CHAPTER - V

FINDINGS, INTERPRETATIONS, RECOMMENDATIONS, SUGGESTIONS AND CONCLUSION

FINDINGS

1. Achievement in Mathematics of high school students

1.1 a) 13.2% of high school students have high level of attainment of knowledge objective.

b) 8.2% of high school students have high level of attainment of understanding objective.

c) 21.70% of high school students have high level of attainment of skill objective.

d) 12.5% of high school students have high level of achievement in Mathematics.

1.2 a) 12.7% of boys and 13.7% of girls have high level of attainment of knowledge objective.

b) 6.5% of boys and 9.8% of girls have high level of attainment of understanding objective.

c) 6.5% of boys and 7.4% of girls have high level of attainment of skill objective.

d) 12.9% of boys and 12.1% of girls have high level of achievement in Mathematics.

1.3 There is significant difference between boys and girls in attainment of understanding objective and achievement in Mathematics, but there is no significant difference between in attainment of knowledge and skill objectives.

While comparing the mean scores of boys (mean = 9.13) and girls (mean = 9.49) in attainment of understanding objective, the girls are better than the boys.
While comparing the mean scores of boys (mean = 28.82) and girls (mean = 29.88) in their achievement in Mathematics, the girls are better than the boys. This has been shown in the figure 1.3

1.4 There is significant difference between IX and X standard students in attainment of knowledge, understanding and skill objectives and achievement in Mathematics.

While comparing the mean scores of IX (mean = 9.73) and X (mean = 11.29) standard students in attainment of knowledge objective, the X standard students are better than the IX standard students.

While comparing the mean scores of IX (mean = 8.99) and X (mean = 9.63) standard students in attainment of understanding objective, the X standard students are better than the IX standard students.

While comparing the mean scores of IX (mean = 9.04) and X (mean = 9.99) standard students in attainment of skill objective, the X standard students are better than the IX standard students.

While comparing the mean scores of IX (mean = 27.76) and X (mean = 30.89) standard students in their achievement in Mathematics, the X standard students are better than the IX standard students.

1.5 There is significant difference between rural and urban students in attainment of knowledge, understanding and skill objectives and achievement in Mathematics.

While comparing the mean scores of rural (mean = 9.36) and urban (mean = 11.38) students in attainment of knowledge objective, the urban students are better than the rural students.

While comparing the mean scores of rural (mean = 8.97) and urban (mean = 9.57) students in attainment of understanding objective, the urban students are better than the rural students.
While comparing the mean scores of rural (mean = 8.76) and urban (mean = 10.10) students in attainment of skill objective, the urban students are better than rural students.

While comparing the mean scores of rural (mean = 27.06) and urban (mean = 31.05) students in their achievement in Mathematics, the urban students are better than the rural students.

1.6 There is significant difference between Tamil and English medium students in attainment of knowledge, understanding, skill objective and achievement in Mathematics.

While comparing the mean scores of Tamil (mean = 9.32) and English (mean = 11.65) medium students in attainment of knowledge objective, the English medium students are better than the Tamil medium students.

While comparing the mean scores of Tamil (mean = 8.93) and English (mean = 9.67) medium students in attainment of understanding objective, the English medium students are better than the Tamil medium students.

While comparing the mean scores of Tamil (mean = 9.01) and English (mean = 10.01) medium students in attainment of skill objective, the English medium students are better than the Tamil medium students.

While comparing the mean scores of Tamil (mean = 27.24) and English (mean = 31.34) medium students in their achievement in Mathematics, the English medium students are better than the Tamil medium students.

1.7 There is significant difference among Tirunelveli, Thoothukudi and Kanyakumari district students in attainment of knowledge, understanding and skill objectives and achievement in Mathematics.

While comparing the mean scores of Tirunelveli (mean = 9.67), Thoothukudi (mean = 10.70) and Kanyakumari (mean = 11.28) district students in attainment of knowledge objective, the Kanyakumari district students are better than the Tirunelveli and Thoothukudi district students.
While comparing the mean scores of Tirunelveli (mean = 9.33), Thoothukudi (mean = 8.84) and Kanyakumari (mean = 9.77) district students in attainment of understanding objective, the Kanyakumari district students are better than the Tirunelveli and Thoothukudi district students.

While comparing the mean scores of Tirunelveli (mean = 8.70), Thoothukudi (mean = 9.65) and Kanyakumari (mean = 10.29) district students in attainment of skill objective the Kanyakumari district students are better than the Tirunelveli and Thoothukudi district students.

While comparing the mean scores of Tirunelveli (mean = 27.70), Thoothukudi (mean = 29.10) and Kanyakumari (mean = 31.32) district students in attainment of achievement in Mathematics, the Kanyakumari district students are better than the Tirunelveli and Thoothukudi district students.

1.8 There is no significant difference among Hindu, Christian and Muslim students in attainment of knowledge, understanding, skill objective and achievement in Mathematics.

1.9 There is no significant difference among OC, BC, MBC and SC/ST students in attainment of understanding and skills, but there is significant difference among OC, BC, MBC and SC/ST students in attainment of knowledge objective, and achievement in Mathematics.

