CHAPTER V

SUMMARY, FINDINGS, IMPLICATIONS, RECOMMENDATIONS, DISCUSSIONS, AND CONCLUSIONS

5.1 SUMMARY

It is widely accepted that the function of educational research is to identify the problem that confront educational research and academic excellence of higher secondary students. It is vital and critical to all learning that appropriate skills, abilities and local competencies will determine the academic results. Today the life has become more competitive and challenging with best performance.

The need for achievement in the chemistry subject is the greatest in the present day context. Since chemistry achievement is very important for the future course of selection of higher study like medical, engineer, etc and also responsible for a success in every field of human activity, it has prompted the researcher to make a study of the achievement in chemistry. Identifying factors affecting chemistry achievement is a key interest to educationists and educational psychologists. It is generally believed that the achievement in chemistry of pupils influenced by number of factors like educational aspiration, emotional intelligence, mental health and scientific aptitude, etc. The present study is made on “A study on achievement in chemistry in relation to certain selected variables”.

The present study has been conducted in the Namakkal District, Tamilnadu State, India. Out of 159 higher secondary schools, the investigator adopted simple random sampling technique for the selection of 40 higher secondary schools. A sample of 800 first year higher secondary students was selected by using stratified random sampling technique out of 2023 students studying chemistry as one of the subject which will constitute the population during the academic year 2012-2013. This will constitute 39.54
(800/2023) percentage of sample from the population. The dependent variable is achievement in chemistry and the independent variables are educational aspiration, emotional intelligence, mental health and scientific aptitude. The investigator has chosen the demographic variables such as gender, medium of school, type of school management, location of school, type of school, type of family, religion, community, fathers’ education, mothers’ education, parental monthly income, fathers’ occupation, mothers’ occupation, sibling, and attendance. The findings revealed that there exists significant relationship between achievements in chemistry with educational aspiration and three variables educational aspiration, mother education, and community significantly contribute to the achievement in chemistry. The detailed findings of the present study are disclosed and discussed in this chapter.

5.2 FINDINGS

The following are the major findings of the present investigation.

5.2.1 DESCRIPTIVE ANALYSIS

5.2.1.1 Achievement in Chemistry

- Both boys (22.59) and girls (22.63) have similar mean score in their achievement in chemistry.

- English medium (24.44) students have more mean score than that of Tamil medium students (22.00) in their achievement in chemistry.

- Private school students (24.44) have more mean score than that of government school students (22.04) and aided school students (21.93) in their achievement in chemistry mean score.

- Both rural school students (22.63) and urban school students (22.58) have similar mean score in their achievement in chemistry.
Co-education school students (23.08) have more mean score than that of girls school students (21.80) and boys school students (20.76) in their achievement in chemistry.

Nuclear family type students (22.76) and joint family type students have similar mean score (22.48) in their achievement in chemistry.

Hindu religion students (23.00) have more mean score than that of Islam religion students (21.95) and Christian religion students (21.71) in their achievement in chemistry.

OBC community (23.54) students have more mean score than that of OC community students (22.20), ST community students (20.03) and SC Community students (19.76) in their achievement in chemistry.

Students whose father completed college education (23.13) have more mean score than that of students whose fathers completed school education (22.90) and students whose fathers are illiterate (21.31) in their achievement in chemistry.

Both the students whose mother completed college education (23.42) and students whose mothers completed school education (23.29) have similar mean score which are high than that of students whose mothers are illiterate (20.35) in their achievement in chemistry.

Students whose fathers are professionals (24.23) have more mean score than that of students whose fathers are business (23.11), students whose fathers are daily wages (22.31) and students whose fathers are office goers (19.70) in their achievement in chemistry.

Students whose mothers are professionals (26.08) have more mean score than that of students whose mothers are daily wages (22.77), students whose mothers are
office goers (22.02) and students whose mothers are housewife (21.42) in their achievement in chemistry.

- Students whose parental monthly income between Rs.10,001 to Rs.20,000/Month (23.69) have more mean score than that of students whose parental monthly income less than Rs.10,000/Month (21.88) in their achievement in chemistry.

- Students whose sibling are more than two (23.20) have more mean score than that of students whose sibling are less than two (22.44) in their achievement in chemistry.

- Students whose attendance more than 181 days (22.95) have similar mean score than that of students whose attendance are less than 180 days (22.49) in their achievement in chemistry.

- For the whole sample, the level of achievement in chemistry of higher secondary students is found as average (22.61).

5.2.1.2 Educational Aspiration

- Girls (39.32) have more mean score than that of boys (36.43) in their educational aspiration.

- English medium school students (41.70) have more mean score than that of Tamil medium school students (36.47) in their educational aspiration.

- Private school students have more mean score (41.70) than that of aided school students (36.51) and government school students (36.45) in their educational aspiration.

- Urban school students (38.44) have more mean score than that of rural school students (37.28) in their educational aspiration.
- Co-education school students (38.09) and girls school students (38.81) have similar means score than that of boys school students (37.27) in their educational aspiration.

- Joint family type students (38.43) have more mean score than that of nuclear family type students (37.01) in their educational aspiration.

- Both Hindu religion students (38.07) and Islam religion students (38.01) have similar mean score than that of Christian religion students (36.76) in their educational aspiration.

- OBC community students (38.63) have more mean score than that of OC community students (37.79), ST community students (35.98) and SC Community students (34.35) in their educational aspiration.

- Students whose father completed college education (38.40) have more mean score than that of the students whose father completed school education (38.14) and students whose father are illiterate (36.15) in their educational aspiration.

- Students whose mother completed school education (38.48) have more mean score than that of students whose mother completed college education (36.70) and students whose mother are illiterate (36.57) in their educational aspiration.

- Students whose father are professionals (39.09) have more mean score than that of the students whose father are daily wages (38.81), students whose father are business (37.22) and students whose father are office goers (35.86) in their educational aspiration.

- Students whose mother are daily wages (38.39) have more mean score than that of students whose mother are office goers (37.73), students whose mother are house wife (34.27) and students whose mother are professionals (32.25) in their educational aspiration.
Students whose parental monthly income between Rs.10,001 to 20,000/Month (38.72) have more mean score than that of students whose parental monthly income less than Rs.10,000/ Month (37.16) in their educational aspiration.

Students whose sibling are more than two (37.79) have similar mean score than that of students whose sibling are less than two (37.71) in their educational aspiration.

Students whose attendance more than 181 days (38.19) have more mean score than that of students whose attendance less than 180 days (37.63) in their educational aspiration.

For the whole sample, the level of educational aspiration of higher secondary students is found as average (37.78).

5.2.1.3 Emotional Intelligence

Boys (64.60) and girls (64.33) have similar mean score in their emotional intelligence.

English medium students (64.69) and Tamil medium students (64.41) have similar mean score in their emotional intelligence.

Private school students (64.69) have similar mean score than that of government school students (64.46) and aided school students (64.32) in their emotional intelligence.

