CHAPTER-V

Findings, Interpretations, Recommendations, and Suggestions
CHAPTER – V
FINDINGS, INTERPRETATIONS, RECOMMENDATIONS AND SUGGESTIONS

5.01 FINDINGS

SECTION I

➢ The percentage analysis shows that the level of selected personality traits—conscientiousness, perfectionism, optimism, self-reliance, neuroticism and personality-in total of high school mathematics teachers with reference to background variables such as age, gender, experience, marital status, qualification, residence and type of institution is average.

➢ The level of attitude of high school students and its dimensions—self-confidence, value, motivation and enjoyment with respect to background variables such as gender, class, locality of the school, type of family, type of institution, education of the parents and their income is average.

➢ The level of achievement of high school students in mathematics with reference to background variables such as gender, class, locality of the school, type of family, type of institution, education of the parents and their income is average.

SECTION II

On testing the significant difference in the personality traits of high school mathematics teachers with respect to chosen background variables, the following conclusions have been arrived.

In terms of Age

➢ The personality trait—perfectionism and personality—in total are found to be significant.

➢ The personality traits—conscientiousness, optimism, self-reliance and neuroticism are found to be non-significant.

In terms of Gender

➢ The personality traits—conscientiousness, perfectionism, optimism, self-reliance, neuroticism and personality—in total are found to be non-significant.

In terms of Experience

➢ The personality trait—perfectionism is found to be significant.

➢ The personality traits—conscientiousness, optimism, self-reliance, neuroticism and personality—in total are found to be non-significant.
In terms of Marital Status
- The personality traits conscientiousness, perfectionism, optimism, self-reliance, neuroticism and personality in total are found to be non-significant.

In terms of Qualification
- The personality trait self-reliance is found to be significant.
- The personality traits conscientiousness, perfectionism, optimism, neuroticism and personality in total are found to be non-significant.

In terms of Residence
- The personality trait neuroticism is significant.
- The personality traits conscientiousness, perfectionism, optimism, self-reliance and personality in total are found to be non-significant.

In terms of Type of Institution
- The personality traits conscientiousness, perfectionism, optimism, self-reliance, neuroticism and personality in total are found to be non-significant.

SECTION III
On testing the significant difference in the attitude and achievement of high school students in learning mathematics with respect to chosen background variables the following results have been observed.

In terms of Gender
- The attitude dimension value is found to be significant.
- The attitude dimensions self-confidence, motivation, enjoyment and attitude in total are found to be non significant.
- The achievement in mathematics is non significant.

In terms of Class
- The attitude dimensions value, motivation and attitude in total are found to be significant.
- The attitude dimensions self-confidence, enjoyment are found to be non significant.
- The achievement in mathematics is significant.
In terms of Locality of the School
- The attitude dimensions—self-confidence, value, motivation enjoyment and attitude—in total are found to be non-significant.
- The achievement in mathematics is significant.

In terms of Type of Family
- The attitude dimension—self-confidence is found to be significant.
- The attitude dimensions—value, motivation, enjoyment and attitude—in total are perceived to be non-significant.
- The achievement in mathematics is non-significant.

In terms of Type of Institution
- The attitude dimensions—self-confidence, value, motivation and enjoyment and attitude—in total are found to be significant.
- The achievement in mathematics is significant.

SECTION IV
On testing the significant association with the variables attitude and achievement of high school students in learning mathematics the following results have been observed.

In terms of Parent’s Education
- The attitude dimensions—self-confidence, value, motivation, enjoyment and attitude—in total are found to be non-significant.
- The achievement in mathematics is found to be non-significant.

In terms of Parent’s Income
- The attitude dimensions—self-confidence, value, motivation, enjoyment and attitude—in total are found non-significant.
- The achievement in mathematics is found to be non-significant.

SECTION V
On testing the significant correlation between the personality of high school mathematics teachers and attitude of high school students towards mathematics the following results have been observed.
Significant negative correlation is found between personality trait-conscientiousness of high school mathematics teachers and attitude dimensions-self-confidence, motivation, enjoyment, attitude-in total of high school students towards mathematics.

There is no significant correlation between personality trait-conscientiousness of high school mathematics teachers and attitude dimension-value of high school students towards mathematics.

No significant correlation is found among personality traits-perfectionism, self-reliance, neuroticism of high school mathematics teachers, attitude dimensions and attitude-in total of high school students towards mathematics.

There is significant negative correlation between personality trait-optimism of high school mathematics teachers and attitude dimension-self-confidence of high school students towards mathematics.

No significant correlation is found among personality trait-optimism of high school mathematics teachers, attitude dimensions-value, motivation, enjoyment and attitude in total of high school students towards mathematics.

There is significant negative correlation between personality-in total of high school mathematics teachers and attitude dimension-self-confidence of high school students towards mathematics.

There is no significant correlation between personality-in total of high school mathematics teachers and attitude dimensions-value, motivation, enjoyment of high school students towards mathematics.

Based on the total sample significant negative correlation is found between the personality of high school mathematics teachers and the attitude of high school students towards mathematics.

SECTION VI

On testing the significant correlation between personality of high school mathematics teachers and achievement of high school students in mathematics the following results have been observed.

