CHAPTER 7

SUMMARY

INTRODUCTION

Education plays a paramount role in educating and talenting children. It is being treated as a basic human need as it endows people with knowledge, skills and attitudes, which would increase their capabilities and capacity to adapt to the changing environment. It forms an effective means to improve the status and character of the living patterns of the people by helping them in their intellectual, social and emotional development.

Foremost responsibility of teachers has always been to measure the results of their teaching efforts in so far as they are reflected by the progress and mastery of the subject matter by the students. This accomplishment in the school work is called achievement. The argument of measuring achievement of the students especially in recent times has much importance particularly when the world is becoming too much competitive. Quality of performance has become an important and major factor not only for students, teachers and parents but for the personal progress of every individual. This desire for attaining high level of achievement puts a lot of pressure on teachers, students, parents and school, including the educational system as a whole.

Giving too much importance to academic achievement of students has raised many questions before the Educationists, Psychologists, Curriculum framers and Researchers. They want to know the factors which are responsible for the enhancement of students' academic achievement in different subjects. An effort to understand the factors underlying the success or failure of students in different subjects does not simply amount to an academic exercise but has practical bearing in the sense that it makes possible the proper utilization of our human and material resources. Such factors when identified will have practical and theoretical implications for developing curriculum and designing educational programs to suit the needs of students with varied backgrounds.

ACADEMIC ACHIEVEMENT

Academic achievement is excellence in all academic disciplines, in class as well as extra-curricular activities. Academic achievement is knowledge attained or skills
developed by pupils usually in the school subject measured by test scores or by marks assigned by teachers or by both. Academic achievement may be defined as the degree or level of proficiency attained in scholastic and academic work. It is the competence that is really revealed in school subjects in which students have received instructions. It is directly related to pupil’s growth and development in educational situations, where learning and teaching are intended to go on.

METACOGNITION

Metacognition is a very complex phenomenon. It is a combination of two words: Meta and Cognition. The prefix ‘Meta’ refers to something that transcends the subject it is related to whereas ‘Cognition’ is the internal structure and process that is involved in the acquisition and use of knowledge including sensation, perception, attention, learning, memory, language, thinking and reasoning. Thus, metacognition refers to a level of thinking that involves active control over the process of thinking that is used in learning situation. The term metacognition refers to the psychological processes that are involved in the way a person controls, modifies, and appraises his own thoughts (Kaur, 2010).

Thus, metacognition is the ability to evaluate one’s own comprehension and understanding of subject matter and use that evaluation to predict how well one might perform on a task. This is the process where the student takes conscious control of the learning and thinks about how one is thinking in a cognitive sense.

SELF-CONFIDENCE

Self-confidence is the conviction that one is generally capable of producing desired results. Self-confidence is the confidence one has in oneself, one’s knowledge and one’s abilities. It is the confidence of the type: “I can do this”. “I have the ability to do this”. Self-confidence is the one thing that is much more important than any other abilities and traits. Self-confidence integrates the powers of mind and body and focuses them towards the goal. Only such a concentrated energy can reach the goal. Self-confidence is the first step to progress, development, achievement and success. Even if you have a lot of abilities and a lot of knowledge, if you do not have self-confidence you cannot be a success. Self-confidence is essentially an attitude which allows us to have a positive and realistic perception of ourselves and of our abilities. It is characterized by
personal attributes such as assertiveness, optimism, enthusiasm, affection, pride, independence, trust, the ability to handle criticism and emotional maturity.

FAMILY ENVIRONMENT

The family is the first to affect the individual. It is the family, which gives the child his first experience of living. It gets him when he is completely uninformed, unprotected, before any other agency has had a chance to affect him. The influence of the family on the child is, therefore, immense. The influence of other agencies, although indispensable, must build upon the ground work furnished by the family (Bhatia & Chadha, 1993).

Family environment refers to the climate prevailing in the home, which varies from culture to culture, society to society, family to family. Family environment is influenced by a number of factors like the nature of family constellation; number of children in the family; marital relationship between husband and wife; parental employment; and socio-economic and religious background of the family.

NEED OF THE STUDY

Adolescence is the most important period of human life during which the young individual develops physically, intellectually, mentally, socially and emotionally. It is a period of great excitability and turbulent emotions. The individual is faced with a perennial conflict in all spheres of life. So, it is crucial time to draw out attention towards the youngsters so that they can develop positive and healthy attitude towards life. Educationists are always interested to study different problems of school going population especially of adolescents. One of the most challenging problems of adolescents faced by educationists today is that of accurate prediction of their academic achievement.