Rural school students (65.29) have more mean score than that of urban school students (63.38) in their emotional intelligence.

Co-education school students (65.32) have more mean score than that of girls school students (62.57) and boys school students (61.80) in their emotional intelligence.
- Joint family type students (64.92) have more mean score than that of the nuclear family type students (63.98) in their emotional intelligence.

- Christian religion students (64.93) and Hindu religion students (64.53) have similar mean score than that of Islam religion students (63.16) in their emotional intelligence.

- ST community students (70.77) have more mean score than that of SC community students (69.79), OBC community students (63.22) and OC Community students (62.51) in their emotional intelligence.

- Students whose father are illiterate (66.30) have more mean score than that of students whose father completed school education (64.20) and students whose father completed college education (63.40) in their emotional intelligence.

- Students whose mother are illiterate (65.19) have more mean score than that of students whose mother completed school education (64.49) and students whose mother completed college education (63.25) in their emotional intelligence.

- Students whose father are office goers (65.86) and students whose father are daily wages (65.27) have similar mean score than that of students whose father are professionals (64.38) and students whose father are business (63.40) in their emotional intelligence.

- Students whose mother are daily wages (64.81) and students whose mother are house wife (64.31) have similar mean score that of students whose mother are professionals (62.50) and students whose mother are office goers (61.06) in their emotional intelligence.

- Students whose parental monthly income less than Rs.10000/Month (64.93) have more mean score than that of students whose parental monthly income between Rs.10001 to Rs.20,000/Month (63.80) in their emotional intelligence.
Students whose sibling more than two (65.27) have more mean score than that of students whose sibling are less than two (64.25) in their emotional intelligence.

Students whose attendances more than 181 days (66.41) have more mean score than that of students whose attendance are less than 180 days (63.81) in their emotional intelligence.

For the whole sample, the level of emotional intelligence of higher secondary students is found as average (64.48).

5.2.1.4 Mental Health

Both boys (60.14) and girls (59.99) have similar mean score in their mental health.

English medium students (61.56) have more means score than that of Tamil medium students (59.54) in their mental health.

Private school students (61.56) have more mean score than that of aided school students (60.56) and government school students (59.03) in their mental health.

Rural school students (61.64) have more mean score than that of urban school students (57.89) in their mental health.

Co-education school students (61.04) have more mean score than that of girls school students (58.25) and boys school students (56.22) in their mental health.

Joint family type students (60.49) have more mean score than that of nuclear family type students (59.52) in their mental health.

Islam religion students (60.59) and Hindu religion (60.23) students have similar mean score than that of Christian religion students (59.23) in their mental health.

ST community students (62.58) have more mean score than that of OC community students (60.57), OBC community students (59.95) and SC Community students (58.32) in their mental health.
Students whose father completed college education (60.94) and students whose father are illiterate (60.28) have similar mean score than that of students whose father completed school education (59.65) in their mental health.

Students whose mother completed college education (60.81) and students whose mother completed school education (60.21) have similar mean score than that of students whose mother are illiterate (59.16) in their mental health.

Students whose father are office goers (62.93) have more mean score than that of students whose father are professionals (60.94), students whose father are business (60.12) and students whose father are daily wages (59.53) in their mental health.

Students whose mother are office goers (62.94) have more mean score than that of students whose mother are professionals (60.25), students whose mother are daily wages (60.00) and students whose mother are house wife (58.94) in their mental health.

Students whose parental monthly income between Rs.10,001 to Rs.20,000/Month (61.63) have more mean score than that of students whose parental monthly income less than Rs.10000/Month (58.94) in their mental health.

Students whose sibling less than two (60.76) have more mean score than that of students whose sibling more than two (57.56) in their mental health.

Students whose attendances more than 181 days (60.53) have more mean score than that of the students whose attendance are less than 180 days (59.88) in their mental health.

For the whole sample, the level of mental health of higher secondary students is found as poor (60.04).
5.2.1.5 Scientific Aptitude

- Boys (77.88) have more mean score than that of girls (76.78) in their scientific aptitude.
- English medium students (84.71) have more mean score than that of Tamil medium students (74.71) in their scientific aptitude.
- Aided school students (85.56) have more mean score than that of private school students (84.71) and government school students (69.63) in their scientific aptitude.
- Urban school students (78.84) have more mean score than that of rural school students (76.30) in their scientific aptitude.
- Co-education school students (78.64) have more mean score than that of girls school students (74.73) and boys school students (73.10) in their scientific aptitude.
- Joint family type students (78.62) have more mean score than that of nuclear family type students (75.95) in their scientific aptitude.
- Christian religion students (80.48) have more mean score than that of Hindu religion students (77.10) and Islam religion students (72.53) in their scientific aptitude.
- SC community (78.80) and OBC community students (78.09) have similar in nature and are greater than ST community students (76.65) and OC community students (73.61) in their scientific aptitude.
- Students whose father are illiterate (77.47) and students whose father completed school education (77.47) have similar mean score than that of students whose father completed college education (76.82) in their scientific aptitude.
• Students whose mother completed school education (77.85) and students whose mother completed college education (77.71) have similar mean score than that of students whose mother are illiterate (75.96) in their scientific aptitude.

• Students whose father are professionals (83.53) have more mean score than that of the mean values of students whose father are office goers (78.95), students whose father are business (76.96) and students whose father are daily wages (76.81) in their scientific aptitude.

• Students whose mother are office goers (78.46) have more mean score than that of students whose mother are daily wages (77.65), students whose mother are house wife (77.00) and students whose mother are professionals (61.25) in their scientific aptitude.

• Students whose parental monthly income between Rs.10,001 to Rs.20,000/Month (78.76) have more mean score than that of the students whose father monthly income less than Rs.10,000/ Month (76.39) in their scientific aptitude.

• Students whose sibling less than two (78.06) have more mean score than that of students whose sibling more than two (75.03) in their scientific aptitude.

• Students whose attendance more than 181 days (78.14) have more mean score than that of students whose attendance less than 180 days (77.12) in their scientific aptitude.

• For the whole sample, the level of achievement in chemistry of higher secondary students is found as below average (77.38).

5.2.2 Levels of Achievement in Chemistry

• Among the total 800 subjects, 087 (10.87 percent) students are high achievers in chemistry, 380 (47.51 percent) students are average achievers in chemistry, and 333 (41.62 percent) students are low achievers in chemistry.
5.2.2.1 High Achievers

- High achievers in chemistry have high educational aspiration (59.56), average emotional intelligence (81.59), very poor mental health (82.80) and below average scientific aptitude (122.10).

5.2.2.2 Average Achievers

- Average achievers in chemistry have average educational aspiration (43.37), average emotional intelligence (67.26), poor mental health (64.96) and average scientific aptitude (85.56).

5.2.2.3 Low Achievers

- Low achievers in chemistry have average educational aspiration (25.70), average emotional intelligence (56.84), poor mental health (48.49) and below average scientific aptitude (56.36).