In terms of Age:

There is no significant correlation between conscientiousness of high school mathematics teachers of 40 and below age and achievement in mathematics of high school students.
The significant negative correlation between conscientiousness of high school mathematics teachers of 41 and above age and achievement of high school students in mathematics is observed.

No significant correlation between perfectionism of high school mathematics teachers of 40 and below age and achievement of high school students in mathematics is found.

There is no significant correlation between perfectionism of high school mathematics teachers of 41 and above age and achievement of high school students in mathematics.

No significant correlation between optimism of high school mathematics teachers of 40 and below age and achievement of high school students in mathematics is seen.

There is no significant correlation between optimism of high school mathematics teachers of 41 and above age and achievement of high school students in mathematics.

No significant correlation between self-reliance of high school mathematics teachers of 40 and below age and achievement of high school students in mathematics.

No significant correlation between self-reliance of high school mathematics teachers of 41 and above age and achievement of high school students in mathematics.

There is no significant correlation between neuroticism of high school mathematics teachers of 40 and below age and achievement of high school students in mathematics.

There is no significant correlation between neuroticism of high school mathematics teachers of 41 and above age and achievement of high school students in mathematics.

There is no significant correlation between personality-in total of high school mathematics teachers aged 40 and below age and achievement of high school students in mathematics.

There is no significant correlation between personality-in total high school mathematics teachers of 41 and above age and achievement of high school students in mathematics.

In terms of Gender

There is no significant correlation between conscientiousness of high school male mathematics teachers and achievement of high school students in mathematics.

No significant correlation between conscientiousness of high school female mathematics teachers and achievement of high school students in mathematics is observed.

There is significant negative correlation between perfectionism of high school male mathematics teachers and achievement of high school students in mathematics.
No significant correlation between perfectionism of high school female mathematics teachers and achievement of high school students in mathematics is found.

There is no significant correlation between optimism of high school male mathematics teachers and achievement of high school students in mathematics.

There is no significant correlation between optimism of high school female mathematics teachers and achievement of high school students in mathematics.

There is no significant correlation between self-reliance of high school male mathematics teachers and achievement of high school students in mathematics.

There is no significant correlation between self-reliance of high school female mathematics teachers and achievement of high school students in mathematics is seen.

The significant negative correlation between neuroticism of high school male mathematics teachers and achievement of high school students in mathematics is seen.

There is no significant correlation between neuroticism of high school female mathematics teachers and achievement of high school students in mathematics.

Significant negative correlation between personality-in total of high school male mathematics teachers and achievement of high school students in mathematics is found.

There is no significant correlation between personality-in total high school female mathematics teachers and achievement of high school students in mathematics.

In terms of Experience

There is no significant correlation between conscientiousness of high school mathematics teachers having 15 and below years of teaching experience and achievement of high school students in mathematics.

No significant correlation between conscientiousness of high school mathematics teachers having 16 and above years of teaching experience and achievement of high school students in mathematics is found.

There is no significant correlation between perfectionism of high school mathematics teachers having 15 and below years of teaching experience and achievement of high school students in mathematics.

There is no significant correlation between perfectionism of high school mathematics teachers having 16 and above years of teaching experience and achievement of high school students in mathematics.
> Significant negative correlation between optimism of high school mathematics teachers having 15 and below years of teaching experience and achievement of high school students in mathematics is seen.

> There is no significant correlation between optimism of high school mathematics teachers having 16 and above years of teaching experience and achievement of high school students in mathematics.

> No significant correlation between self-reliance of high school mathematics teachers having 15 and below years of teaching experience and achievement of high school students in mathematics is observed.

> There is no significant correlation between self-reliance of high school mathematics teachers having 16 and above years of teaching experience and achievement of high school students in mathematics.

> The significant negative correlation is traced between neuroticism of high school mathematics teachers having 15 and below years of teaching experience and achievement of high school students in mathematics.

> There is no significant correlation between neuroticism of high school mathematics teachers having 16 and above years of teaching experience and achievement of high school students in mathematics is found.

> There is significant negative correlation between personality-in total of high school mathematics teachers having 15 and below years of teaching experience and achievement of high school students in mathematics.

> There is no significant correlation between personality-in total of high school mathematics teachers having 16 and above years of teaching experience and achievement of high school students in mathematics.

**In terms of Marital Status**

> There is no significant correlation between conscientiousness of unmarried high school mathematics teachers and achievement of high school students in mathematics.

> Significant negative correlation between conscientiousness of married high school mathematics teachers and achievement of high school students in mathematics is found.

> There is no significant correlation between perfectionism of unmarried high school mathematics teachers and achievement of high school students in mathematics.
> No significant correlation between perfectionism of married high school mathematics teachers and achievement of high school students in mathematics is observed.
> There is no significant correlation between optimism of unmarried high school mathematics teachers and achievement of high school students in mathematics.
> There is no significant correlation between optimism of married high school mathematics teachers and achievement of high school students in mathematics.
> There is significant negative correlation between self-reliance of unmarried high school mathematics teachers and achievement of high school students in mathematics.
> There is no significant correlation between self-reliance of married high school mathematics teachers and achievement of high school students in mathematics.
> Significant negative correlation between neuroticism of unmarried high school mathematics teachers and achievement of high school students in mathematics is seen.
> There is no significant correlation between neuroticism of married high school mathematics teachers and achievement of high school students in mathematics.
> There is no significant correlation between personality-in total of unmarried high school mathematics teachers and achievement of high school students in mathematics.
> No significant correlation between personality-in total of married high school mathematics teachers and achievement of high school students in mathematics is found.