While comparing the mean scores of OC (mean = 9.01), MBC (mean = 10.43), BC (mean = 10.82) and SC/ST (mean = 10.87) students in attainment of knowledge objective, the OC students are better than the SC/ST, MBC and BC students.

While comparing the mean scores of OC (mean = 26.94), MBC (mean = 29.42), BC (mean = 29.66) and SC/ST (mean = 30.08) students in their achievement in Mathematics, the OC students are better than the SC/ST, MBC and BC students.

1.10 There is significant difference among government, aided and matriculation school students in attainment of knowledge objective, understanding, skill and achievement in mathematics.
While comparing the mean scores of government (mean = 8.76), aided (mean = 11.01) and matriculation (mean = 11.63) school students in attainment of knowledge objective, the matriculation school students are better than the government and aided school students.

While comparing the mean scores of government (mean = 8.66), aided (mean = 9.46) and matriculation (mean = 9.74) school students in attainment of understanding objective, the matriculation school students are better than government and aided school students.

While comparing the mean scores of government (mean = 8.48), aided (mean = 9.57) and matriculation (mean = 10.34) school students in attainment of skill objective, the matriculation school students are better than government and aided school students.

While comparing the mean scores of government (mean = 25.88), aided (mean = 30.05) and matriculation (mean = 31.71) school students in their achievement in mathematics, the matriculation school students are better than government and aided school students.

1.11 There is significant association between birth order and attainment of knowledge, understanding and skill objectives and achievement in mathematics of students.

1.12 There is significant association between father's educational qualification of the students and attainment of knowledge, understanding and skill objectives and achievement in mathematics.

1.13 There is significant association between mother's educational qualification of the students and attainment of knowledge, understanding and skill objectives and achievement in mathematics.

1.14 There is significant association between father's occupation of the students and attainment of knowledge, understanding and skill objectives and achievement in mathematics.
1.15 There is significant association between mother’s occupation of the students and attainment of knowledge, understanding and skill objectives and achievement in mathematics.

1.16 There is significant association between parental annual income of the students and attainment of knowledge, understanding and skill objectives and achievement in mathematics.

2. Academic self-regulation of high school students

2.1 a) 11.0% of the high school students have high level of external regulation.
   b) 11.7% of the high school students have high level of introjected regulation.
   c) 14.2% of the high school students have high level of identified regulation.
   d) 7.4% of the high school students have high level of intrinsic motivation.
   e) 16.4% of the high school students have high level of academic self-regulation.

2.2 a) 11.7% of the high school boys have high level of external regulation. 10.4% of the high school girls have high level of external regulation.
   b) 10.6% of the high school boys have high level of Introjected regulation. 12.7% of the high school girls have high level of Introjected regulation.
   c) 13.5% of the high school boys have high level of identified regulation. 14.9% of the high school girls have high level of identified regulation.
   d) 8.0% of the high school boys have high level of Intrinsic Motivation. 6.8% of the high school girls have high level of intrinsic motivation.
   e) 16.2% of the high school boys have high level of academic self-regulation. 16.6% of the high school girls have high level of academic self-regulation.

2.3 There is no significant difference between boys and girls in their introjected regulation and identified regulation, but there is significant difference between boys and girls in their external regulation, intrinsic motivation and academic self-regulation.
While comparing the mean scores of boys (mean = 49.95) and girls (mean = 48.68) in their external regulation, the boys are better than the girls.

While comparing the mean scores of boys (mean = 48.24) and girls (mean = 48.09) in their intrinsic motivation, the boys are better than the girls.

While comparing the mean scores of boys (mean = 48.88) and girls (mean = 49.08) in their Academic self-regulation, the boys are better than the girls. This has been shown in the figure 2.3.

2.4 There is significant difference between IX and X students in their external regulation, introjected regulation, identified regulation, intrinsic motivation and academic self-regulation.

While comparing the mean scores of IX (mean = 45.24) and X (mean = 51.18) standard students in their external regulation, the X standard students are better than the IX standard students.

While comparing the mean scores of IX (mean = 47.25) and X (mean = 50.48) standard students in their introjected regulation, the X standard students are better than the IX standard students.

While comparing the mean scores of IX (mean = 46.93) and X (mean = 52.60) standard students in their identified regulation, the X standard students are better than the IX standard students.

While comparing the mean scores of IX (mean = 46.93) and X (mean = 50.30) standard students in their intrinsic motivation, the X standard students are better than the IX standard students.

While comparing the mean scores of IX (mean = 46.20) and X (mean = 52.60) standard students in their academic self-regulation, the X standard students are better than the IX standard students.

2.5 There is no significant difference between rural and urban students in their identified regulation, but there is significant difference between rural and urban
students in their external regulation, introjected regulation, intrinsic motivation and academic self-regulation.

While comparing the mean scores of rural (mean = 45.57) and urban (mean = 52.05) students in their external regulation, the urban students are better than the rural students.

While comparing the mean scores of rural (mean = 47.44) and urban (mean = 49.75) students in their Introjected Regulation, the urban students are better than the rural students.

While comparing the mean scores of rural (mean = 48.10) and urban (mean = 49.06) students in their intrinsic motivation, the urban students are better than the rural students.

While comparing the mean scores of rural (mean = 47.24) and urban students (mean = 51.11) in their academic regulation, the urban students are better than the rural students.