5.2.3 Levels of Educational Aspiration

- Among the total 800 subjects, 178 (22.25 percent) have high educational aspiration, 524 (31.75 percent) have average educational aspiration, and 98 (12.25 percent) have low educational aspiration.

5.2.4 Levels of Emotional Intelligence

- Among the total 800 subjects, 18 (2.25 percent) have high emotional intelligence, 736 (86.65 percent) have average emotional intelligence, and 46 (5.75 percent) have low emotional intelligence.

5.2.5 Levels of Mental Health

- Among the total 800 subjects, 21 (2.62 percent) of students have excellent mental health, 25 (3.12 percent) of students have good mental health, 220 (27.5 percent) of students have average mental health, 512 (64.0 percent) of students have poor mental health and 22 (2.75 percent) of students have very poor mental health.
5.2.6 Levels of Scientific Aptitude

- Among the total 800 subjects, 21 (2.62 percent) of students have high scientific aptitude, 16 (2.0 percent) of students have above average scientific aptitude, 300 (37.5 percent) of students have average scientific aptitude, 373 (46.62 percent) of students have below average scientific aptitude and 90 (11.25 percent) of students have low scientific aptitude.

5.3 DIFFERENTIAL ANALYSIS

5.3.1 High, average and low achievers of chemistry higher secondary students on Educational Aspiration, Emotional Intelligence, Mental health and Scientific Aptitude

- Students belonging to different levels of achievement in chemistry of higher secondary students differ significantly among themselves in respect of their educational aspiration, emotional intelligence, mental health, and scientific aptitude.

5.3.1.1 Educational Aspiration

- High and average achiever students differ significantly whereas differences between students from other two groups do not differ significantly in their educational aspiration. Level of achievement in chemistry influences educational aspiration.

5.3.1.2 Emotional Intelligence

- High and average achievers students differ significantly whereas differences between students from other two groups do not differ significantly in their emotional intelligence. Level of achievement in chemistry influences emotional intelligence.
5.3.1.3 Mental Health

- High and average, average and high, and high and low achievers students differ significantly in their mental health. Level of achievement in chemistry influences mental health.

5.3.1.4 Scientific Aptitude

- High achievers and average achievers, average and high achievers, high and low achievers students are differ significantly in their scientific aptitude. Level of achievement in chemistry influences scientific aptitude.

5.3.2 Achievement in Chemistry

- Boys and girls do not differ significantly in their achievement in chemistry.
- Tamil and English medium students differ significantly in their achievement in chemistry. In the present study, medium of school is found to be a determinant factor of Achievement in chemistry.
- Urban and rural located school students do not differ significantly in their achievement in chemistry.
- Joint and nuclear family type students do not differ significantly in their achievement in chemistry.
- Students whose parental monthly income of less than Rs.10,000/Month and between Rs.10,001 to Rs.20,000/Month differ significantly in their achievement in chemistry. Parental monthly income is found to be a determinant factor of Achievement in chemistry.
- Students whose sibling less than two and students whose sibling more than two do not differ significantly in their achievement in chemistry.
- Students whose attendance less than 180 days and students whose attendance more than 181 days do not differ significantly in their achievement in chemistry.
Students belonging to different type of school management differ significantly among themselves in respect of their achievement in chemistry. Type of school management influences the achievement in chemistry.

Students belonging to different type of school differ significantly among themselves in respect of their achievement in chemistry. Type of school influences the achievement in chemistry.

Students belonging to different types of religion do not differ significantly among themselves in respect of their achievement in chemistry.

Students belonging to different types of community differ significantly among themselves in respect of their achievement in chemistry. So, Community influences the achievement in chemistry.

Students belonging to different types of fathers’ education do not differ significantly among themselves in respect of their achievement in chemistry.

Students belonging to different types of mothers’ education differ significantly among themselves in respect of their achievement in chemistry. Mother’s education influences the achievement in chemistry.

Students belonging to different types of fathers’ occupation do not differ significantly among themselves in respect of their achievement in chemistry.

Students belonging to different types of mothers’ occupation do not differ significantly among themselves in respect of their achievement in chemistry.

### 5.3.3 Educational Aspiration

Boys and girls differ significantly in their educational aspiration. So, gender is found to be a determinant factor of educational aspiration.
➢ Tamil medium and English medium students differ significantly in their educational aspiration. So, medium of school is found to be a determinant factor of educational aspiration.

➢ Urban and rural school located students do not differ significantly in their educational aspiration.

➢ Joint and nuclear family type students do not differ significantly in their educational aspiration.

➢ Students whose parental monthly income of less than Rs.10,000/month and between Rs.10,001/Month to Rs.20,000/Month do not differ significantly in their educational aspiration.

➢ Students whose sibling less than two and students whose sibling more than two do not differ significantly in their educational aspiration.

➢ Students whose attendance less than 180 days and students whose attendance more than 181 days do not differ significantly in their educational aspiration.

➢ Students belonging to different types of school management differ significantly among themselves in respect of their educational aspiration. So, type of school influences the educational aspiration.

➢ Students belonging to different type of school differ significantly among themselves in respect of their educational aspiration. So, type of school influences the educational aspiration.

➢ Students belonging to different types of religion do not differ significantly among themselves in respect of their educational aspiration.

➢ Students belonging to different types of community differ significantly among themselves in respect of their educational aspiration. So, Community influences the educational aspiration.
Students belonging to different types of fathers’ education do not differ significantly among themselves in respect of their educational aspiration.

Students belonging to different types of mothers’ education do not differ significantly among themselves in respect of their educational aspiration.

Students belonging to different types of fathers’ occupation do not differ significantly among themselves in respect of their educational aspiration.

Students belonging to different types of mothers’ occupation differ significantly among themselves in respect of their educational aspiration. So, mother’s occupation influences the educational aspiration.

5.3.4 Emotional Intelligence

Boys and girls do not differ significantly in their emotional intelligence.

Tamil medium and English medium students do not differ significantly in their emotional intelligence.

Urban and rural located school students differ significantly in their emotional intelligence. So, locality of school is found to be a determinant factor of Emotional intelligence.

Joint and nuclear family type students do not differ significantly in their emotional intelligence.

Students whose parental monthly income less than Rs.10,000/month and students whose parental monthly income between Rs.10,001/- to Rs.20,000/month do not differ significantly in their emotional intelligence.

Students whose sibling less than two and students whose sibling more than two do not differ significantly in their emotional intelligence.
Students whose attendance less than 180 days and students whose attendance more than 181 days differ significantly in their emotional intelligence. So, attendance is found to be a determinant factor of Emotional intelligence.

Students belonging to different types of school management do not differ significantly among themselves in respect of their emotional intelligence.

Students belonging to different types of school differ significantly among themselves in respect of their emotional intelligence. So, type of school influences the emotional intelligence.

Students belonging to different types of religion do not differ significantly among themselves in respect of their emotional intelligence.