**In terms of Qualification**

> There is no significant correlation between conscientiousness of high school mathematics teachers with undergraduate degree and achievement of high school students in mathematics.
> No significant correlation between conscientiousness of high school mathematics teachers with postgraduate degree and achievement of high school students in mathematics is found.
> There is no significant correlation between perfectionism of high school mathematics teachers with undergraduate degree and achievement of high school students in mathematics.
> There is no significant correlation between perfectionism of high school mathematics teachers with postgraduate degree and achievement of high school students in mathematics.
There is no significant correlation between optimism of high school mathematics teachers with undergraduate degree and achievement of high school students in mathematics.

No significant correlation between optimism of high school mathematics teachers with postgraduate degree and achievement of high school students in mathematics is observed.

There is no significant correlation between self-reliance of high school mathematics teachers with undergraduate degree and achievement of high school students in mathematics.

There is significant negative correlation between self-reliance of high school mathematics teachers with postgraduate degree and achievement of high school students in mathematics.

There is no significant correlation between neuroticism of high school mathematics teachers with undergraduate degree and achievement of high school students in mathematics.

No significant correlation between neuroticism of high school mathematics teachers with postgraduate degree and achievement of high school students in mathematics is seen.

There is no significant correlation between personality-in total of high school mathematics teachers with undergraduate degree and achievement of high school students in mathematics.

Significant negative correlation between personality-in total of high school mathematics teachers with postgraduate degree and achievement of high school students in mathematics is observed.

### In terms of Residence

There is no significant correlation between conscientiousness of high school mathematics teachers residing in rural areas and achievement of high school students in mathematics.

Significant negative correlation between conscientiousness of high school teachers residing in urban areas achievement of high school students in mathematics is found.

There is no significant correlation between perfectionism of high school mathematics teachers residing in rural areas and achievement of high school students in mathematics.
There is no significant correlation between perfectionism of high school teachers residing in urban areas and achievement of high school students in mathematics.

No significant correlation between optimism of high school mathematics teachers residing in rural areas and achievement of high school students in mathematics is observed.

There is no significant correlation between optimism of high school teachers residing in urban areas and achievement of high school students in mathematics.

There is no significant correlation between self-reliance of high school mathematics teachers residing in rural areas and achievement of high school students in mathematics.

There is no significant correlation between self-reliance of high school teachers residing in urban areas and achievement of high school students in mathematics.

No significant correlation between neuroticism of high school mathematics teachers residing in rural areas and achievement of high school students in mathematics is found.

There is no significant correlation between neuroticism of high school teachers residing in urban areas and achievement of high school students in mathematics.

There is no significant correlation between personality-in total of high school mathematics teachers residing in rural areas and achievement of high school students in mathematics.

Significant negative correlation between personality-in total of high school teachers residing in urban areas achievement of high school students in mathematics is seen.

In terms of Type of Institution

Significant negative correlation between conscientiousness of high school mathematics teachers working in the government schools and achievement of high school students in mathematics is found.

There is no significant correlation between conscientiousness of high school teachers working in aided schools and achievement of high school students in mathematics.

There is no significant correlation between conscientiousness of high school teachers working in matriculation schools and achievement of high school students in mathematics.

No significant correlation between perfectionism of high school mathematics teachers working in the government schools and achievement of high school students in mathematics is found.
➢ There is no significant correlation between perfectionism of high school teachers working in aided schools and achievement of high school students in mathematics.

➢ There is no significant negative correlation between perfectionism of high school teachers working in matriculation schools and achievement of high school students in mathematics.

➢ The significant negative correlation between optimism of high school mathematics teachers working in the government schools and achievement of high school students in mathematics is observed.

➢ There is no significant correlation between optimism of high school teachers working in aided schools and achievement of high school students in mathematics.

➢ There is no significant correlation between optimism of high school teachers working in matriculation schools and achievement of high school students in mathematics.

➢ No significant correlation between self-reliance of high school mathematics teachers working in the government schools and achievement of high school students in mathematics is found.

➢ There is no significant correlation between self-reliance of high school teachers working in aided schools and achievement of high school students in mathematics.

➢ There is no significant correlation between self-reliance of high school teachers working in matriculation schools and achievement of high school students in mathematics.

➢ No significant correlation between neuroticism of high school mathematics teachers working in the government schools and achievement of high school students in mathematics is seen.

➢ There is no significant correlation between neuroticism of high school teachers working in aided schools and achievement of high school students in mathematics.

➢ There is no significant correlation between neuroticism of high school teachers working in matriculation schools and achievement of high school students in mathematics.

➢ Significant negative correlation between personality-in total of high school mathematics teachers working in the government schools and achievement of high school students in mathematics is seen.

➢ There is no significant correlation between personality-in total of high school teachers working in aided schools and achievement of high school students in mathematics.
There is no significant correlation between personality-in total of high school teachers working in matriculation schools and achievement of high school students in mathematics.

In terms of Total Sample

- The significant negative correlation between neuroticism and personality-in total of high school mathematics teachers and achievement in mathematics of high school students is observed.
- No significant negative correlation is found between personality traits-conscientiousness, perfectionism, optimism, self-reliance of high school mathematics teachers and achievement in mathematics of high school students.

