure stress reactions of trainees and inventory of stressors of the training program were constructed. The stress scale consisted of 5 point Likert type items (0 - 4). 32 items classified into 4 subscales.
  
  (a) Physical reactions - 8 items
  (b) Emotional reactions – 8 items
  (c) Cognitive reactions – 8 items
  (d) Behavioural symptoms – 8 items

This scale was standardized on 100 trainees of the first semester in the academy. Perceived stress scale by Cohen (1983) was administered to establish content validity. Content validity was found at 0.770 (0.01), reliability was found by Chronbach method at 0.957 (0.01) and split half method at 0.937 (0.01).

The inventory of stressors consisted of 34 items, classified into 3 categories of stressors:

  (a) Impact of physical training – 11 items
  (b) Process and systems of training – 13 items
  (c) Social and psychological stressors – 10 items

Inventory used 5 - point Likert type items (0 - 4) to measure the kind and intensity of the stressors that trainees experience. This inventory was standardised on randomly selected 100 first semester trainees belonging to all three wings.
of Indian defence academy. The content validity was found to be at 0.705 significant at 0.01 level (2 tailed) chronbach method reliability was found at 0.957 (0.01) and split half method was found at 0.937 (0.01).

B. Phase II :- In the Phase II, the development of stress management intervention program was carried out. Pre assessment of trainee’s stress level stressors experienced and coping strategies adopted were carried out on 110 first semester trainees. Trainees were classified into three groups based on the stress scores, (a) Low stress group $Q_1$ and below = 28 trainees, (b) Medium stress group $Q_1 - Q_3$ 44 trainees (c) High stress group $Q_3$ and above = 38 trainees. The Low stress group and the High stress group were selected for the study.

A pre-post experimental control group design was adopted in the study. Trainees (N-38) belonging to the High stress group were randomly divided equally into two groups of 19 trainees each. These two groups were randomly assigned into experimental group and control group I. 19 trainees from Low-stress group of 28 trainees were selected randomly as control group 2, for comparison purpose. Examination of the Socioeconomic and demographic details of all the three groups, i.e. Experimental group, Control group I and Control group 2, were found to be similar hence, these three groups were treated as Homogenous groups.

The experimental group was subjected to the stress management intervention program. The intervention program consisted of 14 sessions. Each session was conducted for the duration of 90 minutes. Control group I and Control group 2 were not subjected to the intervention program. After one month of the completion of the intervention program, all the 57 trainees belonging to three groups – Experimental group, Control group I and Control group 2 were administered stress scale, Inventory of stressors and brief cope – (carver 2000).

The data collected from Phase II of the study were statistically analysed to study (a) The stressors perceived by the trainees (b) Stress reactions of the trainees (c) Coping Strategies adopted by the trainees (d) The effectiveness of the intervention program in reducing the stressors of the training and stress reactions and changes in the coping strategies of the trainees. Depending on the nature of the data and purpose of the analysis, Shapiro wilk test, ANOVA, Analysis of Co-variance,
Kruskall Wallis test, Bonferonni test and Wilcoxon Signed Ranks Test were computed.

**Present study revealed the following results:**

On comparison of three types of stressors across the 3 wings in the sample shows that the process and systems of training stressors were experienced to a greater extent than impact of Physical training and Social and Psychological stressors. The Army wing experienced all the three types of stressors to a lesser extent than Navy wing and Air force wing as far as mean values were concerned. The test results showed that the three wings did not differ on all the three types of stressors. The hypothesis I that stated as “there will be no difference in the nature of stressors in the trainees of three wings” was proved and accepted

Sample on the whole, do not differ in scores on all the four sub scales- physical reactions, emotional reactions, cognitive reactions and behavioural reactions of the stress scale, comparison of the three wings of the defence on all the four subscales revealed that three wings significantly did not differ on all the four subscales. However, Navy wing had greater mean value on emotional reactions compared to other two wings and Air force wing had greater mean value on cognitive and behaviour reactions.

Results on coping strategies showed that the three wings did not differ significantly on coping scores. Comparison of three wings on 13 sub scales – coping strategies revealed that, all the three wings used active coping, denial, venting, positive reframing, planning, humour, self-blame coping strategies to the same extent. Navy wing had used self-distraction and religion to a greater extent than Army wing and Air force wing. Army wing had used instrumental support and behavioural disengagement coping strategies to a greater extent than Navy wing and Air force wing. Army had used acceptance coping strategy to a lesser extent than Navy wing and Air force wing. Air force wing had used emotional support coping strategy to a lesser extent than Army wing and Navy wing.