Students belonging to different types of community differ significantly among themselves in respect of their emotional intelligence. So, community influences the emotional intelligence.

Students belonging to different types of fathers’ education differ significantly among themselves in respect of their emotional intelligence. So, father’s education influences the emotional intelligence.

Students belonging to different types of mothers’ education do not differ significantly among themselves in respect of their emotional intelligence.

Students belonging to different types of fathers’ occupation differ significantly among themselves in respect of their emotional intelligence. So, father’s occupation influences the emotional intelligence.

Students belonging to different types of mothers’ occupation differ significantly among themselves in respect of their emotional intelligence. So, father’s occupation influences the emotional intelligence.
5.3.5 Mental Health

- Boys and girls do not differ significantly in their mental health.

- Tamil medium and English medium differ significantly in their mental health. So, medium of school is found to be a determinant factor of mental health.

- Urban and rural located school students differ significantly in their mental health. So, locality of school is found to be a determinant factor of mental health.

- Joint and nuclear family type students do not differ significantly in their mental health.

- Students whose parental monthly income less than Rs.10,000/Month and between Rs.10,001/Month to Rs.20,000/Month students differ significantly in their mental health.

- Students whose sibling less than two and students whose sibling more than two differ significantly in their mental health. So, sibling is found to be a determinant factor of mental health.

- Students whose attendance less than 180 days and students whose attendance more than 181 days do not differ significantly in their mental health.

- Students belonging to different types of school management do not differ significantly among themselves in respect of their mental health.

- Students belonging to different types of school differ significantly among themselves in respect of their mental health. So, type of school influences the emotional intelligence.

- Students belonging to different types of religion do not differ significantly among themselves in respect of their mental health.

- Students belonging to different types of community do not differ significantly among themselves in respect of their mental health.
Students belonging to different types of fathers’ education do not differ significantly among themselves in respect of their mental health.

Students belonging to different types of mothers’ education do not differ significantly among themselves in respect of their mental health.

Students belonging to different types of fathers’ occupation do not differ significantly among themselves in respect of their mental health.

Students belonging to different types of mothers’ occupation do not differ significantly among themselves in respect of their mental health.

5.3.6. Scientific Aptitude

Boys and girls do not differ significantly in their scientific aptitude.

Tamil medium and English medium differ significantly in their scientific aptitude.

So, medium of school is found to be a determinant factor of scientific aptitude.

Urban and rural located school students do not differ significantly in their scientific aptitude.

Joint and nuclear family type students do not differ significantly in their scientific aptitude.

Students whose parental monthly income less than Rs.10,000/Month and Students whose parental monthly income between Rs.10,001/Month to Rs.20,000/Month differ significantly in their scientific aptitude.

Students whose sibling less than two and students whose sibling more than two do not differ significantly in their scientific aptitude.

Students whose attendance less than 180 days and students whose attendance more than 181 days do not differ significantly in their scientific aptitude.
Students belonging to different types of school management differ significantly among themselves in respect of their scientific aptitude. So, type of school management influences the scientific aptitude.

Students belonging to different types of school differ significantly among themselves in respect of their scientific aptitude. So, type of school influence the scientific aptitude.

Students belonging to different types of religion differ significantly among themselves in respect of their scientific aptitude. So, religion influences the scientific aptitude.

Students belonging to different types of community do not differ significantly among themselves in respect of their scientific aptitude.

Students belonging to different types of fathers’ education do not differ significantly among themselves in respect of their scientific aptitude.

Students belonging to different types of mothers’ education do not differ significantly among themselves in respect of their scientific aptitude.

Students belonging to different types of fathers’ occupation do not differ significantly among themselves in respect of their scientific aptitude.

Students belonging to different types of mothers’ occupation do not differ significantly among themselves in respect of their scientific aptitude.

5.4 CORRELATIONAL ANALYSIS

5.4.1 Achievement in Chemistry and Educational Aspiration

For the entire sample, achievement in chemistry and educational aspiration are found to be positively and significantly correlated. So it indicates that educational aspiration influences the achievement in chemistry. The result of sub-sample also shows that there exists positive and significant correlation between achievement in
chemistry and educational aspiration for girls(0.286), Tamil medium(0.096), government school (0.116), aided school (0.204), private school (0.166), rural school (0.132), urban School(0.198), boys’ school(0.218), girls’ school(0.126), Co-education school(0.127), nuclear family(0.207), Hindu Religion(0.194), Islam Religion(0.090), OBC(0.127), SC(0.415), fathers’ education- illiterate (0.383), and college education(0.136), mothers’ education- illiterate(0.138), school education(0.090), and college education(0.237), fathers’ occupation – daily wages(0.179), business(0.094), and office goers(0.211), mother’s occupation – daily wages(0.138), house wife (0.090), office goers(0.175), professionals(0.369), parental monthly income - less than Rs.10,000/Month(0.186), sibling – less than two (0.116), more than two (0.256), and attendance – less than 180 days (0.100) and more than 181 days (0.347).

5.4.2 Achievement in chemistry and Emotional Intelligence

- For the entire sample, achievement in chemistry and emotional intelligence do not found to be significantly correlated. So it indicates that emotional intelligence do not influence the achievement in chemistry. The result of sub-sample also shows that there exists positive and significant correlation between achievement in chemistry and emotional intelligence for boys(0.214), Tamil Medium (0.761), English Medium(0.818) private school (0.128), rural school (0.231), boys, school(0.142), joint family(0.118), Hindu religion(0.095), ST(0.311), fathers’ education- illiterate (0.160), and college education(0.161), mothers’ education-illiterate(0.067), fathers’ occupation – daily wages(0.117), and office goers(0.428), mothers’ occupation- daily wages(0.067), and attendance – more than 181 days (0.280).
5.4.3 Achievement in chemistry and Mental Health

- For the entire sample, achievement in chemistry and mental health are not found to be significantly correlated. So it is indicated that mental health do not influence the achievement in chemistry. The result of sub-sample also shows that there exists positive and significant correlation between achievement in chemistry and mental health for boys(0.362), girls(0.432), Tamil medium (0.135), English medium(0.096), government school (0.256), aided school (0.135), private school (0.245), rural school (0.394), urban school (0.132), boys’ school (0.312), co-education school(0.208), nuclear family(0.100), Islam (0.067), OC(0.218), fathers’ education – illiterate (0.085), mothers’ education- school education (0.175), and mothers’ occupation – house wife (0.085) and office goers(0.225).

5.4.4 Achievement in chemistry and Scientific Aptitude

- For the entire sample, achievement in chemistry and scientific aptitude are not found to be significantly correlated. So it indicates that scientific aptitude do not influence the achievement in chemistry. The result of sub-sample also shows that there exists positive and significant correlation between achievement in chemistry and scientific aptitude for boys(0.362), girls(0.432), Tamil medium (0.135), English medium (0.134), co-education school(0.110), Joint family (0.100), Islam(0.067), OC(0.106), SC(0.096), ST(0.301), mothers’ education- college education (0.175), and Mothers’ occupation –office goers(0.251).