SECTION VII

On testing the significant correlation within the variables attitude, its dimensions and achievement of high school students in learning mathematics the following results have been found.

In terms of Gender

- There is significant positive correlation between self-confidence and achievement of high school boy students in learning mathematics.
- Significant positive correlation between self-confidence and achievement of high school girl students in learning mathematics is found.
- There is significant positive correlation between mathematical value and achievement of high school boy students in learning mathematics.
- There is significant positive correlation between mathematical value and achievement of high school girl students in learning mathematics.
- The significant positive correlation between motivation and achievement of high school boy students in learning mathematics is observed.
- There is significant positive correlation between motivation and achievement of high school girl students in learning mathematics.
- Significant positive correlation between enjoyment and achievement of high school boy students in learning mathematics is seen.
- There is significant positive correlation between enjoyment and achievement of high school girl students in learning mathematics.
There is significant positive correlation between attitude-in total and achievement of high school boy students in learning mathematics.

Significant positive correlation between attitude-in total and achievement of high school girl students in learning mathematics is found.

In terms of Class

➢ There is significant positive correlation between self-confidence and achievement of IX standard students in learning mathematics.
➢ The significant positive correlation between self-confidence and achievement of X standard students in learning mathematics is observed.
➢ There is significant positive correlation between mathematical value and achievement of IX standard students in learning mathematics.
➢ There is significant positive correlation between mathematical value and achievement of X standard students in learning mathematics.
➢ Significant positive correlation between motivation and achievement of IX standard students in learning mathematics is found.
➢ There is significant positive correlation between motivation and achievement of X standard students in learning mathematics.
➢ There is significant positive correlation between enjoyment and achievement of IX standard students in learning mathematics.
➢ Significant positive correlation between enjoyment and achievement of X standard students in learning mathematics is seen.
➢ There is significant positive correlation between attitude-in total and achievement of IX standard students in learning mathematics.
➢ There is significant positive correlation between attitude-in total and achievement of X standard students in learning mathematics.

In terms of Locality of School

➢ There is significant positive correlation between self-confidence and achievement of high school students in rural areas in learning mathematics.
➢ There is significant positive correlation between self-confidence and achievement of high school students in urban areas in learning mathematics.
➢ There is significant positive correlation between mathematical value and achievement of high school students in rural areas in learning mathematics.

➢ There is significant positive correlation between mathematical value and achievement of high school students in urban areas in learning mathematics.

➢ There is significant positive correlation between motivation and achievement of high school students in rural areas in learning mathematics.

➢ There is significant positive correlation between motivation and achievement of high school students in urban areas in learning mathematics.

➢ There is significant positive correlation between enjoyment and achievement of high school students in rural areas in learning mathematics.

➢ There is significant positive correlation between enjoyment and achievement of high school students in urban areas in learning mathematics.

➢ There is significant positive correlation between attitude-in total and achievement of high school students in rural areas in learning mathematics.

➢ There is significant positive correlation between attitude-in total and achievement of high school students in urban areas in learning mathematics.

In terms of Type of Family

➢ There is significant positive correlation between self-confidence and achievement of high school students from single families in learning mathematics.

➢ Significant positive correlation between self-confidence and achievement of high school students from joint families in learning mathematics is found.

➢ There is significant positive correlation between mathematical value and achievement of high school students from single families in learning mathematics.

➢ There is significant positive correlation between mathematical value and achievement in learning mathematics of high school students from joint families.

➢ The significant positive correlation between motivation and achievement of high school students from single families in learning mathematics is observed.

➢ There is significant positive correlation between motivation and achievement of high school students from joint families in learning mathematics.

➢ There is significant positive correlation between enjoyment and achievement of high school students from single families in learning mathematics.
Significant positive correlation between enjoyment and achievement of high school students from joint families in learning mathematics is seen.

There is significant positive correlation between attitude-in total and achievement of high school students from single families in learning mathematics.

There is significant positive correlation between attitude-in total and achievement in learning mathematics of high school students from joint families.

**In terms of Type of Institution**

There is significant positive correlation between self-confidence and achievement of high school students studying in the government schools in learning mathematics.

Significant positive correlation between self-confidence and achievement of high school students studying in aided schools in learning mathematics is found.

There is significant positive correlation between self-confidence and achievement of high school students studying in matriculation schools in learning mathematics.

There is significant positive correlation between mathematical value and achievement of high school students studying in the government schools in learning mathematics.

The significant positive correlation between mathematical value and achievement of high school students studying in aided schools in learning mathematics is observed.

There is significant positive correlation between mathematical value and achievement of high school students studying in matriculation schools in learning mathematics.

There is significant positive correlation between motivation and achievement of high school students studying in the government schools in learning mathematics.

Significant positive correlation between motivation and achievement of high school students studying in aided schools in learning mathematics is seen.

There is significant positive correlation between motivation and achievement of high school students studying in matriculation schools in learning mathematics.

There is significant positive correlation between enjoyment and achievement of high school students studying in the government schools in learning mathematics.

The significant positive correlation between enjoyment and achievement of high school students studying in aided schools in learning mathematics is observed.

