CHAPTER – V

SUMMARY AND CONCLUSION

5.1 INTRODUCTION

Educating a child is the prime source of support extended in bringing out of the desirable behavioural changes in it. Just providing education to children is not of much use unless they are prepared for leading a worthy life. To make every human being to be scientific in their approach in all walks of life, science education becomes more pertinent at all levels of education, especially at the higher secondary stage of education as majority of the students stop their education either at the end of the tenth standard or higher secondary. Apart from many factors that determine the standard of education and career path of children, home and school contribute more in addition to the psycho-social aspects of the individual learners. In this perspective, the researcher perused the earlier research works and inferred that there is a need to conduct a study on the academic achievement of higher secondary students in relation to their emotional intelligence, home and school environment.

5.2 REVIEW OF RELATED LITERATURE

The investigator reviewed the related literature to gain an overall idea on the proposed area of research. The studies conducted so far in the specified area were collected and analysed. While classifying the review of earlier studies, the investigator kept in mind the variables of the present study. The review of related
literature has been classified into Indian Studies and Foreign Studies according to major research variable-wise including the recent studies. The researcher synthesized them to gain a better comprehension about the major findings of these studies, its educational implications and suggestions for further study.

5.3 RESEARCH DESIGN AND METHODOLOGY

The chapter on research design and methodology deals with the statement of the problems of the study, operational definitions of key terms, need and importance of the study, objectives and hypotheses of the study, variables chosen for the study, tools used, reliability and validity of the tools, selection of sample and its size, procedure of data collection, delimitation of the study, etc.

5.3.1 STATEMENT OF THE PROBLEM

The problem taken up by the investigator is stated as “ACHIEVEMENT IN CHEMISTRY IN RELATION TO EMOTIONAL INTELLIGENCE, HOME AND SCHOOL ENVIRONMENT OF HIGHER SECONDARY STUDENTS”.

5.3.2 OPERATIONAL DEFINITION OF KEY TERMS USED

For the purpose of clarity, the definition of important terms in the statement of the problem is given below.

1. ACHIEVEMENT IN CHEMISTRY

In this study, achievement in chemistry refers to the total score gained by the higher secondary students on the Achievement Test in Chemistry, constructed and validated by the researcher.
2. **EMOTIONAL INTELLIGENCE**

In this research, emotional intelligence refers to the sum of score obtained by the higher secondary students on the Emotional Intelligence Scale developed and standardized by Anukool Hyde, Sanjyot Pethe and Upinder Dhar (2002).

3. **HOME ENVIRONMENT**

In this investigation, home environment refers to the total score gained by the higher secondary students on the Home Environment Scale constructed and standardized by Harpreet Bhatia and N.K. Chadha (1996).

4. **SCHOOL ENVIRONMENT**

In this study, school environment refers to the sum of the score gained by the higher secondary students on the School Environment Inventory developed and standardized by Karuna Shankar Misra (2000).

5. **HIGHER SECONDARY STUDENTS**

In this research, higher secondary students refer to the +1 students of higher secondary schools who opted for chemistry as one of the subjects and pursued their education during the academic year 2012-2013 in Dindigul Educational District.

5.3.3 **NEED AND IMPORTANCE OF THE STUDY**

Students are the major human resources to build a strong nation. Education as a process facilitates the students to demonstrate their innate potential and the destiny of a nation is actually determined in their classrooms. The strength of our nation depends on the teachers’ ability to develop well-educated, responsible, well-
adjusted youth who will step forward when the adult generation passes on to retirement. The students of today are the youths of tomorrow and future citizens of the country. Therefore it is the responsibility of the teachers, society and the government to see that they are physically, mentally, emotionally and educationally strong. The needful steps taken at the school level ensures a healthy democracy in the country.

It is believed that the school education significantly influences the future of children. It is a crucial period as students might raise many questions in their mind about their future. The development of the self-dependence among higher secondary students at this stage mostly depends upon the psycho-social, economic and educational impact. Students’ home environment, school environment, emotional status and their adjustment mechanism are the most vital aspects in determining the well-being of the student community. As home and school equally contribute for the emotional development, and in turn all these three factors significantly influence the academic achievement of the students, the investigator felt the need for a study on higher secondary students’ achievement in chemistry in relation to their emotional intelligence, home and school environment. The findings of the present study will give fruitful results for the sustainable development of the higher secondary school students, their effective participation in nation building venture and also for effective contribution to community development.

5.3.4 OBJECTIVES OF THE STUDY

The investigator framed the following general and specific objectives:
GENERAL OBJECTIVES:

1. To find out the level of achievement in chemistry, emotional intelligence, home environment and school environment of higher secondary students.

2. To find out whether there is any significant difference in the level of achievement in chemistry of higher secondary students with respect to the background variables.

3. To find out whether there is any significant difference in the level of emotional intelligence of higher secondary students with respect to the background variables.

4. To find out whether there is any significant difference in the level of home environment of higher secondary students with respect to the background variables.

5. To find out whether there is any significant difference in the level of school environment of higher secondary students with respect to the background variables.

6. To find out whether there is any significant association among achievement in chemistry, emotional intelligence, home environment and school environment of higher secondary students.

7. To find out whether there is any significant correlation among achievement in chemistry, emotional intelligence, home environment and school environment of higher secondary students.

8. To find out the predictive efficiency of emotional intelligence, home environment and school environment on achievement in chemistry of higher secondary students.
SPECIFIC OBJECTIVES:

1. To find out the level of achievement in chemistry of higher secondary students.
2. To find out the level of emotional intelligence of higher secondary students.
3. To find out the level of home environment of higher secondary students.
4. To find out the level of school environment of higher secondary students.
5. To find out whether there is any significant difference in the level of achievement in chemistry of higher secondary students with respect to the gender.
6. To find out whether there is any significant difference in the level of achievement in chemistry of higher secondary students with respect to the dwelling Place.
7. To find out whether there is any significant difference in the level of achievement in chemistry of higher secondary students with respect to the management of school.
8. To find out whether there is any significant difference in the level of achievement in chemistry of higher secondary students with respect to the nature of school.
9. To find out whether there is any significant difference in the level of achievement in chemistry of higher secondary students with respect to the medium of instruction.
10 To find out whether there is any significant difference in the level of achievement in chemistry of higher secondary students with respect to the religion.