5.5 REGRESSION ANALYSIS

- Out of 19 predictors, only three variables have significant effect on achievement in chemistry at 0.01 level and these three variables educational aspiration, mothers’ education and community have positive influence and significantly contribute to the achievement in Chemistry of higher secondary school students in Namakkal
District. The other variables emotional intelligence, mental health, scientific aptitude, gender medium of school, type of school management, type of school, location of school, type of family, religion, fathers’ education, fathers’ occupation, mothers’ occupation, parental monthly income, sibling and attendance do not significantly contribute to the achievement in Chemistry of higher secondary school students.

5.6 IMPLICATIONS

The following are the implications of the study based on the findings of the present investigation.

1. Among the total 800 subjects, 10.87 percent of total samples are high achievers in chemistry. This finding is the indicative of the acute problem for the educationists at the present context. Higher secondary stage form basis for the students’ entry into the professional and higher studies. Lack of self regulated plan of home work, study habits, and distraction by the medias are the constant sources for the under achievement.

2. Medium of school has been found to be a determinant factor of achievement in chemistry. English medium (24.44) students are better achievers in chemistry. This indicates that the more regulated activities and instruction in English language facilitate and enhances the learning as well as achievement in chemistry.

3. Parental monthly income is another determinant factor of achievement in chemistry. Students with high parental monthly income have more achievement in chemistry. High income provides facilities such as individual reading room, work table, and conducive learning environment in home that facilitates more achievement.
4. Type of school and type of school management influences the achievement in chemistry. Co-education school students (23.08) are found to be high achievers. This is the indicative that co-education schools promote equal learning abilities and independent learning styles among the students irrespective of the gender in achievement. But this not in the case of same sex schools. Teachers from the unisex schools help the students to overcome from dependent learning styles to enhance their achievement.

5. Private school students (24.44) have higher achievement in chemistry. The systematic implementation of time table, special classes, remedial teaching, continuous assessment of daily home works and class tests, regular parent – teachers meeting, personal care of poor achievers are the constant sources that enhances learning and achievement. Government and aided schools management also taking extra efforts in individual attention towards students in promoting their achievement in chemistry.

6. Community influences the achievement in chemistry. OBC (23.54) students have higher achievement in chemistry than other community strata group. This is the indication that achievement also depends upon the basic social stratification based on Varna ashrama segregation till from the olden days. This is the crucial time by the educationists to revamping the existing policies to promote more achievement among the students of socially downtrodden communities. Equal achievement among the students irrespective of the achievement could be promoted.

7. Mother’s education influences achievement in chemistry. Students whose mothers with high educational qualification (23.42) have more achievement than their counterparts. This finding is the indicative that mother education basis for the
students’ achievement. Mother is the best teacher and forerunner of students learning and achievement.

8. Gender influences the educational aspiration level of higher secondary chemistry students. Girls (39.32) have higher educational aspiration than boys (36.43). This is the positive indication that higher educational aspiration of girls shows their maturity and identification of their responsibilities in their higher studies.

9. All the school related factors namely medium of school, type of school management, and type of school are found to be determinant factor of educational aspiration. English medium (41.70) students have higher educational aspiration. This indicates that English medium of instruction brings a lot of exposure, experience and expectation towards higher educational courses than their counter parts. Private school students (41.70) have higher educational aspiration. This would reflect that the private school activities are very good platform for developing students’ educational aspiration. The government and aided school management also taken foremost efforts to bring activities that promote higher educational aspiration. Co-education school students (38.09) and girls’ school students (38.81) have similar educational aspiration. This would indicate that the healthy competitions among the students in co-education and higher study habits among the girls. The sportive nature, lack of responsibility, easy going, more independent tendency of thinking style, poor competency and mischievous activities among the boys are the constant sources for the lower educational aspiration among the boys.

10. The community and mother occupation are the determining factors of educational aspiration. OBC students (38.63) found to have more educational aspiration. This is the indication that the students belong to lower community strata have low
educational aspiration. Government efforts like free and compulsory education for all and equal educational opportunities to bring a uniform community developmental task could not be fulfilled in the case of community stratification. Students whose mothers occupations are daily wages (38.39) found to have more educational aspiration. These findings indicate that students whose mothers occupation are daily wages have hard to sustain family expectations really helps their wards to have high educational aspiration and prefer higher courses of studies with high social values.

11. The school related variables like location of school, attendance, and type of school are found to be determining factor of emotional intelligence. Urban school students (63.38), students whose attendance less than 180 days (63.81) and boys’ school students (61.80) are found to be comparatively low emotional intelligence. So a conscious effort is to be made among the students to promote their emotional intelligence.

12. The community is another important factor that influencing the emotional intelligence. ST community students (70.77) have more emotional intelligence than their counterparts. This is the positive indication that students from the lower social stratification group have better emotional intelligence and crucial steps to be taken to improve emotional intelligence among other community students.

13. The familial variables like fathers’ education, fathers’ occupation and mothers’ occupation also influences emotional intelligence. Students whose father completed college education (63.40), students whose father occupation are business (63.40) and students whose mother occupation are office goers (61.06) are found to be have low emotional intelligence than their counterparts. This is the negative indication that the teachers should identify the students with low
emotional intelligence and make deliberate efforts to increase their emotional intelligence.

14. Medium of school, location of school, parental monthly income, sibling, and type of school influences mental health of higher secondary students. The findings revealed that Tamil medium students (59.54), urban school students (57.89), students whose parental low income (58.94), students whose sibling more than two (57.56) and boys school students (56.22) have low mental health than their counterparts. These findings indicate the negative aspects of our students’ mental health at present context and very high alarming issue to take immediate steps to identify the mental health. Identification and assessment of mental health among the students should be made compulsorily. Socio-economic factors, cultural background, and interests are the sources that affect the mental health. Efforts must may be taken for intervention and appropriate strategies like guidance and counselling to be adopted to be improve mental health of students.

15. The school related variables like medium of school, type of school management, type of school and personal variable like religion influences scientific aptitude. It is evident from the findings that Tamil medium students (74.71), government school students (69.63), boys’ school students (73.10), and Islam religion students (72.53) have comparatively low scientific aptitude when compared to their corresponding counterparts. These results show that language plays a role in the development of scientific aptitude. It seems that implementation of better learning facilities and good teaching-learning atmosphere share a major part in inculcation and promotion of scientific aptitude. Rote memory, lack of motivation, poor study skills, persistence in learning a subject are the sources that affect the scientific aptitude of the students.
16. Achievement in chemistry and educational aspiration are found to be positively and significantly correlated. Therefore, educational aspiration influences the achievement in chemistry. This finding indicates that the both the variables move in positive direction. If the level of achievement increases the level of preferring and expectation over the selection higher studies with high social values also increases.