Parents, guardians, teachers, educationists, institutions and society at large are concerned about how best to enhance academic standards and achievement. Knowledge of factors that influence learners’ success has important implications for learning and education. Many educators are interested in knowing beforehand who will perform well and who will perform poorly, in academic progress. It has been realized that there is a need to go beyond the traditional criterion of academic success. Students should be

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engaged in intellectually and socially satisfying activities so that they can become confident enough to forge ahead in their thinking on the basis of information, facts, clues and concepts. The students who are aversive and think negatively cannot concentrate for a long time and have more difficulty in reaching their potentials than others. Some studies have been conducted on adolescent to study their academic achievement with different variables. Few studies have been conducted on academic achievement and metacognition, academic achievement and self- confidence; and academic achievement and family environment. After reviewing the related literature the investigator concluded that no attempt has been made so far to study the variables metacognition, self-confidence, family environment and academic achievement together. This gap in the area led the investigator to take the combined study of metacognition, self-confidence and family environment in relation to academic achievement. Thus, keeping in mind these points, the present problem is selected for investigation.

STATEMENT OF THE PROBLEM

“A Study of Academic Achievement of 10+1 Students in Relation to Their Metacognition, Self- Confidence and Family Environment”

OPERATIONAL DEFINITIONS OF THE KEY TERMS USED

Academic Achievement

Academic achievement is the percentage of marks obtained by the students in class X of schools of Board of School Education Haryana in different school subjects.

10+1 Students

The students who have passed class X and are studying in class XI of schools of Haryana, Recognized by Board of School Education Haryana.

Metacognition

Metacognition includes two components - knowledge of cognition and regulation of cognition. Knowledge of cognition deals with all the concepts, which are related to our thinking processes such as self-concept of knowledge, self intelligence, self memory, attention, study habits etc., and regulation of cognitive processes, includes all those
mechanisms through which we regulate our thinking process, such as orientation, planning, monitoring, testing, repairing, evaluating, reflecting etc.

**Self-confidence**

The self is a composite of a person’s thoughts and feelings, strivings and hopes, fears and fantasies, his view of what he is, what he has been, what he might become, and his attitude pertaining to his worth. Self-confidence is a positive attitude of oneself towards one’s self-concept. It is an attribute of perceived self. Self-Confidence refers to a person’s perceived ability to tackle situations successfully without leaning on others and to have a positive self-evaluation.

**Family Environment**

Family environment refers to the climate prevailing in the home, which varies from culture to culture, society to society, family to family. There are three dimensions in the family environment scale used in the present study. The subscales in each dimension were operationally defined as follows:

**Relationship Dimensions**

1. **Cohesion:** Degree of commitment, help, and support family members provide for one another.
2. **Expressiveness:** Extent to which family members are encouraged to act openly and express their feelings and thoughts directly.
3. **Conflict:** Amount of openly expressed aggression and conflict among family members.
4. **Acceptance and Caring:** Extent to which the members are unconditionally accepted and the degree to which caring is expressed in the family.

**Personal Growth dimensions**

5. **Independence:** Extent to which family members are assertive and independently make their own decisions.
6. **Active-Recreational Orientation:** Extent of participation in social and recreational activities.
System Maintenance Dimension

7. **Organization:** Degree of importance of clear organization structure in planning family activities and responsibilities.

8. **Control:** Degree of limit setting within a family

**OBJECTIVES OF THE STUDY**

1. To study the relationship between academic achievement and metacognition of 10+1 students.
2. To study the relationship between academic achievement and self-confidence of 10+1 students.
3. To study the relationship between academic achievement and family environment of 10+1 students.
4. To study and compare the academic achievement, metacognition, self-confidence and family environment of male and female 10+1 students.
5. To study and compare the academic achievement, metacognition, self-confidence and family environment of rural and urban 10+1 students.
6. To study and compare the academic achievement, metacognition, self-confidence and family environment of 10+1 students studying in government and private schools.
7. To study and compare the interactional effect of gender, locale and type of school on academic achievement, metacognition, self-confidence and family environment of 10+1 students.

**HYPOTHESES**

a) **Hypothesis related to Academic Achievement vs. Metacognition**

\[ H_0^1 \] There exists no significant relationship between Academic Achievement and Metacognition of 10+1 students.

b) **Hypothesis related to Academic Achievement vs. Self-Confidence**

\[ H_0^2 \] There exists no significant relationship between Academic Achievement and Self-Confidence of 10+1 students.
c) Hypotheses related to Academic Achievement vs. Family Environment

\( H_0^3 \) There exists no significant relationship between Academic Achievement and Family Environment of 10+1 students.

\( H_0^4 \) There exists no significant relationship between Academic Achievement and ‘Relationship Dimensions’ of Family Environment of 10+1 students.

\( H_0^5 \) There exists no significant relationship between Academic Achievement and ‘Personal Growth Dimensions’ of Family Environment of 10+1 students.