2.6 There is significant difference between Tamil medium and English medium students in their identified regulation, external regulation, introjected regulation intrinsic motivation and academic self-regulation.

While comparing the mean scores of Tamil medium (mean = 46.12) and English (mean = 52.26) medium students in their external regulation, the English medium students are better than the Tamil medium students.

While comparing the mean scores of Tamil medium (mean = 48.27) and English medium (mean = 49.48) students in their introjected regulation the English medium students are better than the Tamil medium students.

While comparing the mean scores of Tamil medium (mean = 48.94) and English medium (mean = 49.85) students in their identified regulation, the English medium students are better than the Tamil medium students.
While comparing the mean scores of Tamil medium (mean = 51.38) and English medium (mean = 47.41) students in their intrinsic motivation, the English medium students are better than the Tamil medium students.

While comparing the mean scores of Tamil medium (mean = 47.79) and English medium (mean = 49.46) students in their academic self-regulation, the English medium students are better than the Tamil medium students.

2.7 There is significant difference among Tirunelveli, Thoothukudi and Kanyakumari district students in their identified regulation, external regulation, introjected regulation, intrinsic motivation and academic self-regulation.

While comparing the mean scores of Tirunelveli (mean = 46.93) Thoothukudi (mean = 49.10) and Kanyakumari district students (mean = 52.05) in their External Regulation, the Kanyakumari district students are better than the Tirunelveli and Thoothukudi district students.

While comparing the mean scores of Tirunelveli (mean = 45.85) Thoothukudi (mean = 49.71) and Kanyakumari (mean = 51.09) district students in their Introjected Regulation, the Kanyakumari district students are better than the Tirunelveli and Thoothukudi district students.

While comparing the mean scores of Tirunelveli (mean = 47.21) Thoothukudi (mean = 48.35) and Kanyakumari (mean = 52.86) district students in their Identified Regulation, the Kanyakumari district students are better than the Tirunelveli and Thoothukudi district students.

While comparing the mean scores of Tirunelveli (mean = 47.45) Thoothukudi (mean = 49.86) and Kanyakumari (mean = 50.15) district students in their Intrinsic Motivation, Kanyakumari district students are better than Tirunelveli and Thoothukudi district students.

While comparing the mean scores of Tirunelveli (mean = 47.45) Thoothukudi (mean = 49.65) and Kanyakumari (mean = 51.47) district students in their Academic self-regulation, the Kanyakumari district students are better than the Tirunelveli and Thoothukudi district students.
2.8 There is no significant difference among OC, BC, MBC and SC/ST students in their external regulation, introjected regulation, identified regulation, intrinsic motivation and academic self-regulation.

2.9 There is no significant difference among OC, BC, MBC and SC/ST students' in their identified regulation, but there is significant difference among BC, MBC and SC/ST students' in their external regulation, introjected regulation, intrinsic motivation and academic self-regulation.

While comparing the mean scores of OC (mean = 49.69) BC (mean = 49.50) and MBC (mean = 49.93) SC/ST (mean = 46.30) students in their external regulation, the MBC students are better than the OC, BC and SC/ST students.

While comparing the mean scores of OC, (mean = 49.18) BC (mean = 49.40) MBC (mean = 48.56) SC/ST (mean = 46.37) students in their introjected regulation, the BC students are better than the OC, MBC and SC/ST students.

While comparing the mean scores of OC (mean = 47.82), BC (mean = 49.40) MBC (mean = 49.17) SC/ST (mean = 45.25) students in their identified regulation, the MBC students are better than the OC, BC and SC/ST students.

While comparing the mean scores of OC (mean = 49.45), BC (mean = 50.12) students MBC (mean = 49.78) and SC/ST (mean = 45.83) students their intrinsic motivation, BC students are better than OC, MBC and SC/ST students.

While comparing the mean scores of OC (mean = 51.62), BC (mean = 52.97) MBC (mean = 53.12) and SC/ST (mean=55.93) students in their academic self-regulation, the SC/ST students are better than the OC, MBC and BC students.

2.10 There is significant difference among Government, Aided and Matriculation school students in their identified regulation, external regulation, introjected regulation, intrinsic motivation and academic self-regulation.
While comparing the mean scores of Government (mean = 44.71) Aided (mean = 51.05) and Matriculation (mean = 51.22) school students in their Identified Regulation, the Matriculation school students are better than Government and Aided school students.

While comparing the mean scores of Government (mean = 45.29) Aided (mean = 47.00) and Matriculation (mean = 54.04) school students in their External Regulation, the Matriculation school students are better than Government and Aided school students.

While comparing the mean scores of Government (mean = 46.75) Aided (mean = 48.62) and Matriculation (mean = 50.54) school students in their Introjected Regulation, the Matriculation school students are better than Government and Aided school students.

While comparing the mean scores of Government (mean = 47.16) Aided (mean = 48.20) and Matriculation (mean = 50) school students in their Intrinsic Motivation, the Matriculation school students are better than Government and Aided school students.

While comparing the mean scores of Government (mean = 45.97) Aided (mean = 47.87) and Matriculation (mean = 53.06) school students in their Academic self-regulation, the Matriculation school students are better than Government and Aided school students.