17. Out of nineteen independent variables these three variables educational aspiration, mothers’ education and community significantly contribute to the achievement in chemistry of higher secondary chemistry students at a time. This finding in agree with another finding that even low achievers and average achievers in chemistry have average educational aspiration and higher achievers in chemistry have high educational aspiration. Mother education is the basis for children’s’ achievement. This study would agree with the findings that students whose mother having higher educational qualification having better achievement in chemistry than their counterparts. This would also agree with that the proverb “If women get to be educated, then the whole family gets to be educated”. The community also play significant role in higher secondary students achievement in chemistry. Higher secondary students with high community strata having high achievement in chemistry. This would agree with the thoughts that starting from the Vedic history, the community segregation and stratification influences more in the education development of a society. Compulsory free education, free scholarships, equal educational experiences and equal educational opportunities are the strategies that help to excel in the education from all the communities based on stratification. This findings also revealed that more efforts and concentration to be given for students who are in the lower ladder of community strata.
5.7 RECOMMENDATIONS

Based on the findings of the present study, the following recommendations are made to enhance the achievement of first year higher secondary students.

5.7.1 Achievement in chemistry

- Ministry of education should concentrate more in their policy level decisions in making friendly curricula according to the recent development with an expert committee comprising subject experts, psychologists, educators and former students’ representatives.

- Non threatening and psychologically safe atmosphere should be created in the school environment with all necessary infrastructural facilities. Availability of resources and proper utilization of learning strategies motivate students to excel in their learning abilities.

- The management of school gives more importance in appointment of multiskilled teachers and motivate the hardworking and experienced teachers to handle the students.

- Parents should provide favourable home atmosphere with all basic amenities to induce their wards to do better performance in their achievement. Parents should not impose their over pressure and expectations to their wards in scholastic achievement. They kindly accept their wards ability and promote their excellence friendly.

- Efficient and effective study habits or work habits influences students achievement (Kalaivani, 2011). So, it is the duty of the teacher to improve the study habits of students by appropriate motivating techniques. Teachers have to regularly monitor the students’ homework and provide necessary suggestions depending upon the students’ level of performance.
• While teaching a subject, the teacher should teach in such a way that it facilitates information processing. Then only students could able to learn more within a limited period of time. Teacher should also take care to see that students to develop field independent cognitive style.

• Highly self regulated teachers plan well by using their knowledge, experience about course content, students’ mental psychology and general pedagogy to improve students learning and achievement (Bandura, 1993).

• Most of the higher secondary students belong to adolescent age and they are highly disturbed both physically and mentally. Poor achievers lacks proper decision making habits and more pronounced among adolescents (Gayatri, 2000). So students decision making habits should be improved by proper personal guidance and counselling services.

• Teacher is the real creator of history and role model for the students. They are to be more innovative and novelty in giving pupil centered instruction. Teacher ensures the safe and friendly atmosphere to the students to learn peacefully and help them to excel in their academically.

• Teachers promote mind mapping learning techniques among the students in chemistry. Regular instructions, proper study habits, diagnostic tests and remedial teaching for the students will facilitate more learning and achievements.

5.7.2 Educational Aspiration

• Parent behaviour is significantly related to their wards academic achievement and higher study selection (Gafor 2001). So, Parents are the first teachers and do realize their active participation in their children’s academic activities to choose appropriate carrier in future.
• Creating socially, culturally and stress free environment in home as well as in school help the students to choose appropriate carrier.

• The educational aspiration of a child is begin to crystallize, stable and realistic at the age of 17. So, proper career guidance and counselling should be given to them.

• Educational aspiration of the school students are evaluated frequently so that we can help the students to choose appropriate higher education.

• Students from rural and urban areas must be provided with orientation and information regarding various educational courses such as medical, engineering and information technology.

• Organizing student support services in schools that assist students who faced with learning barriers to achieve their educational and developmental potential. They provide strategies and specialized support at individual, group, school and network levels.

• Student support services work as part of an integrated health and wellbeing team within networks of schools, focusing on providing group-based and individual support, workforce capacity building and the provision of specialized services.

• Organize career education and higher education fairs, inviting speakers to give guidance on subject choices to maximize chances of getting a place.

• Organize residential visits and trips to nearby higher education institutions and make them to have interaction with college professors and senior students.

• Institutions have formal collaboration with higher educational institutions offering work experience placements.

5.7.3 Emotional Intelligence

• One can increase emotional intelligence through watching movie in mute and trying the translate the content adopting role play, reading book on non-verbal
communication, sensitizing the communication and visualizing peaceful settings of beach, garden and woods.

- School management appoints emotionally matured teachers to dealing students as a guide, friend, philosopher, well-wisher, caretaker and counsellor.
- Cultivating good listening skills, detect social signals, resolve conflicts, engage in positive interaction, team work, concern for others, assessing emotional state, reflective listening and to use assertive response will enhance emotional intelligence.
- Training should be given to student teachers and teachers to develop their emotional skills aspects through pre-service and in-service programmes.
- School students are encouraged to being flexible to adapt to the new condition, technology, methods and skills will facilitate the development of emotional intelligence.
- Curriculum designers and policy makers develop various modules for implementing activities to enhance emotional intelligence as mandatory in curriculum at all education levels.
- Doing things differently, focusing on the value of finding new ideas, listening to others, encouraging, supporting, and respecting new ideas are personal attributes which lead to the improvement of emotional intelligence.
- School must implement strategies along with curricular and co-curricular activities to promote emotional intelligence among students.
- Improving the personal appearance, identification of ones strength and weaknesses, doing meditation, exercise daily, meeting new challenges and risks, and evaluating the accomplishment on daily bases will increases one’s self esteem.
• Teachers act as a role model for students in developing appropriate emotional intelligence by being emotionally expressive towards them in dealing situations.

• Listening to the music, singing, recitation, prayer, positive self talk, assertive commands, healthy nutritional food, and good sleep in the night which in turn recharges the emotional batteries of one’s individual.

• Teachers in particular with a strong foundation in both technical and emotional training so that they will be well-rounded individuals, and hence they should be worthy employees, effective managers and dynamic leaders.

• Teachers should train the students to form co-operative and collaborative work rather than competitive group because it leads to emotional expansiveness. Collaborative work releases some motivational forces which build healthy work team and also contribute to the achievement target effectively.

• Practice students to diary writing is an exercise to one’s to become aware of and identify emotions, doing over a period of time increase the fluency in expressive it.

• Evaluations in achievement not only carry with cognitive abilities but also with emotional skills. Emotional skills to be considered as a mandatory part for students while promoting from one level to another level.

• Making positive comparisons of comparing one’s own condition with that of the paralyzed will improve emotional intelligence. Selfless service guarantees great joy and satisfaction.

• Being realistic, enhances emotional intelligence which requires prioritization of goals, making use of available time, delegating power of work to other, tolerating the behaviour of fellow mates and nurturing the spirit of openness will enhance emotional intelligence.
• Active participation of students in all academic activities should be motivated so as to get chance in developing emotional and social skills.