11 To find out whether there is any significant difference in the level of achievement in chemistry of higher secondary students with respect to the community.

12 To find out whether there is any significant difference in the level of achievement in chemistry of higher secondary students with respect to the nature of present residence.

13 To find out whether there is any significant difference in the level of achievement in chemistry of higher secondary students with respect to the father’s educational status.

14 To find out whether there is any significant difference in the level of achievement in chemistry of higher secondary students with respect to the mother’s educational status.

15 To find out whether there is any significant difference in the level of achievement in chemistry of higher secondary students with respect to the father’s occupation.

16 To find out whether there is any significant difference in the level of achievement in chemistry of higher secondary students with respect to the mother’s occupation.

17 To find out whether there is any significant difference in the level of achievement in chemistry of higher secondary students with respect to the type of family.
18 To find out whether there is any significant difference in the level of achievement in chemistry of higher secondary students with respect to the number of family members.

19 To find out whether there is any significant difference in the level of achievement in chemistry of higher secondary students with respect to the birth order.

20 To find out whether there is any significant difference in the level of achievement in chemistry of higher secondary students with respect to the annual income of the family.

21 To find out whether there is any significant difference in the level of emotional intelligence of higher secondary students with respect to the gender.

22 To find out whether there is any significant difference in the level of emotional intelligence of higher secondary students with respect to the dwelling Place.

23 To find out whether there is any significant difference in the level of emotional intelligence of higher secondary students with respect to the management of school.

24 To find out whether there is any significant difference in the level of emotional intelligence of higher secondary students with respect to the nature of school.

25 To find out whether there is any significant difference in the level of emotional intelligence of higher secondary students with respect to the medium of instruction.
26 To find out whether there is any significant difference in the level of emotional intelligence of higher secondary students with respect to the religion.

27 To find out whether there is any significant difference in the level of emotional intelligence of higher secondary students with respect to the community.

28 To find out whether there is any significant difference in the level of emotional intelligence of higher secondary students with respect to the nature of present residence.

29 To find out whether there is any significant difference in the level of emotional intelligence of higher secondary students with respect to the father’s educational status.

30 To find out whether there is any significant difference in the level of emotional intelligence of higher secondary students with respect to the mother’s educational status.

31 To find out whether there is any significant difference in the level of emotional intelligence of higher secondary students with respect to the father’s occupation.

32 To find out whether there is any significant difference in the level of emotional intelligence of higher secondary students with respect to the mother’s occupation.

33 To find out whether there is any significant difference in the level of emotional intelligence of higher secondary students with respect to the type of family.
To find out whether there is any significant difference in the level of emotional intelligence of higher secondary students with respect to the number of family members.

To find out whether there is any significant difference in the level of emotional intelligence of higher secondary students with respect to the birth order.

To find out whether there is any significant difference in the level of emotional intelligence of higher secondary students with respect to the annual income of the family.

To find out whether there is any significant difference in the level of home environment of higher secondary students with respect to the gender.

To find out whether there is any significant difference in the level of home environment of higher secondary students with respect to the dwelling Place.

To find out whether there is any significant difference in the level of home environment of higher secondary students with respect to the management of school.

To find out whether there is any significant difference in the level of home environment of higher secondary students with respect to the nature of school.

To find out whether there is any significant difference in the level of home environment of higher secondary students with respect to the medium of instruction.
To find out whether there is any significant difference in the level of home environment of higher secondary students with respect to the religion.

To find out whether there is any significant difference in the level of home environment of higher secondary students with respect to the community.

To find out whether there is any significant difference in the level of home environment of higher secondary students with respect to the nature of present residence.

To find out whether there is any significant difference in the level of home environment of higher secondary students with respect to the father's educational status.

To find out whether there is any significant difference in the level of home environment of higher secondary students with respect to the mother's educational status.

To find out whether there is any significant difference in the level of home environment of higher secondary students with respect to the father’s occupation.

To find out whether there is any significant difference in the level of home environment of higher secondary students with respect to the mother’s occupation.

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50 To find out whether there is any significant difference in the level of home environment of higher secondary students with respect to the number of family members.

51 To find out whether there is any significant difference in the level of home environment of higher secondary students with respect to the birth order.

52 To find out whether there is any significant difference in the level of home environment of higher secondary students with respect to the annual income of the family.

53 To find out whether there is any significant difference in the level of school environment of higher secondary students with respect to the gender.

54 To find out whether there is any significant difference in the level of school environment of higher secondary students with respect to the dwelling Place.

55 To find out whether there is any significant difference in the level of school environment of higher secondary students with respect to the management of school.

56 To find out whether there is any significant difference in the level of school environment of higher secondary students with respect to the nature of school.

57 To find out whether there is any significant difference in the level of school environment of higher secondary students with respect to the medium of instruction.
To find out whether there is any significant difference in the level of school environment of higher secondary students with respect to the religion.

To find out whether there is any significant difference in the level of school environment of higher secondary students with respect to the community.

To find out whether there is any significant difference in the level of school environment of higher secondary students with respect to the nature of present residence.

To find out whether there is any significant difference in the level of school environment of higher secondary students with respect to the father’s educational status.

To find out whether there is any significant difference in the level of school environment of higher secondary students with respect to the mother’s educational status.

To find out whether there is any significant difference in the level of school environment of higher secondary students with respect to the father’s occupation.

To find out whether there is any significant difference in the level of school environment of higher secondary students with respect to the mother’s occupation.

To find out whether there is any significant difference in the level of school environment of higher secondary students with respect to the type of family.
To find out whether there is any significant difference in the level of school environment of higher secondary students with respect to the number of family members.