2.11 There is no significant association between birth order of the students and their identified regulation, external regulation, intrinsic motivation and academic self-regulation, but there is significant association between birth order of the students and introjected regulation.

2.12 There is no significant association between father’s educational qualification of the students and their external regulation, but there is significant association between father’s educational qualification of the students and their introjected regulation, identified regulation intrinsic motivation and academic self-regulation.
2.13 There is no significant association between mother’s educational qualification of the students and their intrinsic motivation but there is significant association between father’s educational qualification and external regulation, introjected regulation, identified regulation and academic self-regulation.

2.14 There is significant association between father’s occupation of the students and their external regulation, introjected regulation, identified regulation, intrinsic motivation and academic self-regulation.

2.15 There is significant association between mother’s occupation of the students and their external regulation, introjected regulation, identified regulation, intrinsic motivation and academic self-regulation.

2.16 There is significant association between parental annual income of the students and their external regulation, introjected regulation, identified regulation, intrinsic motivation and academic self-regulation.

3. Study skills of high school students

3.1 a) 115.7% of the high school students have high level of time scheduling.
    b) 13.9% of the high school students have high level of Concentration.
    c) 14.2% of the high school students have high level of listening and note taking.
    d) 25.6% of the high school students have high level of reading skills.
    e) 11.1% of the high school students have high level of examination skills.
    f) 18.7% of the high school students have high level of writing skills.
    g) 14.8% of the high school students have high level of Study skills.

3.2 a) 16.4% of the boys and 15.1% of girls have high level of time scheduling.
    b) 11.9% of the boys and 15.9% of girls have high level of Concentration.
    c) 14.5% of the boys and 13.9% of girls have high level of listening and note taking.
    d) 27.8% of the boys and 23.5% of girls have high level of reading skills.
    e) 11.7% of the boys and 10.6% of girls have high level of examination skills.
f) 17.4% of the boys and 20.0% of girls have high level of writing skills.
g) 17.2% of the boys and 10.6% of girls have high level of study skills.

3.3 That there is no significant difference between boys and girls in their time scheduling, concentration, listening and note taking, reading skills examination skills, writing skills and study skills.

3.4 There is no significant difference between IX and X standard students in their concentration and examination skills, but there is significant difference between IX and X standard students in their time scheduling, listening and note taking, reading skills writing skills and study skills.

While comparing the mean scores of IX (mean = 52.42) and X (mean = 54.46) standard students in their Time scheduling, the X standard students are better than the IX standard students.

While comparing the mean scores of IX (mean = 54.38) and X (mean = 51.94) standard students in their Listening and Note taking, the IX standard students are better than the X standard students.

While comparing the mean scores of IX (mean = 58.36) and X (mean = 50.51) standard students in their Reading skills, the IX standard students are better than the X standard students.

While comparing the mean scores of IX (mean = 54.91) and X (mean = 52.19) standard students in their Writing skills, the IX standard students are better than the X standard students.

While comparing the mean scores of IX (mean = 51.25) and X (mean = 48.77) standard students in their Study skills, the IX standard students are better than the X standard students.

3.5 There is significant difference between rural and urban students in their time scheduling, concentration, listening and note taking, reading skills examination skills, writing skills and study skills.
While comparing the mean scores of rural (mean = 54.20) and urban students (mean = 52.27) in their concentration, the rural students are better than the urban students.

While comparing the mean scores of rural (mean = 56.04) and urban students (mean = 50.99) in their listening and note taking, the rural students are better than the urban students.

While comparing the mean scores of rural (mean = 62.24) and urban students (mean = 48.54) in their reading skills, the rural students are better than the urban students.

While comparing the mean scores of rural (mean = 53.51) and urban students (mean = 51.55) in their examination skills, the rural students are better than the urban students.

While comparing the mean scores of rural (mean = 55.94) and urban students (mean = 51.74) in their Writing skills, the rural students are better than the urban students.

While comparing the mean scores of rural (mean = 52.93) and urban students (mean = 47.07) in their Study skills, the rural students are better than the urban students.

3.6 There is no significant difference between Tamil and English medium students in their time scheduling, but there is significant difference between rural and urban students in their concentration, listening and note taking, reading skills examination skills, writing skills and study skills.

While comparing the mean scores of Tamil medium (mean = 53.92) and English medium (mean = 52.32) students in their Concentration, the English medium students are better than the Tamil medium students.

While comparing the mean scores of Tamil medium (mean = 54.59) and English medium (mean = 51.78) students in their listening and note taking, the English medium students are better than the Tamil medium students.
While comparing the mean scores of Tamil medium (mean = 61.31) and English medium (mean = 47.88) students in their reading skills, the English medium students are better than Tamil medium students.

While comparing the mean scores of Tamil medium (mean = 52.80) and English medium (mean = 51.99) students in their Examination skills, the English medium students are better than the Tamil medium students.

While comparing the mean scores of Tamil medium (mean = 55.44) and English medium (mean = 51.74) students in their Writing skills, the English medium students are better than the Tamil medium students.

While comparing the mean scores of Tamil medium (mean = 52.81) and English medium (mean = 51.74) students in their Study skills, the English medium students are better than the Tamil medium students.