• Students are encouraged to practice their emotion independently with their peers, siblings, family members and others. Being surrounded with great deal of social support from relative, friends and colleagues will improve the emotional intelligence.

• Being calm, clear and to make firm response, telling a strait forward statement without being aggressive will improve one’s emotional intelligence.

• Teacher develops practices to engage students in a conversation about handling social problems. Then the teaching lesson becomes about literacy, history and social and emotional learning.

• Group projects through problem solving techniques are useful way to teach students how to work together. This will induce the promotion of social and emotional skills development.

• Self-motivation is a key component of emotional learning and a necessity for students to accomplish things in life. Remind students that to experience success they must put forward effort and perseverance. Each student should be encouraged to set some goals so that they can feel a sense of accomplishment.

• Character education encourages the development of ethical and responsible students. Teach students the importance of having good values, being honest, being trustworthy and taking responsibility for their actions.

• Teachers should seek their students’ opinions, allow them to initiate activities and be flexible when responding to their ideas. Doing so, builds a sense of competency in the students and increases their desire to learn. They also are less likely to struggle with envy and jealousy.
• Imparting resiliency among the students is need of the hour. Research shows that students who are more resilient are more academically successful. They also bounce back quicker, are mindful of their opinions, and understand their beliefs, all of which gives them a strong sense of who they are.

• Developing empathy and caring for others helps students to develop positive relationships, which is the cornerstone of social and emotional learning. Encouraging students to listen to others and ask them to try to understand how others might be feeling.

• Teachers must take personal care of emotionally disturbed students and promote their positive emotional skills.

• School management gives rewards and awards to the emotionally matured students during the course of the study.

5.7.4 Mental Health

• Policy makers and curriculum designers must plan mental health promotional activities and it should keep at a syllabus at various levels of education.

• Educational programmes should offer to students to ensure belongings, self esteem, self determination and control of students.

• Like foreign countries, many community programmes for families with young children such as family reading programmes in Literary, health screening clinics, organized recreation and television programmes that teach socio – emotional values should be framed and implemented in the curriculum at all levels of education.

• Life skills education is model of health promotion that seeks to teach adolescents to deal effectively with the demands and challenges of everyday life (WHO 1997). So, Government introduces life skill education at all levels of education.
• School based skill –building programmes social-emotional skills, problem solving skills are geared at the level of middle and high school level promotes mental health.

• Yoga and meditation is an effective tool to all for promoting mental health. So, it should be implemented at all levels of education.

• Teacher should also take are to develop field independent cognitive style among the students.

• Any climate that respects and protects basic civil, political, economic, social and cultural rights is fundamental to the promotion of mental health (Gostin 2001). So, government must plan strategies and ensures above basic rights to school students through its various policy making activities.

• Emotional stability, adjustment, autonomy, security, self-concept and intelligence are the dimensions of mental health. So, school is an appropriate place to initiate and implementation of activities to promote mental health dimensions through its curricular and extracurricular activities.

• Stress coping and management techniques should be given to students to have balanced mental health.

• A physically healthy person is more confident and free from mental health problems (Martin Babu Panackal, 2011). So, school of private management must ensure compulsory games period at least twice in a week for students in academic time table.

• The school must provide positive psycho – social environment such as friendly, rewarding and supportive atmosphere, supporting cooperation and active learning and forbidding physical punishment and violence.
• Teacher must act as role model for their student in developing mental health. Emotionally matured, multi skilled abilities and more responsible teacher alone take care for their students.

• Teacher should assess the students’ mental health from time to time and then plan appropriate intervention strategies.

• Teacher should create an atmosphere that ensures student maximum participation in activities through teaching – learning process.

• Teacher should promote life skills such as decision-making, problem-solving, creative and critical thinking, effective communication, inter-personal skills, self awareness, coping with emotions and stress among students through appropriate activities.

• A positive mental health is a set of key domains encompassing well – being and positive states of mind. It can develop by physical exercises. So, promoting physical health in turn promotes mental health.

• Appointment of student welfare coordinators work with teachers, other welfare professionals and agencies to address student needs.

• The school must provide positive psycho – social environment such as friendly, rewarding and supportive atmosphere, supporting cooperative and active learning, and forbidding physical punishment and violence.

• Appointment of full time psychology based qualified faculty to monitor the emotional disturbances, mental health and to guide and counsel to the needy students.

5.7.5 Scientific Aptitude

• Education ministry and state government must revise exist norms and must implement laboratory as a fifty percent while grading the achievement as a
compulsory aspect in present curricula from primary education level to develop appropriate scientific aptitude among the students.

- More strength in particular class section lacks care from teachers by individual attention. Another fate is the mere passing percentage for theory science subjects like physics, chemistry, Biology, Botany, zoology, Home science, Bio- Chemistry and computer science are from 40/150 to 30/150. This may enhance to at least 75/150 so that students may concentrate more in their subjects.

- Scientific Aptitude must be tested at the time of admission at higher secondary level education and students must be guide to choose subjects according to their aptitude.

- Parents must support their wards in developing appropriate skill, attitude and aptitude by individual and friendly care. Parents are the first teachers of their children. So, parents take more responsible steps to improve their wards’ scientific aptitude.

- Rapid science and technical development leads to inclusion of more syllabuses in the present curricula put a lot of stress to students in learning. Schools also insist and appreciate regular parent and teacher meeting to know their scientific aptitude and their difficulties faced while learning during their course of study.

- Government must insist and pay a way to implement normal student teacher ratio as suggested by Kothari Commission (1964) as 30:1.

- Science Fair, Science Corner, Science exhibition, science forum, science club activities should be conducted and make students to participate to promote Scientific aptitude.

- The government should concentrate and appoint resourceful and creative teachers with scientific aptitude and interest for teaching in science.
• Educational authorities at state and district level must insist more attention in percentage of public results.

• More strength in particular class section, lack of attendance, minimum usage of facilities like laboratories, library by schools put a stay in the development of students’ scientific aptitude.

5.8 DISCUSSIONS

An attempt has been made to study achievement in chemistry in relation to certain selected variables. In the present study, it is found that 10.87 percent students are high achievers, 47.51 percent students are average achievers and 41.62 percent students are low achievers in chemistry.

The finding overall achievement in chemistry of higher secondary school chemistry students is found as average. However, contrary to the present findings, the studies undertaken by Kalaivani and Babu (2011) shown that the higher secondary students have high achievement in Chemistry. The other findings gender have no influence on achievement in chemistry and type of school influences the achievement in chemistry are supported and against the findings of Bhuvaneswari et.al (2004) have found that gender, type of school have significant effect on achievement.

In the present study, there exists positive and significant relationship between achievement in chemistry and educational aspiration. The findings higher achievers having higher educational aspiration and there exists significant difference among the levels of achievement in chemistry with respect to the educational aspiration in consonance with the studies of Prashad (2007) have shown that higher achievers have higher aspiration; Higher aspiration have positive significant relationship with educational aspiration and Uniyal (2007) have reported that level of aspiration had significantly influences scholastic achievement. The finding educational aspiration significantly contribute and the predictor
of achievement in chemistry is in conformity of the finding of Chen (2001) also indicate that educational aspiration influences and predictor of mathematic achievement.