To find out whether there is any significant difference in the level of school environment of higher secondary students with respect to the birth order.

To find out whether there is any significant difference in the level of school environment of higher secondary students with respect to the annual income of the family.

To find out whether there is any significant association between the level of achievement in chemistry and emotional intelligence.

To find out whether there is any significant association between the level of achievement in chemistry and home environment.

To find out whether there is any significant association between the level of achievement in chemistry and school environment.

To find out whether there is any significant association between the level of emotional intelligence and home environment.

To find out whether there is any significant association between the level of emotional intelligence and school environment.

To find out whether there is any significant association between the level of home environment and school environment.

To find out whether there is any significant correlation between the higher secondary students achievement in chemistry and emotional intelligence.
76 To find out whether there is any significant correlation between the higher secondary students achievement in chemistry and home environment.

77 To find out whether there is any significant correlation between the higher secondary students achievement in chemistry and school environment.

78 To find out whether there is any significant correlation between the higher secondary students emotional intelligence and home environment.

79 To find out whether there is any significant correlation between the higher secondary students emotional intelligence and school environment.

80 To find out whether there is any significant correlation between the higher secondary students home environment and school environment.

81 To find out whether there is any significant correlation among the factors of emotional intelligence of higher secondary students.

82 To find out whether there is any significant correlation among the dimensions of home environment of higher secondary students.

83 To find out whether there is any significant correlation among the dimensions of school environment of higher secondary students.

84 To find out the predictive efficiency of emotional intelligence on achievement in chemistry.

85 To find out the predictive efficiency of home environment on achievement in chemistry.
To find out the predictive efficiency of school environment on achievement in chemistry.

To find out the predictive efficiency of overall emotional intelligence, overall home environment and overall school environment on achievement in chemistry of higher secondary students.

5.3.5 HYPOTHESES OF THE STUDY

The investigator framed the following hypotheses:

1. The level of achievement in chemistry of higher secondary students is high.

2. The level of emotional intelligence of higher secondary students is high.

3. The level of home environment of higher secondary students is high.

4. The level of school environment of higher secondary students is high.

5. There is no significant difference in the level of achievement in chemistry of higher secondary students with respect to the gender.

6. There is no significant difference in the level of achievement in chemistry of higher secondary students with respect to the dwelling place.

7. There is no significant difference in the level of achievement in chemistry of higher secondary students with respect to the management of school.

8. There is no significant difference in the level of achievement in chemistry of higher secondary students with respect to the nature of school.
9 There is no significant difference in the level of achievement in chemistry of higher secondary students with respect to the medium of instruction.

10 There is no significant difference in the level of achievement in chemistry of higher secondary students with respect to the religion.

11 There is no significant difference in the level of achievement in chemistry of higher secondary students with respect to the community.

12 There is no significant difference in the level of achievement in chemistry of higher secondary students with respect to the nature of present residence.

13 There is no significant difference in the level of achievement in chemistry of higher secondary students with respect to the father’s educational status.

14 There is no significant difference in the level of achievement in chemistry of higher secondary students with respect to the mother’s educational status.

15 There is no significant difference in the level of achievement in chemistry of higher secondary students with respect to the father’s occupation.

16 There is no significant difference in the level of achievement in chemistry of higher secondary students with respect to the mother’s occupation.

17 There is no significant difference in the level of achievement in chemistry of higher secondary students with respect to the type of family.
18 There is no significant difference in the level of achievement in chemistry of higher secondary students with respect to the number of family members.

19 There is no significant difference in the level of achievement in chemistry of higher secondary students with respect to the birth order.

20 There is no significant difference in the level of achievement in chemistry of higher secondary students with respect to the annual income of the family.

21 There is no significant difference in the level of emotional intelligence of higher secondary students with respect to the gender.

22 There is no significant difference in the level of emotional intelligence of higher secondary students with respect to the dwelling place.

23 There is no significant difference in the level of emotional intelligence of higher secondary students with respect to the management of school.

24 There is no significant difference in the level of emotional intelligence of higher secondary students with respect to the nature of school.

25 There is no significant difference in the level of emotional intelligence of higher secondary students with respect to the medium of instruction.

26 There is no significant difference in the level of emotional intelligence of higher secondary students with respect to the religion.
27. There is no significant difference in the level of emotional intelligence of higher secondary students with respect to the community.

28. There is no significant difference in the level of emotional intelligence of higher secondary students with respect to the nature of present residence.

29. There is no significant difference in the level of emotional intelligence of higher secondary students with respect to the father’s educational status.

30. There is no significant difference in the level of emotional intelligence of higher secondary students with respect to the mother’s educational status.

31. There is no significant difference in the level of emotional intelligence of higher secondary students with respect to the father’s occupation.

32. There is no significant difference in the level of emotional intelligence of higher secondary students with respect to the mother’s occupation.

33. There is no significant difference in the level of emotional intelligence of higher secondary students with respect to the type of family.

34. There is no significant difference in the level of emotional intelligence of higher secondary students with respect to the number of family members.
35 There is no significant difference in the level of emotional intelligence of higher secondary students with respect to the birth order.

36 There is no significant difference in the level of emotional intelligence of higher secondary students with respect to the annual income of the family.

37 There is no significant difference in the level of home environment of higher secondary students with respect to the gender.

38 There is no significant difference in the level of home environment of higher secondary students with respect to the dwelling place.

39 There is no significant difference in the level of home environment of higher secondary students with respect to the management of school.

40 There is no significant difference in the level of home environment of higher secondary students with respect to the nature of school.

41 There is no significant difference in the level of home environment of higher secondary students with respect to the medium of instruction.

42 There is no significant difference in the level of home environment of higher secondary students with respect to the religion.

43 There is no significant difference in the level of home environment of higher secondary students with respect to the community.

44 There is no significant difference in the level of home environment of higher secondary students with respect to the nature of present residence.