There is significant positive correlation between enjoyment and achievement of high school students studying in matriculation schools in learning mathematics.
There is no significant correlation between attitude-in total and achievement of high school students studying in the government schools in learning mathematics.

Significant positive correlation between attitude-in total and achievement of high school students studying in aided schools in learning mathematics is found.

There is significant positive correlation between attitude-in total and achievement of high school students studying in matriculation schools in learning mathematics.

In terms of Parent's Education

There is significant positive correlation between self-confidence and achievement of high school students in learning mathematics whose parents have no education.

There is significant positive correlation between self-confidence and achievement of high school students in learning mathematics whose parents have school education.

Significant positive correlation between self-confidence and achievement of high school students in learning mathematics whose parents have had higher education.

There is significant positive correlation between mathematical value and achievement of high school students in learning mathematics whose parents have no education.

There is significant positive correlation between mathematical value and achievement of high school students in learning mathematics whose parents have school education.

The significant positive correlation between mathematical value and achievement of high school students in learning mathematics whose parents have higher education is observed.

There is significant positive correlation between motivation and achievement of high school students in learning mathematics whose parents have no education.

There is significant positive correlation between motivation and achievement of high school students in learning mathematics whose parents have school education.

Significant positive correlation between motivation and achievement of high school students in learning mathematics whose parents have higher education is found.

There is significant positive correlation between enjoyment and achievement of high school students in learning mathematics whose parents are illiterate.

There is significant positive correlation between enjoyment and achievement of high school students in learning mathematics whose parents have school education.

The significant positive correlation between enjoyment and achievement of high school students in learning mathematics whose parents have higher education is observed.
There is significant positive correlation between attitude-in total and achievement of high school students in learning mathematics whose parents have no education.

There is significant positive correlation between attitude-in total and achievement of high school students in learning mathematics whose parents have school education.

Significant positive correlation between attitude-in total and achievement of high school students in learning mathematics whose parents have had higher education is found.

**In terms of Parent's Income**

The significant positive correlation between self-confidence and achievement of high school students in learning mathematics whose parental salary is 10,000 and below.

There is significant positive correlation between self-confidence and achievement of high school students in learning mathematics whose parental salary is in the range 10,001-20,000.

There is significant positive correlation between self-confidence and achievement of high school students in learning mathematics whose parental revenue is above 20,000.

There is significant positive correlation between mathematical value and achievement of high school students in learning mathematics whose parental salary is 10,000 and below.

There is significant positive correlation between mathematical value and achievement of high school students in learning mathematics whose parental revenue is between 10,001 and 20,000.

There is significant positive correlation between mathematical value and achievement of high school students in learning mathematics whose parental salary is above 20,000.

There is significant positive correlation between motivation and achievement of high school students in learning mathematics whose parental salary is10,000 and below.

There is significant positive correlation between motivation and achievement of high school students in learning mathematics whose parental salary is in the range 10,001-20,000.

There is significant positive correlation between motivation and achievement of high school students in learning mathematics whose parental salary is above 20,000.

There is significant positive correlation between enjoyment and achievement of high school students in learning mathematics whose parental revenue is 10,000 and below.
There is significant positive correlation between enjoyment and achievement of high school students in learning mathematics whose parental revenue is in the range 10,001-20,000.

There is significant positive correlation between enjoyment and achievement of high school students in learning mathematics whose parental salary is above 20,000.

There is significant positive correlation between attitude-in total and achievement of high school students in learning mathematics whose parental salary is 10,000 and below.

There is no significant positive correlation between attitude-in total and achievement of high school students in learning mathematics whose parental revenue is in the range 10,001-20,000.

There is no significant correlation between attitude-in total and achievement of high school students in learning mathematics whose parental salary is above 20,000.

In terms of Total Sample

The significant positive correlation is found between attitude dimensions—self-confidence, value, motivation, enjoyment, attitude-in total and achievement of high school students in learning mathematics.

5.02 INTERPRETATIONS

SECTION – I

Majority of the high school mathematics teachers’ personality is average with reference to the background variables such as age, gender, experience, marital status, qualification, residence and type of institution where they are working.

Majority of the high school students’ attitude towards mathematics is average in connection with all the background variables such as gender, class, locality of the school, type of family, type of institution, parent’s education and parent’s income.

Majority of the high school students’ achievement in mathematics is average with reference to background variables such as gender, class, locality of the school, type of family, type of institution, parent’s education and parent’s income.
SECTION – II

- There is significant difference in the personality trait-perfectionism of high school mathematics teachers in terms of age. Comparing the mean scores, the mathematics teachers of 40 and below years old are more perfect than the teachers of 41 and above years old. This age group of teachers is free from tension in both school and family environment. They have less responsibility in the family and in the society than the teachers of 40 and above age. So they have a lot of time to work for the students. They are very conscious to be a friend, philosopher and guide to students. Hence they try to be perfect than the teachers at the age group of 41 and above.

- There is significant difference in the personality trait-perfectionism of high school mathematics teachers in terms of experience. Compared to the mean scores, the teachers having 15 and below years of teaching experience are more perfect than the teachers having 16 and above years of teaching experience. The teachers with less teaching experience are young. They set high goals and work hard toward them. They enjoy and do the work. They are very happy and easy going. These qualities make them perfectionist.