3.7 There is significant difference among Tirunelveli, Thoothukudi and Kanyakumari district students in their time scheduling, concentration, listening and note taking, reading skills, examination skills, writing skills and study skills.

While comparing the mean scores of Tirunelveli (mean = 54.71) Thoothukudi (mean = 53.40) and Kanyakumari (mean = 52.18) district students in their time scheduling, the Tirunelveli district students are better than Kanyakumari and Thoothukudi district students.

While comparing the mean scores of Tirunelveli (mean = 53.46) Thoothukudi (mean = 54.38) and Kanyakumari district students (mean = 51.41) in their concentration, the Thoothukudi district students are better than the Tirunelveli and Kanyakumari district students.

While comparing the mean scores of Tirunelveli (mean = 54.49) Thoothukudi (mean = 53.36) and Kanyakumari (mean = 51.44) district students in their listening and note taking, Tirunelveli district students are better than the Kanyakumari and Thoothukudi district students.
While comparing the mean scores of Tirunelveli (mean = 56.63) Thoothukudi (mean = 59.78) and Kanyakumari (mean = 46.50) district students in their reading skills, Thoothukudi district students are better than Tirunelveli and Kanyakumari district students.

While comparing the mean scores of Tirunelveli (mean = 53.74) Thoothukudi (mean = 53.61) and Kanyakumari (mean = 49.69) district students in their examination skills, the Tirunelveli district students are better than the Kanyakumari and Thoothukudi district students.

While comparing the mean scores of Tirunelveli (mean = 55.20) Thoothukudi (mean = 53.21) and Kanyakumari (mean = 52.02) district students in their Writing skills, the Kanyakumari district students are better than the Tirunelveli and Thoothukudi district students.

While comparing the mean scores of Tirunelveli (mean = 52.06) Thoothukudi (mean = 51.94) and Kanyakumari (mean = 45.81) district students in their Study skills, the Tirunelveli district students are better than the Kanyakumari and Thoothukudi district students.

3.8 There is no significant difference among Hindu, Christian and Muslim students in their time scheduling, concentration, examination skills and writing skills, but there is significant difference among listening and note taking, reading skills and study skills.

3.9 There is no significant difference among OC, MBC, BC and SC/ST students in their time scheduling, concentration, examination skills and writing skills, but there is significant difference among listening and note taking, reading skills and study skills.

While comparing the mean scores of OC (mean = 51.62), MBC (mean = 53.12), BC (mean = 52.97) and SC/ST students (mean = 55.93) in their listening and note taking, the SC/ST students are better than the OC, MBC and BC students.
While comparing the mean scores of OC (mean = 52.57), MBC (mean = 55.18), BC (mean = 53.14) and SC/ST (mean = 59.91) students in their Reading skills, the SC/ST students are better than the OC, MBC and BC students.

While comparing the mean scores of OC (mean = 51.55), MBC (mean = 53.26), BC (mean = 53.93) and SC/ST (mean = 55.09) students in their Study skills, the SC/ST students are better than the OC, MBC and BC students.

3.10 There is no significant difference among government, aided and matriculation school students in their concentration and examination skills, but there is significant difference among government, aided and matriculation school students in their listening and note taking, reading skills, writing skills and study skills.

While comparing the mean scores of government (mean = 51.17) aided (mean = 55.13) and matriculation (mean = 54.21) school students in their time scheduling, the matriculation school students are better than the government and aided school students.

While comparing the mean scores of government (mean = 54.77) aided (mean = 52.25) and matriculation school students (mean = 52.39) in their listening and note taking, the matriculation school students are better than the government and aided school students.

While comparing the mean scores of government (mean = 67.03) aided (mean = 46.93) and matriculation (mean = 49.01) students in their reading skills, the matriculation school students are better than the government and aided school students.

While comparing the mean scores of government (mean = 456.33) aided (mean = 51.72) and matriculation (mean = 52.44) students in their writing skills, the matriculation school students are better than the government and aided school students.
While comparing the mean scores of government (mean = 53.80) aided (mean = 47.82) and matriculation (mean = 48.33) students in their study skills, the matriculation school students are better than the government and aided school students.

3.11 There is no significant association between birth order of the students and their concentration, but there is significant association between birth order of the students in their time scheduling, listening and note taking, reading skills examination skills, writing skills and study skills.

3.12 There is significant association between fathers’ educational qualification of the students and their time scheduling, concentration, listening and note taking, reading skills examination skills, writing skills and study skills.

3.13 There is significant association between mothers’ educational qualification of the students and their time scheduling, concentration, listening and note taking, reading skills examination skills, writing skills and study skills.

3.14 There is significant association between fathers’ occupation of the students and their time scheduling, concentration, listening and note taking, reading skills examination skills, writing skills and study skills.

3.15 There is significant association between mother’s educational qualification of the students and their time scheduling, concentration, listening and note taking, reading skills examination skills, writing skills and study skills.

4.1. **Relationship between Academic Self–Regulation and Achievement in Mathematics of high school students**

4.1.a There is no significant relationship between identified regulation, intrinsic motivation and achievement in mathematics of high school students. But there is significant relationship between external regulation, introjected regulation, academic self-regulation and achievement in mathematics of high school students,
4.1.b There is no significant relationship between identified regulation, intrinsic motivation and achievement in mathematics of high school boys. But there is significant relationship between external regulation, introjected regulation, academic self-regulation and achievement in mathematics of high school boys.