45 There is no significant difference in the level of home environment of higher secondary students with respect to the father’s educational status.
46 There is no significant difference in the level of home environment of higher secondary students with respect to the mother’s educational status.

47 There is no significant difference in the level of home environment of higher secondary students with respect to the father’s occupation.

48 There is no significant difference in the level of home environment of higher secondary students with respect to the mother’s occupation.

49 There is no significant difference in the level of home environment of higher secondary students with respect to the type of family.

50 There is no significant difference in the level of home environment of higher secondary students with respect to the number of family members.

51 There is no significant difference in the level of home environment of higher secondary students with respect to the birth order.

52 There is no significant difference in the level of home environment of higher secondary students with respect to the annual income of the family.

53 There is no significant difference in the level of school environment of higher secondary students with respect to the gender.

54 There is no significant difference in the level of school environment of higher secondary students with respect to the dwelling place.

55 There is no significant difference in the level of school environment of higher secondary students with respect to the management of school.

56 There is no significant difference in the level of school environment of higher secondary students with respect to the nature of school.
There is no significant difference in the level of school environment of higher secondary students with respect to the medium of instruction.

There is no significant difference in the level of school environment of higher secondary students with respect to the religion.

There is no significant difference in the level of school environment of higher secondary students with respect to the community.

There is no significant difference in the level of school environment of higher secondary students with respect to the nature of present residence.

There is no significant difference in the level of school environment of higher secondary students with respect to the father’s educational status.

There is no significant difference in the level of school environment of higher secondary students with respect to the mother’s educational status.

There is no significant difference in the level of school environment of higher secondary students with respect to the father’s occupation.

There is no significant difference in the level of school environment of higher secondary students with respect to the mother’s occupation.

There is no significant difference in the level of school environment of higher secondary students with respect to the type of family.

There is no significant difference in the level of school environment of higher secondary students with respect to the number of family members.
There is no significant difference in the level of school environment of higher secondary students with respect to the birth order.

There is no significant difference in the level of school environment of higher secondary students with respect to the annual income of the family.

There is no significant association between the level of achievement in chemistry and emotional intelligence.

There is no significant association between the level of achievement in chemistry and home environment.

There is no significant association between the level of achievement in chemistry and school environment.

There is no significant association between the level of emotional intelligence and home environment.

There is no significant association between the level of emotional intelligence and school environment.

There is no significant association between the level of home environment and school environment.

There is no significant correlation between the higher secondary students achievement in chemistry and emotional intelligence.

There is no significant correlation between the higher secondary students achievement in chemistry and home environment.

There is no significant correlation between the higher secondary students achievement in chemistry and school environment.

There is no significant correlation between the higher secondary students emotional intelligence and home environment.
There is no significant correlation between the higher secondary students emotional intelligence and school environment.

There is no significant correlation between the higher secondary students home environment and school environment.

There is no significant correlation among the factors of emotional intelligence of higher secondary students.

There is no significant correlation among the dimensions of home environment of higher secondary students.

There is no significant correlation among the dimensions of school environment of higher secondary students.

Emotional intelligence of higher secondary students do not predict the efficiency on achievement in chemistry.

Home environment of higher secondary students do not predict the efficiency on achievement in chemistry.

School environment of higher secondary students do not predict the efficiency on achievement in chemistry.

Emotional intelligence, home environment and school environment of higher secondary students do not predict the efficiency on achievement in chemistry.

5.3.6 METHOD OF THE STUDY

In the present study, the investigator has adopted survey method.
5.3.7 VARIABLES OF THE STUDY

The study includes the following variables.

(i) Research Variables:

(a) Dependent Variables: Achievement in Chemistry

(b) Independent Variable: 1. Emotional Intelligence

   2. Home Environment

   3. School Environment

(ii) Background Variables:

(a) Personal Variable:

1. Gender

2. Dwelling Place

3. Religion

4. Community

5. Nature of Present Residence

6. Father’s Educational Status

7. Mother’s Educational Status

8. Father’s Occupation

9. Mother’s Occupation

10. Type of Family

11. Number of Family Members

12. Birth Order

13. Annual Income of the Family

(b) Institution Related Variables:

1. Management of School

2. Nature of School

3. Medium of Institution
5.3.8 TOOLS USED IN THE STUDY

The investigator of the present study used the following tools for data collection.

1. Personal Information Schedule developed by the Investigator.

2. Achievement Test in Chemistry developed and validated by the Investigator.

3. Emotional Intelligence Scale developed and validated by Anukool Hyde, Sanjyot Pethe and Upinder Dhar (2002)


5. School Environment Inventory developed and validated by Karuna Shankar Misra (2000)

5.3.9 POPULATION AND SAMPLE OF THE STUDY

The XI\textsuperscript{th} standard students studying at Dindigul Educational District of various government, government aided and self-finance schools constituted the population of the study. There were 87 higher secondary schools were the unit of population in this study. Among 87 higher secondary schools, nine schools were randomly selected by using lottery method. All the boys and girls studying in XI\textsuperscript{th} standard in the randomly selected nine higher secondary schools constituted the sample of the study. There were 256 boys and 253 girls constituted the sample of the study. At the time of administration of the tools 6 boys and 3 girls were absent. Hence the total sample constituted 250 boys and 250 girls of higher secondary schools of Dindigul Educational District.
5.3.10 STATISTICAL TECHNIQUES USED

For the analysis of the data, the following statistical techniques have been used.

A. Descriptive analysis (Percentage, Mean, SD)
B. Differential analysis (t-test, F-ratio)
C. Relational analysis (Chi-Square, Correlation)
D. Multiple Regression analysis

5.3.11 DELIMITATION OF THE STUDY

The present investigation has the following delimitations.

1. The study was limited to the first year higher secondary (i.e., plus one) students of science group.
2. The investigation was carried out only on 500 first year higher secondary students of Dindigul Educational District of Tamil Nadu.
3. The research was restricted only to four research variables - Achievement in Chemistry, Emotional Intelligence, Home Environment and School Environment.
4. The study was limited to only sixteen background variables.