- There is significant difference in the personality trait-perfectionism of high school mathematics teachers in terms of qualification. Comparing the mean scores, the teachers with undergraduate degree are independent when compared to the teachers with postgraduate degree. The mathematics teachers with undergraduate degree are mostly come under the age group of 40 and below and are less experienced. But they are young and energetic. They work hard to complete all the tasks allotted to them in order to stand in their profession. Moreover junior teachers are frequently provided with in-service training and they update themselves. This situation may lead to increase of self-reliance among the teachers of age group 40 and below.
There is significant difference in the personality trait-neuroticism of high school mathematics teachers in terms of residence. The teachers residing in the urban areas face more problems regularly due to the city life. This may tend to experience more stress, anxious with the students efforts. Though these teachers are hard working and put their heart and soul for teaching when they face student’s insufficient cooperation they lose their temper. Hence the teachers residing in urban areas have high emotional instability.

SECTION – III

There is significant difference in the attitude-value of high school students in terms of gender. In comparison with the means scores, girl students realize the value of mathematics than male students. Because most of the girls learn mathematics with understanding and hence they are able to use mathematics both in their personal and academic life. Moreover girls are inspired by rewards and recognition which is a motivation to participate actively in the learning process. This finding contradicts the study by N.Orhun (2007) reported that mathematics achievements and attitude towards mathematics were not dependent on gender.

There is significant difference in the attitude-value, motivation, attitude-in total, achievement in mathematics with respect to class. While comparing the mean scores, IX standard students realize the value of mathematics, interested in learning mathematics than X standard students and hence they have positive attitude which leads to high achievements. Due to public examination X standard students face at stress and strain which leads to the loss of power of attention and concentration. They feel distaste of the subject. This finding contradicts the study conducted by Rajini Bala, Gakhar and Seema Chopra (2006) reported that mathematical attitude found to be negligible predictor of mathematical achievement of students.

There is significant difference in the achievement of mathematics of high school students in terms of locality of the school. When compared to the mean scores, the students of the schools located in urban areas achieve higher than the students of the school located in rural areas. This finding gets confirmation from the study conducted by G.Vijalakshmi and P.Lavanya (2006) revealed that the urban students had higher mathematics achievement than the students from rural areas.
There is significant difference in attitude-self-confidence in terms of type of family. When compared to the mean scores, the students from single families are more confident in learning mathematics than the students from joint families. These students have good learning environment at home and have more opportunities to spend more time on the subject involving web based games and this will lead to a deeper understanding of the subject. These make the students to learn independently which develops confidence within them. The integration of rich learning environment and confidence support to achieve high in mathematics and enhance learning. This result draws support from the investigation by Bramlett and David Charles (2007) revealed that confidence influences most the students’ achievement.

There is significant difference in attitude-self-confidence, value, motivation, enjoyment, attitude-in total and achievement in mathematics in terms of type of institution. Compared to the mean, the aided school students have positive attitude, more confident, realize the value of mathematics and interested in learning mathematics and hence enjoy math classes. The over load of the matriculation syllabus makes students lose their self-confidence, interest and they develop negative attitude towards mathematics. Similar situation was faced by the government school students, but the reason might be different. These students due to poverty, illiteracy of parents, low income of parents, family environment and lack of motivation may be tended to lose the self-confidence and interest which leads to negative attitude towards learning mathematics. This result gets confirmation from the study by Kadriye Ercikan et al. (2005) revealed that confidence in mathematics was the strongest predictor of achievement. This finding contradicts to the study by C.Seenivasan and R.Hariharan (2009) reported that school management has no influence on achievement in mathematics.

SECTION – IV

There is significant negative correlation between personality of high school mathematics teachers and attitude of high school students towards mathematics with respect to total sample. Some teachers have no faith in themselves and not committed to their profession. They fail to mould creative mind, scientific temper, positive attitude among students; and unable to make the students to assimilate the educational values and ideas. Due to this, some children can’t keep the mind fresh.
and creative which leads to negative attitude. Teachers' knowledge and capacity must be combined with the capacity to communicate knowledge to others. The knowledge communicated gets shone by the personality of the teacher. By his or her knowledge a teacher can only instruct; but communication of inspiration comes only from his or her personality. This study gets confirmation from the study by Cigdem Yilmaz, Sadegul Akbaba Altun and Sinan Olkun (2010) reported that teachers' personality affect students' attitude towards math course.

SECTION-V

- There is significant negative correlation between personality of high school male mathematics teachers and achievement of high school students in mathematics. This finding contradicts the study by P.Easwari (2004) reported that there was high positive relationship between academic responsibility and personality factors.
- There is significant negative correlation between personality of high school mathematics teachers having 15 and below years of teaching experience and achievement of high school students in mathematics. This finding gets confirmation from the study conducted by Ali Ozel (2007) and reported that teachers reflected their personalities on their teaching experiences as their seniority increased. Many young teachers face failure in their teaching because they lack forcefulness, sociability, a business like manner and lack of essential traits. So, personalities of teachers must be enriched and characters should be strengthened.
- There is significant negative correlation between personality of high school mathematics teachers with postgraduate degree and achievement of high school students in mathematics. Some teachers with higher qualification are more interested in developing themselves, updating their knowledge in all the aspects, attending seminars, workshops for the sake of their own uplift. This may be tended to concentrate less on students.
- There is significant negative correlation between personality of high school mathematics teachers residing in urban areas and achievement of high school students in mathematics. In urban areas the teacher-student relationship is formal. They will only instruct but they fail to inspire the students, who are powerful reinforcer, motivator and stimulator to promote the achievement.
- There is significant negative correlation between personality of high school mathematics teachers working in the government schools and achievement of high school students in mathematics. In the government school teachers we will not find the sense of national duty, responsibility and hard work. The insufficient facilities inside the school and classroom may demotivate the teacher performance and in turn pupil performance too.