It is inferred in the present study, it has been found that there is no significant relationship between achievement in chemistry and emotional intelligence. Similar observation have also been made Reetasuri (2010) have concluded that no significant relationship have found between emotional intelligence and achievement with respect to XII class CBSE students, and Dubey, Ruchi (2008) have shown that emotional intelligence have no relationship with achievement in various subjects and have found in contrary to the studies by Sridevi et al. (2008), Panigrahi (2005), Shankar(2012) investigated that emotional intelligence have significant and positive correlation on academic achievement.

The finding boys and girls do not differ significantly in their emotional intelligence could be supported by the studies of Saenz and Tray Johnson (2009), Shankar (2012) have found that gender and emotional intelligence was no statistically significant, and Subramanyam et al. (2008) have indicate that gender have no significant difference on emotional intelligence and academic achievement.

The finding that there is no significant relationship between achievements in chemistry with respect to mental health is similar with the studies of Mittal (2008) have concluded that no significant difference between correlation co-efficient of academic achievement and mental health of different localities., and in contrary to the study of Kasinath (2003) have examined that mental health have significant determinant effect on achievement in school subjects and Perumal (2008) also have revealed that mental health have significant relationship with achievement in English.

The overall mental health of higher secondary students is found to be very poor and parental monthly income is found to be determinant factor of mental health. These
findings are in contrary the findings of Shanmugam (2008) have proved that mental health of higher secondary students is average and father monthly income influences mental heath. The other findings boys had higher mental health than girls, mental health had no significant difference with types of school management, type of family, father’s educational qualification, mother’s educational qualification are in favour of the findings of Shanmugam (2008) have shown that boy’s were superior in mental health than girls and type of management of schools, type of family, father’s educational qualification, and mother’s educational qualification have no significant difference on mental health of higher secondary students.

The finding scientific aptitude of higher secondary students is below in average support the study of Senthil Raja (2014) have similar observations that overall scientific aptitude of higher secondary students in Namakkal District is below average in nature. The other finding that there is no significant relationship between achievement in chemistry with respect to Scientific Aptitude is found against the studies of Rajni(2006) have concluded that there is significant correlation between mathematics aptitude and achievement in mathematics and Vasugi, K. (2006) and Padamakalavathy, K (2008) have investigated significant positive high relationship between scientific aptitude and achievement in science and supported by the study of Natraj and Manjula (2012) have found that achievement in science and scientific aptitude of high school students is high.

High achievers in chemistry have below average scientific aptitude. This finding is found against the finding of Sharma (1995) have shown that over achievers excelled significantly in scientific aptitude than under achievers. Gender, type of family, parental monthly income, community, father education, mother education do not significant with scientific aptitude could be supported the study of Senthil Raja(2014) have similar observations that Gender, medium, family type, community, parental education, parental
income are not influencing factor of scientific aptitude. The other findings school management type, locality of school, type of school, and religion influences scientific aptitude of higher secondary students could also be supported by the study of Senthil Raja (2014)

5.9 SUGGESTIONS FOR FURTHER RESEARCH

1. A similar and in-depth study shall be conducted to the various levels of achievement in chemistry on the organic, physical and inorganic areas of classification.

2. A similar study may be conducted with respect to knowledge, understanding, application, and skill based objectives in chemistry subject.

3. A similar study shall be conducted to the first and second group higher secondary students.

4. A comparative study conducted for the higher secondary students’ achievement in different subjects with respect to mental heath.

5. An in-depth study will be tried out for the achievement in chemistry of higher secondary students with respect to the various dimensions of mental health and scientific aptitude.

6. This study may be extended among higher secondary students with other variables such as self image, carrier decision making skills, life skills, vocational behaviour, behavioural competency, social phobia, procrastination, psycho-socio pro behaviour, mental readiness, neurotic tendency, family and school environment, style of thinking and learning.

7. A comparative study shall be conducted among the high and higher secondary school students with respect to mental health and scientific aptitude.
8. A similar study may be extended among higher secondary students in relation to socio-economic status.

9. This study may be conducted to the students of underachievers in chemistry with respect to different community stratification.

10. A study will be conducted to the higher secondary students’ perception towards chemistry subject in relation to their mental health.

5.10 CONCLUSIONS

All the educational efforts made throughout the world are directed towards enhancement of achievement. This is very important for our country like India to excel in the field of education with harmonious development of potential humankind with all necessary qualities. It is hard to accept that students’ achievement in individual subject at the present context at higher secondary school examination level and at the university level is not too much encouraging and favourable. This is the indication of lot of inadequacy of existing policies that have to be required to be improved and revamped in the field of education. Our educational research reveals the existing problems to the real portfolio with lot of issues have to be solved by lot of implications and recommendations. So it is necessary to develop and framing new strategies based on research work could be extended from paper work to real practices.

Another problem is overloaded curricula. Due to rapid development of science and technology, it is necessary to revise the syllabus and curricula time to time. It creates lot of pressure to the students, teachers, parents and other stakeholders. Another side there is falling standards of education and society seems to have lost confidence in the work ethics accomplished by the teachers. The social prestige attached to the teaching profession is slowly disappearing and it leads to lot of problem.
The activity and performance of our students are alarming and handling them to appropriate career selection and guidance is too challenging task for teachers. Assessment of students’ scientific aptitude, educational aspiration, and their mental health from time to time helps to revise the teaching and learning strategies to guide them to get high achievement in this competitive world. Identification of level of emotional intelligence among school students will help them to make an emotionally balanced human being. It is high time, our educationists thought of the significant role to be played. In order to attract the students, the work of the teacher should universally appeal to students and teacher has to develop a balanced attitude towards their work and perform their duties with a missionary zeal.

High level of achievement by the students is the combined efforts of students, parents, teachers, school heads, policy makers, educational administrators and members of the society. If everyone connected with education becomes responsible and intent on playing his/her role perfectly, the aim of the education may be achieved quickly. In this competitive world, the need of achievement to maximum extent is very much important and it could be encouraged among the students positively. When a school student becomes a high achiever thereby possessing desirable qualities, then he/she can effectively lead a better life and become a socially useful citizen.

Based on the findings of the present study, it is concluded that there exists positive relationship between achievements in chemistry with respect to educational aspiration. Educational aspiration, mother education and community variables are the predictors and positive influence on the achievement in chemistry. So it is the appropriate time to revise the existing policies in the field of education for developing promotional policies. Now, India is called as young India because it has lot of youth resources (60 %) in which proper utilization of human resources leads to the development of nation. Being a developing
country, India should use its resources to the fullest extent without wastage. Hence it becomes the responsibility of everyone concerned with education to prevent failure, wastage and ensure proper achievement on the part of the students and it is the universal goal ever to be sustained.