5.4 MAJOR FINDINGS

The hypotheses formulated at the beginning of the study have been examined in the light of the data gathered. The following are the major findings of the present investigation.
1. The higher secondary students have average level of achievement in chemistry.

2. The higher secondary students have average level of emotional intelligence.

3. The higher secondary students have average level of home environment.

4. The higher secondary students have average level of school environment.

5. There exists significant difference in achievement in chemistry of higher secondary students with respect to the gender. In this girls have higher mean score (M=59.62) than the boys (M=55.63).

6. There exists significant difference in achievement in chemistry of higher secondary students with respect to the dwelling place. In this the urban area students have higher mean score (M=61.25) than the rural area students (M=53.91).

7. There exists significant difference in achievement in chemistry of higher secondary students with respect to the management of school. However among these group, the students of self-finance school have higher mean score (M=71.25) than the students of government aided (M=51.49) and government school (M=50.22).

8. There exists no significant difference in achievement in chemistry of higher secondary students with respect to the nature of school.

9. There exists significant difference in achievement in chemistry of higher secondary students with respect to the medium of instruction. In this aspect, English medium students have higher mean score (M=71.25) than Tamil medium students (M=50.86).
10. There exists no significant difference in achievement in chemistry of higher secondary students with respect to the religion.

11. There exists no significant difference in achievement in chemistry of higher secondary students with respect to the community.

12. There exists significant difference in achievement in chemistry of higher secondary students with respect to the nature of present residence. In this case, the hostel students have higher mean score (M=71.41) than the day scholars (M=53.13).

13. There exists significant difference in achievement in chemistry of higher secondary students with respect to the father’s educational status. Among them, the students whose fathers’ educational status as college level educated have higher mean score (M=74.04) than the students whose fathers’ educational status as school level educated (M=51.94) and uneducated (M=48.62).

14. There exists significant difference in achievement in chemistry of higher secondary students with respect to the mother’s educational status. Among these group, the students whose mothers’ educational status as college level educated have higher mean score (M=68.50) than the students whose mothers’ educational status as school level educated (M=58.13) and uneducated (M=50.32).

15. There exists significant difference in achievement in chemistry of higher secondary students with respect to the father’s occupation. However among them, the students whose fathers’ having private employment have higher mean score (M=70.16) than the students whose fathers’ having government employment (M=69.66), self-employed (M=49.72) and other employment (M=42.95).
16. There exists significant difference in achievement in chemistry of higher secondary students with respect to the mother’s occupation. However among these group, the students whose mothers’ having private employment have higher mean score (M=67.44) than the students whose mothers’ are homemakers (M=57.94), government employees (M=53.88) and self-employees (M=50.71).

17. There exists significant difference in achievement in chemistry of higher secondary students with respect to the type of family. In this, the students of joint family have higher mean score (M=61.63) than nuclear family students (M=56.46).

18. There exists no significant difference in achievement in chemistry of higher secondary students with respect to the number of family members.

19. There exists significant difference in achievement in chemistry of higher secondary students with respect to the birth order. However, among these group, the second born students have higher mean score (M=64.27) than the first born (M=53.70), and third and subsequently born students (M=46.98).

20. There exists significant difference in achievement in chemistry of higher secondary students with respect to the annual income of the family. However among these group, students of annual family income above Rs.4 lakhs have higher mean score (M=82.85) than students of Rs.2-4 lakhs (M=74.45) and up to Rs.2 lakhs (M=48.79) annual income of the family.

21. Significant difference is noted in overall emotional intelligence and in all its factors of emotional intelligence of higher secondary students with respect to the gender. However on overall emotional intelligence, the girls have higher mean score (M=153.54) than the boys (M=147.26).
22. No significant difference is noted in overall emotional intelligence and also in all its factors except the factor of Self-development of higher secondary students with respect to the dwelling place.

23. There exists significant difference in overall emotional intelligence and in all its factors except the factors of Integrity, Self-development, Value orientation and Commitment of higher secondary students with respect to the management of school. Further on overall emotional intelligence, the higher secondary students of self-finance school have higher mean score (M=153.64) than the students of government aided (M=148.98) and government school (M=148.61).

24. There exists significant difference in overall emotional intelligence and in all its factors of higher secondary students with respect to the nature of school. Further on overall emotional intelligence, the higher secondary students of girl’s school have higher mean score (M=153.72) than the students of co-education school (M=150.70) and boy’s school (M=146.65).

25. There exists significant difference in overall emotional intelligence and also in all its factors except the factors of Value orientation and Commitment of higher secondary students with respect to the medium of instruction. However on overall emotional intelligence, the English medium students have higher mean score (M=153.64) than Tamil medium students (M=148.79).

26. There exists significant difference in overall emotional intelligence and also in all its factors except the factors of Emotional stability, Integrity, Self-development and Value orientation of higher secondary students with respect to the religion. Further on overall emotional intelligence, the Hindu students have higher mean score (M=151.47) than the Muslim (M=147.19) and Christian (M=145.08) students.
27. There exists no significant difference in overall emotional intelligence and also in all its factors of higher secondary students with respect to the community.

28. There exists significant difference in overall emotional intelligence and in all its factors except the factor of Commitment of higher secondary students with respect to the nature of present residence. However on overall emotional intelligence, the hostel students have higher mean score (M=156.73) than the days scholars (M=148.34).

29. There exists significant difference in overall emotional intelligence and in all its factors except the factor of Commitment of higher secondary students with respect to the father’s educational status. Further on overall emotional intelligence, the students whose fathers’ educational status as college level educated have higher mean score (M=156.55) than school level educated (M=148.30) and uneducated (M=146.92).

30. There exists no significant difference in overall emotional intelligence and in all its factors of higher secondary students with respect to the mother’s educational status.