4.1.c There is no significant relationship between identified regulation, intrinsic motivation and achievement in mathematics of high school female students. But there is significant relationship between external regulation, introjected regulation, academic self-regulation and achievement in mathematics of high school girls.

4.2 Relationship between Study Skills and Achievement in Mathematics of high school students

4.2.a There is no significant relationship between time scheduling, concentration, examination skills and achievement in mathematics of high school students. But there is significant relationship between listening and note taking, reading skills, writing skills, study skills and achievement in mathematics of high school students.

4.2.b There is no significant relationship between time scheduling, concentration, examination skills and achievement in mathematics of high school male students. But there is significant relationship between listening and note taking, reading skills, writing skills, study skills and achievement in mathematics of high school boys.

4.2.c There is no significant relationship between time scheduling, concentration, examination skills, writing skills and achievement in mathematics of high school girls. But there is significant relationship between listening and note taking, reading skills, study skills and achievement in mathematics of high school girls.
4.3 **Relationship between Academic Self-Regulation and study skills of high school students**

4.3.a There is no significant relationship between time scheduling, concentration, listening and note taking, examination skills, writing skills, study skills and academic self-regulation of high school students. But there is significant relationship between reading skills and academic self-regulation of high school students.

4.3.b There is no significant relationship between time scheduling, concentration, listening and note taking, reading skills, examination skills, writing skills, study skills and academic self-regulation of high school boys.

4.3.c There is no significant relationship between time scheduling, listening and note taking, study skills and achievement in mathematics of high school girls, but there is significant relationship between concentration, reading skills, examination skills, writing skills and academic self-regulation of high school girls.

5. **Influence of Academic Self–Regulation and Study Skills on Achievement in Mathematics of high school students**

5.1 There is significant influence of academic self-regulation, study skills on achievement in mathematics of high school students.

5.2 There is significant influence of academic self-regulation, study skills on achievement in mathematics of boys.

5.3 There is significant influence of academic self-regulation, study skills on achievement in mathematics of girls.

6. **FACTOR ANALYSIS**

There is a significant factor with positive loading of the variables namely, external regulation, introjected regulation, identified regulation, intrinsic motivation, academic self-regulation, time scheduling, concentration, listening and note taking, reading skills, examination skills, writing skills, study skills, knowledge, understanding, skill and achievement in mathematics of high school students. The factor for the study has been identified as Mathematical excellence.
INTERPRETATIONS

1. ACHIEVEMENT IN MATHEMATICS OF HIGH SCHOOL STUDENTS

The girls are better than boys in achievement in Mathematics and attainment of understanding objective. This may be due to the fact that the girls spend the most of the time for studying the school subjects. Moreover, they are highly interested in learning and preparing for the examination.

While comparing the academic achievement of IX and X standard students, the X standard students are better than the IX standard students in attainment of the objectives and achievement in Mathematics. This may be due to the fact that the X standard students are highly motivated and they work hard for getting more marks in the SSLC examination. Further, they want to choose the better course of study after completing X standard.

The urban students are better than the rural students in attainment of the objectives and achievement in Mathematics. This may be due to the fact that the urban students have more opportunities to study Mathematics. Further, the urban students can attend Tuition classes in different coaching centers. Moreover, the urban students have high aspiration for academic matters.

The English medium students are better than the Tamil medium students in attainment of the objectives and achievement in Mathematics. This may be due to the fact that the English medium students show interest in learning Mathematics. Further, the parental involvement is more among the English medium students. Moreover, the English medium students have high level of aspiration in academic affairs.

While comparing the achievement in Mathematics of high school students of Tirunelveli, Thoothukudi and Kanyakumari districts, the Kanyakumari district students are better than other district students in attainment of the objectives and achievement in Mathematics. This may be due to the fact that the Kanyakumari district is a highly educated district and the people know the value of Education. Further, the students want to excel other district students. Moreover, the students work hard for getting more marks in the examination.
The OC students are better than the SC/ST, MBC and BC students in attainment of knowledge objective and achievement in Mathematics. This may be due to the fact that the OC students have better climate in their home to learn Mathematics. Further, the OC student’s parents are also motivating the students in academic affairs.

The matriculation school students are better than government and aided school students in attainment of the objectives and achievement in Mathematics. This may be due to the fact that the matriculation schools largely depend on the fee from the students for their sustenance and development to the extent that even teachers depend on the fee collected for their monthly salary.

The parental education is influencing the achievement in Mathematics of the high school students. This may be due to the fact that, the educated parents can guide their wards to solve problems in Mathematics. Further, the educated parents arrange tuition for their wards for getting more marks.

The parental occupation is influencing the achievement in Mathematics of the high school students. This may be due to the fact that the parents in government jobs motivated their wards in their academic affairs.

The parental income is influencing the achievement in Mathematics of high school students. This may be due to the fact that the students from the high income families can afford to spend money for Tuition and buying notes for preparing for the examination.