- There is significant negative correlation between personality of high school mathematics teachers and achievement of high school students in mathematics with respect to total sample. The teachers personality desirable or undesirable have a negative impact on the pupils’ performance. Because personality of the teacher may have impact on the learning process and may not have on achievement in mathematics.

SECTION -VI

- There is significant positive correlation between attitude and achievement of high school boys and girls in learning mathematics. This finding gets confirmation from the investigation by Subrata Saha (2007) reported that the component attitude in favourable direction of learning mathematics is a significant contributor to the success in the mathematical achievements of both boys and girls.

- There is significant positive correlation between attitude and achievement of IX standard students and X standard students in learning mathematics. This result contradicts the report by Al-Furaihi and Ali (2003) that no significant correlation is seen between attitudes towards learning mathematics and mathematics achievement in X grade students.

- There is significant positive correlation between attitude and achievement of high school students irrespective of location of the school in learning mathematics. This result gets confirmation from the study conducted by Meringolo and Jennifer (2006) revealed that there is a strong relationship between final marks and attitude as well as PSAT scores and attitudes of suburban district students.

- There is significant positive correlation between attitude and achievement of high school students coming from single and joint families in learning mathematics. The children are equipped with healthy atmosphere for learning at home. They also
receive parent’s involvement and assistance directly which leads to better academic emulation.

➤ There is significant positive correlation between attitude and achievement of high school students studying in aided schools and in matriculation schools in learning mathematics. This finding contradicts from the investigation by Mriano and Sam (2005) reported that there is significant correlation between attitude towards learning mathematics and mathematics achievement of X grade students studying in the government schools.

➤ There is significant positive correlation between attitude and achievement of high school students irrespective of parent’s education in learning mathematics. This finding draws support from the study Kadriye Ercikan et al. (2005) reported that parent’s highest education level was the highest predictor of achievement.

➤ There is significant positive correlation between attitude and achievement in learning mathematics of high school students whose parents’ income is 10,000 and below. The low income of parents may affect the students’ accomplishment naturally. The children from middle class and lower middle class are urged by their parents for realization of life’s goals.

➤ There is significant positive correlation between attitude and achievement of high school students in learning mathematics with respect to total sample. The positive attitude towards mathematics may vitalize the students to be more confident in doing mathematics, realize the worth of mathematics, create interest in solving problems and feel happy in mathematics classes which are essential for higher achievement.

5.03 RECOMMENDATIONS

From the analysis of the present investigation the researcher would like to recommend the following to develop the personality of high school mathematics teachers and to inculcate positive attitude which promotes achievement in learning mathematics of high school students.

1. Meditation may have a number of health benefits by decreasing anxiety, depression, irritability, moodiness, improving learning ability, memory, self-actualization, feelings of vitality, rejuvenation and emotional stability.
2. Yoga can be used worldwide for enhancing the well-being of individuals to mould and make up the self and personality. Yoga develops the physical, mental, intellectual, emotional and spiritual components and thus builds up an all round personality of an individual.

3. "The personality of the man is two thirds his intellect and his words are one third" says Swami Vivekananda. So nourishing intelligence in different aspects and speaking polite words may help the teachers achieve balanced personality.

4. Good communication skills and proficiency in many languages improve one's reach amongst peers and heightens one's social acceptance and prestige.

5. The utility of science in the real life makes the teachers perfectionist.

6. Listening to music not only relaxes the mind but also brings about far-reaching psychological and neurological changes on the body-mind complex over period of time. So teachers may love music which helps the personality development.

7. Inner richness provides for personality. Teachers and teachers, teachers and students mingle with each other, develop the capacity to enter into the hearts of others and make capable of working with other teachers and students as a team. This is inner richness.

8. Faculties like concentration, imagination, memory and creativity may be emphasised among teachers to have a well balanced personality.

9. Educational camps, seminars, conferences, workshops and training programmes on various aspects may be organized for the personality development of teachers.

10. Taking up project in various fields according to their inclination and interest may be helpful in their personality development.

11. Research, publication of books, journals and preparation of audio-visuals in various fields are an important part of society activities. So taking up this type of activities may accentuate personality development.

12. Motivation, encouragement, rewards and reinforcement given by the heads of the institution may help the teachers have good personality traits.
13. Life-long love for learning, the gift of encouragement and involvement in the learning process are the greatest traits that every teacher should possess.

14. Dedication, self control, respecting to the students, leadership qualities, friendliness, time management skills and sense of humour may make up the personality of the teachers.

15. Having positive attitude towards the school, involvement in the activities of school and community, beliefs and relationship with pupils and the community are fruitful for the personality development of teachers.

16. Teachers may tell stories of events in their own lives which are related to subject matter. It shall captivate students’ interest and activate learning.