31. There exists significant difference in overall emotional intelligence and in all its factors except the factors of Self-awareness, Integrity and Self-development of higher secondary students with respect to the father’s occupation. Further on overall emotional intelligence, the students whose fathers’ having private employment have higher mean score (M=154.28) than the students whose fathers’ having government employment (M=153.52), other employment (M=149.23) and self-employed (M=146.18).

32. There exists no significant difference in overall emotional intelligence and in all its factors except the factors of Self-motivation,
Self-development and Value orientation of higher secondary students with respect to the mother’s occupation.

33. There exists no significant difference in overall emotional intelligence and in all its factors except the factor of Integrity of higher secondary students with respect to the type of family.

34. There exists no significant difference in overall emotional intelligence and in all its factors except the factor of Self-motivation of higher secondary students with respect to the number of family members.

35. There exists significant difference in overall emotional intelligence and all in its factors except the factors of Self-awareness, Integrity, Commitment and Altruistic behaviour of higher secondary students with respect to the birth order. Further on overall emotional intelligence, the second born students have higher mean score (M=152.39) than the first born (M=149.35), and third and subsequently born (M=146.97) students.

36. There exists significant difference in overall emotional intelligence and in all its factors except the factor of Commitment of higher secondary students with respect to the annual income of the family. Further on overall emotional intelligence, the students of above Rs.4 lakhs annual income of the family have higher mean score (M=159.35) than the students of Rs. 2-4 lakhs (M=156.75) and up to Rs.2 lakhs (M=147.13).

37. There exists significant difference in overall home environment and in all its dimensions and its aspects of home environment of higher secondary students with respect to the gender. However on overall home environment, the girls have higher mean score (M=293.28) than the boys (276.58).
38. There exists no significant difference in overall home environment and in all its dimensions and its aspects except System Maintenance Dimensions and in all its aspects and also the Conflict aspect of Relationship Dimensions of home environment of higher secondary students with respect to the dwelling place.

39. There exists significant difference in overall home environment and in all its dimensions and its aspects of higher secondary students with respect to the management of school. Further on overall home environment, the self-finance school students have higher mean score (M=297.05) than the government aided school students (M=285.59) and government school students (M=272.22).

40. There exists significant difference in overall home environment and in all its dimensions and its aspects except the Active-Recreational Orientation aspect of Personal Growth Dimensions of higher secondary students with respect to the nature of school. Further on overall home environment, the girl’s school students have higher mean score (M=292.48) than the co-education school students (M=287.85) and boy’s school students (M=273.80).

41. There exists significant difference in overall home environment and in all its dimensions and its aspects of higher secondary students with respect to the medium of instruction. However on overall home environment, the English medium students have higher mean score (M=297.05) than Tamil medium students (M=278.90).

42. There exists no significant difference in overall home environment and in all its dimensions and its aspects of higher secondary students with respect to the religion.
43. No significant difference is observed in overall home environment and in all its dimensions and its aspects of higher secondary students with respect to the community.

44. There exists significant difference in overall home environment and in all its dimensions and its aspects of higher secondary students with respect to the nature of present residence. However on overall home environment, the hostel students have higher mean score (M=312.43) than day scholars (M=275.95).

45. There exists significant difference in overall home environment and in all its dimensions and its aspects of home environment of higher secondary students with respect to the father’s educational status. Further on overall home environment, the students of whose fathers’ education as college level educated have higher mean score (M=314.09) than school level educated (M=276.53) and uneducated (M=262.59).

46. There exists significant difference in overall home environment and in all its dimensions and its aspects except Cohesion and Acceptance and Caring aspects of Relationship Dimensions of home environment of higher secondary students with respect to the mother’s educational status. Further on overall home environment, the students of whose mothers’ education as college level educated have higher mean score (M=297.15) than school level educated (M=285.87) and uneducated (M=275.63).

47. There exists significant difference in overall home environment and in all its dimensions and its aspects of higher secondary students with respect to the father’s occupation. Further on overall home environment, the students of whose fathers’ occupation is private employment have higher mean score (M=307.79) than government
employment (M=306.10), self-employed (M=267.47) and other employment (M=263.73).

48. There exists significant difference in overall home environment and the Personal Growth dimensions of home environment of higher secondary students with respect to the mother’s occupation. Further, significant difference is observed in Expressiveness and Conflict aspects of Relationship Dimensions; and Independence aspect of Personal Growth Dimensions of home environment. Further on overall home environment, the students of whose mothers’ occupation as private employees have higher mean score (M=297.47) than homemakers (M=285.38), self-employees (M=278.49) and government employees (M=274.88).

49. There exists significant difference in overall home environment and in all its dimensions except the System Maintenance Dimensions. Further, significant difference is observed in the aspects of Expressiveness and Conflict of Relationship Dimensions; Independence aspect of Personal Growth Dimensions; Control aspect of System Maintenance Dimensions of home environment of higher secondary students with respect to the type of family. Further on overall home environment, the joint family students have higher mean score (M=292.43) than nuclear family students (M=282.69).

50. There exists no significant difference in overall home environment and in all its dimensions except the Personal Growth Dimensions. Similarly, no significant difference is observed in all aspects of Relationship Dimensions except the aspect of Expressiveness and also in all aspects of System Maintenance Dimensions of home environment of higher secondary students with respect to the number of family members.
51. There exists significant difference in overall home environment and also in all its dimensions and its aspects of home environment of higher secondary students with respect to the birth order. Further on overall home environment, the second born students have higher mean score (M=299.20) than the first born (M=273.90) and the third and subsequently born students (M=267.20).

52. There exists significant difference in overall home environment and also in all its dimensions and its aspects of home environment of higher secondary students with respect to the annual income of the family. In the overall home environment, the students of above 4 lakhs annual income of the family have higher mean score (M=331.53) than the students of 2-4 lakhs (M=320.38) and up to 2 lakhs annual income of the family (M=266.97).

53. There exists significant difference in overall school environment and in all its dimensions except the dimensions of Creative Stimulation and Control of higher secondary students with respect to the gender. However on overall school environment, the girls have higher mean score (M=218.39) than the boys (M=207.89).