2. Academic Self-regulation of high school students

The boys are better than the girls in academic self-regulation and its dimensions- external regulation and intrinsic motivation. This may be due to the fact that the boys are expected to do better in the society. Further, the boys have more responsibilities than the girls in Indian Society. Moreover, the male member in the Indian Society has to maintain the family. The boys are better than the girls in external regulation and intrinsic motivation. This may be due to the fact that the boys want to do a task in order to get a reward or pleasure. Further, these rewards motivate the boys to do a task better and in a perfect manner.
The X standard students are better than the IX standard students in academic self-regulation and its dimensions-external regulation, introjected regulation, identified regulation and intrinsic motivation. The X students are highly motivated and they have to choose the course of study which is related with their future goal. Further, they work hard to get more marks in the SSLC examinations. The X students are better in external regulation because they have a tendency to get reward for their achievement. The X standard students are better than the IX standard students in introjected regulation. This may be due to the fact that they have the intention to fulfill the expectations of the parents and the society. Further, the X standard students are better in identified regulation and intrinsic motivation. This may be due to the fact that the X standard students show better behavior and they want to reach the goal with the sense of pleasure.

The urban students are better than the rural students in academic self-regulation and its dimensions- external regulation, introjected regulation and intrinsic motivation. This may be due to the fact that the urban students are exposed to latest technology and they have contact with the individuals through Social Networks. Further, they are goal oriented and they would plan for achieving the goal. When they reach the goal they have the tendency to get reward and the reward will give them joy and pleasure. Moreover, the urban students have a lot of facilities to improve their skills.

The Kanyakumari district students are better than Tirunelveli and Thoothukudi district students in their academic self-regulation and its dimensions-external regulation, introjected regulation, identified regulation and intrinsic motivation. This may be due to the fact that the Kanyakumari district is the district of cent percent literacy and the students are highly motivated. Further, the students want to do the tasks which are rewarded. Though the students of Kanyakumari district are following a common syllabus of their classes, they will plan, monitor and evaluate their work with involvement. Further, they would like to take challenging tasks and they would become successful in the task.

The SC/ST students are better than the OC, MBC and BC students in their academic self-regulation. This may be due to the fact that the government has provided scholarship and free hostels for the SC/ST students. Further, the government is motivating the students for writing competitive examinations by organizing free
coaching. Moreover, the SC/ST students are interested in doing a task because of the helps rendered by the government.

The MBC students are better than OC, BC and SC/ST students in external regulation. This may be due to the fact that the MBC students are good in utilizing the benefits of the government. Generally they are bold enough to face any situation and their acts are rewarded by the people.

The BC students are better than the OC, MBC and SC/ST students in introjected regulation. This may be due to the fact that the BC students want to excel the OC students in all aspects. Further, the government is providing to scholarship to the economically poor BC students. Moreover, the BC students work hard to achieve their goal.

The BC students are better than SC/ST, MBC and OC students intrinsic motivation. This may be due to the fact that the BC students get a lot of facilities in their home for improving the skills. Further, they are good in performing any difficult task.

The matriculation school students are better than government and aided school students in academic self-regulation and its dimensions- external regulation, introjected regulation, identified regulation and intrinsic motivation. This may be due to the fact that the matriculation schools are giving training to plan, monitor and evaluate the progress in learning of the students. Further, the students in matriculation schools have the ability to use metacognition for learning.

The birth order of the student is influencing their introjected regulation. This may be due to the fact that the first born children are more responsible in the Indian Society. So they want to perform the task with their conscience.

The father’s educational qualification is influencing the introjected regulation, identified regulation, intrinsic motivation and academic self-regulation. This may be due to the fact that the educated fathers can provide better opportunities for learning. Further, the educated fathers help their wards to set their goal and plan for achieving the goal.
The mother’s education is influencing the academic self-regulation and its dimensions-external regulation, introjected regulation and identified regulation. This may be due to the fact that the educated mothers can provide better opportunities for their wards to develop their abilities. Further, the educated mothers help their wards for goal setting and monitoring and evaluating their progress.

The father’s occupation and mother’s occupation are influencing academic self-regulation and its dimensions of the students. This may be due to the fact that the occupation of the parents is motivating the students to use metacognition. Further, the parents in good occupation can provide intrinsic motivation to their wards.

The annual income of the parents is influencing academic self-regulation and its dimensions of the students. This may be due to the fact that the affluent parents can provide better opportunities for the wards to improve the skills. Further, the affluent parents are aware of the reality and they can develop intrinsic motivation among their wards.


The X standard students are better than the IX standard students in their time scheduling. This may be due to the fact that the X standard students are work hard to get more marks in the SSLC examinations. They know the value of time.

The IX standard students are better than the X standard students in study skills and its dimensions- concentration, listening and note-taking, reading skills, examination skills and writing skills. Generally the X standard students develop better skills. But in this study the IX standard students are better in study skills. This may be further probed into.

The rural students are better than the urban students in study skills and its dimensions- concentration, listening and note-taking, reading skills, examination skills and writing skills. This may be due to the fact that the rural students have high aspiration for learning and they have achievement motivation. Further, they are working hard and want to get more marks in the examination.
The English medium students are better than the Tamil medium students in study skills and its dimensions- concentration, listening and note-taking, reading and writing skills and Examination skills. This may be due to the fact that the English medium students have to work hard for understanding the subjects.