Comparison of pre and post assessment of intervention program of the Experimental group showed that there was significant reduction in stress scores in the post assessment on all the 4 subscales of the stress scale and in all the three
types of stressors experienced in post assessment. There was no significant difference between the mean values of pre and post assessment of the coping strategies.

Comparison of pre and post assessment of intervention program of control group I revealed that, only in one subscale of stress scale i.e. cognitive reactions there was significant reduction in stress scores at 0.005 level. On other three sub scales; physical, emotional and behavioural reactions, there were no significant difference between pre and post assessment of intervention program. There were no significant differences between pre and post assessment of intervention on all the three types of stressors. There were no significant differences between pre and post assessment of intervention program on all the 13 types of coping strategies.

Comparison of pre and post assessment of intervention program of control group 2 revealed that, only in case of Emotional reaction, there was significant reduction in stress score and in other three sub scales there were no significant difference. Control group 2 did not differ in their pre – post assessment of intervention program on all the three types of stressors. They also did not differ on their pre – post assessment of intervention program on 13 coping strategies.

Experimental group was compared with control group I and control group 2 on pre and post assessment of intervention program. Results revealed that, Experimental group has experienced all the three types of stressors significantly less compared to control group I. Experimental group showed reduction in stress reactions on all the four sub scale – Physical, Emotional, Cognitive and Behavioural reactions of the stress scale than Control group I. Experimental group had used negative coping strategies – venting and self-blame to a lesser extent after the intervention when compared to control group I.

The stress reactions exhibited, the stressors experienced and the coping strategies adopted by the experimental group did not differ significantly from the control group 2 (Low stress group), in post assessment of intervention program.

The effect size was computed to find the size of the effectiveness of the intervention program. The ‘d’ value of – 1.289 was found, that indicated the large effect size of the intervention program. The relationship of effect size of the intervention program and intervention program was also computed. The r value (r-
.54) indicated the negative relation between the effect of the intervention program and the intervention program, in other words intervention program decreases the stress score after the intervention program.

The results found in pre – post assessment of intervention program on stress reactions and stressors of three groups, experimental group, control group I and control group 2, did not prove the null hypothesis H2a stated as there will be no significant effect of the stress management intervention program on, stressors experienced by the trainees and stress reactions exhibited by the trainees and hence rejected.

The results found in pre – post assessment of intervention program on coping strategies of three groups, experimental group, control group I and control group 2, did prove the null hypothesis H2b stated as there will be no significant effect of stress management intervention program on 13 coping strategies and hence accepted.

C. Conclusions

1. Army, Navy and Air force wings did not significantly differ on the experience of impact of physical training stressors, process and systems of training stressors and social and psychological stressors of the military training.

2. Army, Navy and Air force wings did not significantly differ on all the four sub scales – physical reactions, Emotional reactions, cognitive reactions and Behavioural reactions of the stress scale.

3. Army, Navy and Air force wings did not differ significantly on total coping scores.

4. Army, Navy and Air force wings used active coping, venting, positive reframing, planning, humour, self-blame and denial coping strategies to the same extent.

5. Experimental group had significant (0.01) reduction in the stress scores on all the four sub scales – Physical, Emotional, Cognitive and Behaviour reactions in post assessment of intervention program.
6. Experimental group had significant (0.01) reduction of scores in impact of physical training stressors, process and system of training stressors and social and psychological stressors in post assessment of intervention program.

7. Experimental group and control group I significantly (0.01) differed on all the four sub scales – Physical, Emotional, Cognitive and Behavioural reactions in post assessment of intervention program.

8. Experimental group and control group I significantly (0.01) differed on all the three types of stressors of training – impact of physical training stressors, process and systems of training stressors and social and psychological stressors in post assessment of intervention program.

9. Experimental group and control group I significantly (0.01) differed on all the four types of stress reactions – physical, emotional, cognitive and Behavioural reactions in post assessment of intervention program.

10. Experimental group did not significantly differ from control group 2, on all the three types of stressors of training – impact of physical training stressors, process and systems of training stressors and social and psychological stressors.

11. Large effect size d (-1.289) established the effectiveness of the stress management intervention program.

12. The r (-0.54) between the effectiveness of the intervention program and intervention program indicated the negative relationship between effectiveness of the intervention program and the stress scores. There will be decrease in stress score after the intervention program.

13. Hypothesis 1 stated as there will be no difference in the nature of stressors in the trainees of three wings is proved and hence accepted.

14. Hypothesis 2a stated as there will be no significant effect of stress management intervention program on stressors experienced by the trainees
and stress reactions exhibited by the trainees is disproved and hence rejected.

15. Hypothesis 2b stated as there will be no significant effect of stress management intervention program on 13 coping strategies is proved and hence accepted.