54. There exists no significant difference in overall school environment and in all its dimensions of higher secondary students with respect to the dwelling place.

55. There exists no significant difference in overall school environment and in all its dimensions except the Control dimension of higher secondary students with respect to the management of school.

56. There exists no significant difference in overall school environment and also in Creative Stimulation and Control dimensions of school environment of higher secondary students with respect to the nature of school.
57. There exists no significant difference in overall school environment and in all its dimensions except Cognitive Encouragement and Control dimensions of school environment of higher secondary students with respect to the medium of instruction.

58. There exists no significant difference in overall school environment and in all its dimensions except Acceptance dimensions of school environment of higher secondary students with respect to the religion.

59. There exists no significant difference in overall school environment and in all its dimensions except Permissiveness dimension of school environment of higher secondary students with respect to the community.

60. There exists significant difference in overall school environment and also in all dimensions of school environment of higher secondary students with respect to the nature of present residence. However on overall school environment, the hostel students have higher mean score (M=238.75) than days scholars (M=204.79).

61. There exists significant difference in overall school environment and also in all its dimensions of school environment of higher secondary students with respect to the father’s educational status. Further on overall school environment, the students whose fathers’ educational status as college level educated have higher mean score (M=233.37) than uneducated (M=211.87) and school level educated (M=203.51).

62. There exists no significant difference in overall school environment and in all its dimensions of school environment of higher secondary students with respect to the mother’s educational status.

63. There exists significant difference in overall school environment and in all its dimensions of school environment of higher secondary students with respect to the father’s occupation. Further on overall school environment, the students whose fathers’ having private
64. There exists significant difference in overall school environment and in all its dimensions except Cognitive Encouragement dimension of higher secondary students with respect to the mother’s occupation. Further on overall school environment, the students whose mothers’ having private employment have higher mean score (M=223.62) than homemakers (M=214.60), self-employed (M=207.73) and government employees (M=192.63).

65. There exists significant difference in overall school environment and in all its dimensions except Cognitive Encourage dimension of higher secondary students with respect to the type of family. However on overall school environment, the joint family students have higher mean score (M=223.56) than nuclear family students (M=210.03).

66. There exists significant difference in overall school environment and in all its dimensions of school environment of higher secondary students with respect to the number of family members. Further on overall school environment, the students having above 6 family members have higher mean score (M=229.80) than 5-6 members (M=215.95) and up to 4 family members (M=204.31).

67. There exists significant difference in overall school environment and in all its dimensions of school environment of higher secondary students with respect to the birth order. Further on overall school environment, the second born students have higher mean score (M=223.98) than the third and subsequently born (M=209.33) and first born students (M=199.88).

68. There exists significant difference in overall school environment and in all its dimensions of school environment of higher secondary students with respect to the annual income of the family. Further on
The students of above Rs. 4 lakhs annual income of the family have higher mean score (M=250.62) than Rs. 2-4 lakhs (M=238.17) and up to Rs. 2 lakhs annual income of the family (M=200.01).

The Chi-square analysis shows the following results:

(i) There exists significant association between the level of achievement in chemistry and the level of emotional intelligence.

(ii) There exists significant association between the level of achievement in chemistry and the level of home environment.

(iii) There exists significant association between the level of achievement in chemistry and the level of school environment.

(iv) There exists significant association between the level of emotional intelligence and the level of home environment.

(v) There exists significant association between the level of emotional intelligence and the level of school environment.

(vi) There exists significant association between the level of home environment and the level of school environment.

The Correlation analysis indicates the following results:

(i) There exists significant positive correlation (r=0.343) between achievement in chemistry and overall emotional intelligence of higher secondary students.

(ii) There exists significant positive marked level of correlation (r=0.633) between achievement in chemistry and overall home environment of higher secondary students.
(iii) There exists significant positive substantial level of correlation \((r=0.512)\) between achievement in chemistry and overall school environment of higher secondary students.

(iv) There exists significant positive marked level of correlation \((r=0.572)\) between the overall emotional intelligence and overall home environment of higher secondary students.

(v) There exists significant positive substantial level of correlation \((r=0.479)\) between the overall emotional intelligence and overall school environment of higher secondary students.

(vi) There exists significant positive marked level of correlation \((r=0.591)\) between overall home environment and overall school environment of higher secondary students.

(vii) There exists significant positive correlation among the factors of emotional intelligence of higher secondary students.

(viii) There exists significant positive correlation among the dimensions of home environment of higher secondary students.

(ix) There exists significant positive correlation among the dimensions of school environment of higher secondary students.

71. The Multiple correlation analysis reveals the following results:

(i) Seven factors of emotional intelligence (Self-Awareness, Empathy, Self-Motivation, Emotional Stability, Managing Relations, Integrity and Commitment) out of the ten factors of emotional intelligence (one of the independent variables) significantly contribute towards achievement in chemistry (the dependent variables). These seven factors of emotional intelligence together contribute to the extent of 23.70\% \((R^2 =0.237)\) of variance in achievement in chemistry.
(ii) Five dimensions of home environment (Cohesion, Expressiveness, Conflict, Independence, and Active-Recreational Orientation) out of the eight dimensions of home environment (one of the independent variables) significantly contribute towards achievement in chemistry (the dependent variables). These five dimensions of home environment together contribute to the extent of 51.30% ($R^2 = 0.531$) of variance in achievement in chemistry.

(iii) Five dimensions of school environment (Creative Stimulation, Cognitive Encouragement, Permissiveness, Rejection and Control) out of the six dimensions of school environment (one of the independent variables) significantly contribute towards achievement in chemistry (the dependent variables). These five dimensions of school environment together contribute to the extent of 42.10% ($R^2 = 0.421$) of variance in achievement in chemistry.