The Tirunelveli district students are better than Kanyakumari and Thoothukudi district students in their study skills. This may be due to the fact that, Tirunelveli district is known for its educational institutions and Palayamkottai area, the neighbouring town of Tirunelveli is called the ‘Oxford of the South’. So the students in Tirunelveli district have better study skills. Further, the Tirunelveli district students are better in ‘time scheduling’, listening and note – taking, examination skills, writing skills and study skills. This may be due to the fact that the students of Tirunelveli district high aspiration in learning and they want to show better achievement in school subjects.

The Thoothukudi district students are better in concentration and reading skills. This may be due to the fact that the students of Thoothukudi district have high motivation in reading and they concentrate more on studies.

The SC/ST students are in par with OC, MBC, BC and SC/ST students in their time scheduling, concentration, examination skills and writing skills. Further, the SC/ST students are better than others in study skills and its dimensions - listening and note taking and reading skills. This may be due to the fact that the government has given a lot of facilities for the SC/ST students for their education and employment. These students have utilized the facilities for learning. Thus they have developed better study skills.

The Matriculation school students are better than government and aided school students in study skills. This may be due to the fact that the matriculation school students are exposed to many opportunities for learning. Further, the matriculation schools are following techno-pedagogy for teaching the subjects. Moreover the parents of the students of matriculation schools are providing all the facilities in the home for studying.
The birth order of the students is influencing study skills and its dimensions—time scheduling, listening and note taking, reading skills, examination skills and writing skills. This may be due to the fact that the first born children are very much loved and cared by the parents than the rest. Further, the first born is more responsible and committed than the rest. Thus the first born has good study skills than the others.

The parents’ educational qualification, occupation and annual income are influencing the study skills and its dimensions of the students. This may be due to the fact that the educated parents and the parents in better jobs with high income can give more care for their wards’ education. Further, they can arrange special coaching programme for their wards.

4.1 Relationship between Academic Self – Regulation and Achievement in Mathematics of High School Students.

Academic self-regulation is influencing achievement in Mathematics of the students. This may be due to the fact that the academic self-regulation is guided by Metacognition. The Metacognition of the students will help them to solve problems in Mathematics in an effective manner. Further, they can plan, monitor and evaluate their own course of study.

4.2 Relationship between Study Skills and Achievement in Mathematics of high school students.

The study skills of the students are influencing the achievement in Mathematics of high school students. This may be due to the fact that the students with better study skills can concentrate more on solving problems in Mathematics and they are good in reading, writing and note taking skills. So these skills develop the problem solving abilities of the students.

4.2 Relationship between Academic Self - Regulation and Study Skills of high school students.

Academic self-regulation is influencing the study skills of high school students. This may be due to the fact that the students’ self-regulation can improve their study skills. So these study skills help them to get more marks in academic subjects.
5. Influence of Academic Self-Regulation and Study Skills on Achievement in Mathematics of high school students.

Academic self-regulation is influencing the study skills and the joint effects of these two variables are found in academic achievement. This may be due to the fact that the academic self-regulation helps the students to understand the nature of the subjects for setting goals. Further, the academic self-regulation helps the student to study the subject independently with great interest. This will help the students to use different skills for solving problems. These skills help them to get more marks in Mathematics. The students with these skills will become excellent in Mathematics.

6. Factor Analysis

The factor analysis of the correlation matrix yielded a single factor, with very high loading. The factor for the sample has been identified as **MATHEMATICAL EXCELLENCE**. This factor may be explained in terms of achievement in mathematics, academic self-regulation and study skills.

**RECOMMENDATIONS TO THE ADMINISTRATORS**

1. Yoga club can be established in high school to be self-regulation in the classrooms.

2. The training on ‘Art of influencing’ can be organized for mathematics students

3. Hi-tech mathematics classroom may be established in schools, so that the high school students can update themselves.

4. Workshops/seminars can be organized for high school students on study skills

5. Study skills modules and strategies can be adopted in mathematics education.

6. General awareness programmes could be conducted periodically and it could be included in the curriculum.
7. Group sessions, and special awareness programmes could be conducted periodically to develop the academic self-regulation of the IX and X standard students.

8. Short term integrated courses for general and professional education may be organized for the teacher.

SUGGESTION FOR FURTHER STUDY

On the basis of the findings the investigator has given the following suggestions for further study.

1. Academic self-regulation, Creativity and Achievement in Mathematics of high school students.

2. Academic self-regulation, lateral thinking and achievement in Mathematics of high school students.

3. Academic self-regulation, Emotional intelligence, modernity and achievement in Mathematics of high school students.

4. Relationship between performance of study skills and reflectiveness of high school students.

5. A study of study skills and locus of control of high school students.

6. Effectiveness of ICT-based pedagogy and academic self-regulation on brain dominance of high school students.

7. Impact of information technology on study skills of high school students.

8. A study of relationship of affect intensity, study skills and achievement in Mathematics of high school students.

9. The same study can be done in professional fields including medical students, engineering students, B.ED students and M.B.A students.

10. The same study can be extended to populations like college teachers, higher secondary teachers and primary teachers.
11. The present study is limited to only students of Tirunelveli, Tuticorin and Kanyakumari districts. The study can be done in other districts and other states too for further research.