17. Guidance and counselling may be given to the required students.

18. Extra care and tutorials may be designed to the weak students.

19. Teachers may devise variety of ideas and many numbers of alternative ways of teaching mathematical concepts.

20. Classrooms positively influence the advancements in mathematics. Hence teachers shall create positive classroom environment and contribute to the progress of each individual student. Positive classroom surrounding may be furnished by encouraging appropriate social interaction which makes the student feel secure in the classroom.

21. Skill of critical thinking may be sharpened. This can be done by incorporating reading and mathematics to each subject taught in the class–rooms so that students in the classroom get a well– rounded approach seeing how these skills fit into the whole of life. This helps cultivate mathematical value.

22. Reinforcement promotes learning. Teachers may display the charts depicting success in the classroom or they may provide rewards for reaching certain goals.

23. Practising various activities of Yoga and meditation contribute single-minded attention, increased concentration, self-confidence and will power. They reduce emotional disturbance and maintain emotional health which are so essential for
any successful learning process. These techniques in the classroom teaching motivate the students to learn the subject with new learning environment.

24. Reward acts as a powerful motivator which may be in the form of certificate, letter etc. The reward should be presented specifically and promptly.

25. Mathematics club activities can be prompted to infuse self-confidence in learning mathematics.

26. Students may be asked to write popular articles on mathematics topics for school magazines which stimulate confidence among students.

27. Team work, self study and interaction with peer group can be catered to sustain confidence.

28. Recognizing the abilities of the students and giving rise to opportunities and challenges beyond their imagination nurture confidence.

29. The mathematics curriculum should provide the students with knowledge and skills in mathematics, thinking ability and strategies to solve problems and make decisions in every day life and inject noble values and love for nation. This may redound to grow confidence.

30. Seminars or lectures on history of mathematics, biographies of eminent mathematicians, lecture on important topics of mathematics by eminent scholars and teachers may be arranged periodically to realize the value of mathematics.

31. Teachers shall make the students read literature on mathematics regularly to realize the value of mathematics.

32. Parents play a key role in their children’s learning. They should serve as a model for learning, determine the educational resources available at home, develop positive attitude towards the subjects and make them realize the values towards education.

33. Various short cut methods for solving problems may be taught to create interest in learning mathematics.

34. Recreational activities such as puzzles, riddles, catch problems, mathematics fallacies, number games and so on can be supplied to tune up the interest of the students.
35. Heuristic method, problem solving method and laboratory method may be adopted by the teacher make the students enjoy learning mathematics.

36. Mathematical exhibitions, fieldwork and field trips to places of mathematical interest may be administered to enjoy learning mathematics.

37. Mathematics debates and quiz contest may be endeavoured to enjoy learning mathematics.

38. Teachers may implement motivational strategies to increase participation in learning mathematics which confirms higher achievement.

39. Teaching techniques and teaching aids may be manipulated properly to make teaching effective and learning interesting.

40. Participation in the activities of contexts outside the school may support the achievement.

41. Improved learning strategies may help the students increase the academic performance.

42. School climate is a chief factor for the academic laurels. So healthy atmosphere should be accessorized to the students.

43. The quality of instruction in the schools must be improved to accelerate achievement.

44. Teachers should construct positive attitude towards mathematics and mathematics learning. This has a deep impact on interest in mathematics, the enjoyment of mathematics and their motivation in mathematics classes.

45. Teachers should provide an environment that is motivationally charged. They should correlate students’ goals and motivation. This correlation breeds success in mathematics.

46. Technology and academic achievement are positively interrelated. Hence every teacher should elate the students to use web resources and utilize technology in teaching-learning process.

47. A good knowledge of mathematics in combination with other knowledge makes the students to be more creative than others which enliven achievement in mathematics. So teachers shall eke out with different teaching techniques to develop creativity of the students.

48. Higher level motivation, enjoyment and confidence are causes of better rendering. So, both parents and teachers should educe confidence and create
interest by believing that mathematics would be useful for their further education and employment.

49. Parent’s involvement in their children’s education at school and in the community increase student achievement. It reinforces the student’s mind.

50. Home environment should be inspired to expose experiences which lead to intellectual promotion. Naturally achievement in mathematics will be high.

51. Parents are expected to set higher standards for their children’s educational activities. This increases the academic achievements.

52. Achievement comes from hard work. It is advocated to use reference materials, library, spending more time on mathematical projects, watching less TV and sincere effort for homework.

53. It is the responsibility of the teacher to channelize their students' enthusiasm and energy to build up a new future. So teachers should find students' interest, capacities and beliefs for the better achievement in mathematics.

54. So it is also recommended that mathematics teachers should begin the lessons with much zeal so that the students also will be enthusiastic.

5.04 SUGGESTIONS FOR FURTHER RESEARCH

The present study is not vast and comprehensive. Further research is feasible and necessary. Hence the investigator would like to furnish the following areas for further research. This study has been conducted for the high school teachers handling mathematics classes and the students studying in these classes in Virudhunagar district.

1. The study can be extended to other school levels like higher secondary schools, middle schools and elementary schools.

2. The study can be extended to other districts of TamilNadu.

3. Personality and attitude may be measured using different tools and different dimensions may be taken into account.

4. The study can be extended to other subject teachers of higher secondary, high schools and middle schools.