(iv) Among the three independent variables (emotional intelligence, home environment and school environment), home environment and school environment significantly contribute towards the dependent variables (achievement in chemistry). These two independent variables (home environment and school environment) together contribute to the extent of 43.30% ($R^2 = 0.433$) of variance in achievement in chemistry. Among these two variables the overall home environment contribute more towards achievement in chemistry ($\beta = 0.541$) when compared to the contribution of overall school environment ($\beta = 0.228$).
5.5 EDUCATIONAL IMPLICATIONS

The educational implications of the present study are:

1. The higher secondary students’ academic performance in chemistry indicates average level. Therefore the students need more encouragement from the school authorities and parents to develop interest in learning science. Programmes like organising science exhibitions and fairs, project works, quiz competitions, field visits, etc.

2. Infrastructure facilities especially the science lab facilities should be created in all higher secondary schools more particularly in the government and government aided higher secondary schools to enable the students develop a better understanding on the science concepts and principles through learning by doing approach.

3. The higher secondary students have average level of emotional intelligence which is essential for adjusting themselves in all contexts, especially in the learning situation at home and in the school campus. Therefore adequate number of curricular and co-curricular programmes needs to be organized to enable the students gain more experiences in developing emotional adjustment. Such activities need to be emphasized and organised, particularly in government and government aided higher secondary schools.

4. The higher secondary students have expressed average level of home environment. So the parents and other family members need to ensure favourable environment at home, in such a way to children experience favourable atmosphere and reflect those positive behaviour outside the home especially in the school.
5 The higher secondary students have experienced average level of school environment. The authorities of higher secondary schools need to provide good school environment by organising all required curricular and co-curricular activities, encouraging the teachers to experiment innovative methods of teaching, encouraging the learners to actively participate in learning process and ensuring threat-free atmosphere in the school campus to enable the students experience all kind of behavioural modification.

5.6 SUGGESTION FOR FURTHER RESEARCH

The following are suggested for future research related to the present study.

1. As the present study was carried out only in some schools of Dindigul Educational District, similar study may be undertaken in other educational districts of Tamilnadu.

2. The sample size was restricted to 500 higher secondary (i.e., plus one) students of science group. So the study can be extended to more number of higher secondary school students of science group.

3. Similar study may be undertaken for the +2 students of higher secondary stage.

4. A study may be made on the attitude towards chemistry subject in relation to their achievement in chemistry.

5. A study may be undertaken to know the academic performance of the higher secondary students in all the subjects in relation to their emotional intelligence home environment and school environment.

6. An investigation may be conducted to find out the influence of emotional quotient on achievement in chemistry of higher secondary students.
5.7 CONCLUSION

From the present research, the investigator is able to derive the following conclusions.

The higher secondary students involved in the present study are categorized into high, average and low achievers in chemistry subject at the plus one level based on their overall score of the achievement test in chemistry. Majority of them seemed to be average achievers in chemistry. This might be due to the existing practice of not considering the academic achievement of plus one class for their future career except promoting them to the next class. Further less academic pressure from the school authorities upon the plus one student is being grabbed by majority of the students, and drives them to feel relaxed. Similarly in the case of emotional intelligence, the samples of the study are classified into high, average and low based on their overall score of the emotional intelligence test and the higher secondary students involved in the present study fall under average level of emotional intelligence. This may be due to the less opportunity given to them to perceive and experience different kinds of emotion, understanding them and to deal with them effectively. This study indicates the average level of home environment based on the overall score gained by the students on home environment scale. This result may be due to the age factor, emotional characteristics, spending less time with the family members and peer group pressure. In the case of school environment, the higher secondary students have been classified into three categories. The present investigation indicates that majority of the plus one students expressed that they have only average level of school environment. This result indicates the uncomfortable situation of the higher secondary students to explore the available resources of the school for their scholastic and non-scholastic achievements. The higher secondary girls have excelled the boys in achievement in chemistry, emotional intelligence, home environment and school environment. This
might be due to the attitudinal change of the parents and society towards the girls to
treat them at par with the boys. The higher secondary students who are staying in the
hostels significantly differ in achievement in chemistry, emotional intelligence,
home environment and school environment. This is because of the family financial
support, opportunity to interact with the peer group, constant mentoring of the
school authority and the availability of more time to venture into different kinds of
activities at the school level being hostellers. The educational and occupational
status of the parents of higher secondary students, especially their father’s
educational status plays a vital role in extending all possible support to their wards.
This observation indicates more exposure and outreaching behaviour of fathers than
the mothers of the higher secondary students. Further the birth order of higher
secondary students especially the second born have significantly differed in
achievement in chemistry, emotional intelligence, home environment and school
environment as compared to the students of other birth order. These results might be
due to their more emotional adjustment, less pampering of parents, favourable
school environment academic pressure from the parents and influence of peer group
as compared to the first born, the third and subsequently born students. Annual
income of the family (above rupees four lakhs) also influences the higher secondary
students’ achievement in chemistry, emotional intelligence, home environment and
school environment according to the present investigation. This may be due to the
economic affluence of the family and its financial support to children in such a way
to utilize the financial resources maximum possible by the children. The chi-square
analysis reveals the association among the higher secondary students achievement in
chemistry, emotional intelligence, home environment and school environment.
Further, multiple regression analysis reveals the higher predictive power of home
environment followed by school environment and emotional intelligence on
achievement in chemistry of higher secondary students. The contribution of home
environment plays a very significant role in the academic achievement of higher
secondary students followed by school environment and emotional intelligence. The dimensions like Independence, Cohesion and Active-Recreational Orientation determine the major part of home environment on facilitating achievement in chemistry. Likewise Creative Stimulation of school environment and Self-motivation of emotional intelligence play a very vital role in accelerating student’s achievement in chemistry. Parents of higher secondary students should take necessary steps widening the scope of home for experience the Independence, Cohesion, Active-Recreational Orientation by the children. The headmaster’s and higher secondary teachers should take immediate steps to create a stimulating school environment. Parents and teachers should synergise their coordinated efforts to develop Self-motivation, Emotional Stability and Self-awareness factors of emotional intelligence of students to enhance their academic performance in chemistry.