\( H_0^6 \) There exists no significant relationship between Academic Achievement and ‘System Maintenance Dimensions’ of Family Environment of 10+1 students.

d) Hypotheses Related to Academic Achievement

\( H_0^7 \) There exists no significant mean difference between Academic Achievement of Male and Female 10+1 students.

\( H_0^8 \) There exists no significant mean difference between Academic Achievement of Rural and Urban 10+1 students.

\( H_0^9 \) There exists no significant mean difference between Academic Achievement of 10+1 students of Government and Private Schools.

\( H_0^{10} \) There exists no significant interactional effect of Gender, Locale, and Type of School on Academic Achievement of 10+1 students.

e) Hypotheses Related to Metacognition

\( H_0^{11} \) There exists no significant mean difference between Metacognition of Male and Female 10+1 students.

\( H_0^{12} \) There exists no significant mean difference between Metacognition of Rural and Urban 10+1 students.

\( H_0^{13} \) There exists no significant mean difference between Metacognition of 10+1 students of Government and Private Schools.

\( H_0^{14} \) There exists no significant interactional effect of Gender, Locale and Type of School on Metacognition of 10+1 students.
f) **Hypotheses Related to Self-Confidence**

\( H_0^{15} \)  There exists no significant mean difference between Self-Confidence of Male and Female 10+1 students.

\( H_0^{16} \)  There exists no significant mean difference between Self-Confidence of Rural and Urban 10+1 students.

\( H_0^{17} \)  There exists no significant mean difference between Self-Confidence of 10+1 students of Government and Private Schools.

\( H_0^{18} \)  There exists no significant interactional effect of Gender, Locale and Type of School on Self-Confidence of 10+1 students.

g) **Hypotheses Related to Family Environment**

\( H_0^{19} \)  There exists no significant mean difference between Family Environment of Male and Female 10+1 students.

\( H_0^{20} \)  There exists no significant mean difference between Family Environment of Rural and Urban 10+1 students.

\( H_0^{21} \)  There exists no significant mean difference between Family Environment of 10+1 students of Government and Private Schools.

\( H_0^{22} \)  There exists no significant interactional effect of Gender, Locale and Type of school on Family Environment of 10+1 students.

h) **Hypotheses Related to Relationship Dimensions of Family Environment**

\( H_0^{23} \)  There exists no significant mean difference between ‘Relationship Dimensions’ of Family Environment of Male and Female 10+1 students.

\( H_0^{24} \)  There exists no significant mean difference between ‘Relationship Dimensions’ of Family Environment of Rural and Urban 10+1 students.

\( H_0^{25} \)  There exists no significant mean difference between ‘Relationship Dimensions’ of Family Environment of 10+1 students of Government and Private Schools.

\( H_0^{26} \)  There exists no significant interactional effect of Gender, Locale and Type of School on ‘Relationship Dimensions’ of Family Environment of 10+1 students.
i) **Hypotheses Related to Personal Growth Dimensions of Family Environment**

\[H_0^{27}\] There exists no significant mean difference between ‘Personal Growth Dimensions’ of Family Environment of Male and Female 10+1 students.

\[H_0^{28}\] There exists no significant mean difference between ‘Personal Growth Dimensions’ of Family Environment of Rural and Urban 10+1 students.

\[H_0^{29}\] There exists no significant mean difference between ‘Personal Growth Dimensions’ of Family Environment of 10+1 students of Government and Private Schools.

\[H_0^{30}\] There exists no significant interactional effect of Gender, Locale and Type of School on ‘Personal Growth Dimensions’ of Family Environment of 10+1 students.

j) **Hypotheses Related to System maintenance Dimensions of Family Environment**

\[H_0^{31}\] There exists no significant mean difference between ‘System maintenance Dimensions’ of Family Environment of Male and Female 10+1 students.

\[H_0^{32}\] There exists no significant mean difference between ‘System Maintenance Dimensions’ of Family Environment of Rural and Urban 10+1 students.

\[H_0^{33}\] There exists no significant mean difference between ‘System Maintenance Dimensions’ of Family Environment of 10+1 students of Government and Private Schools.

\[H_0^{34}\] There exists no significant interactional effect of Gender, Locale and Type of School on ‘System Maintenance Dimensions’ of Family Environment of 10+1 students.

**DELIMITATIONS OF THE STUDY**

Due to paucity of time and resources, the study has been delimited in the following areas:

(i) The study is confined to 10+1 students of senior secondary schools of Haryana Board of School Education only.

(ii) The study is confined to only four districts of Haryana i.e. Kaithal, Rewari, Hisar and Rohtak.
(iii) The study is delimited to a sample of 800 students.
(iv) The study is delimited to the variables Academic Achievement, Metacognition, Self-Confidence and Family Environment only.
(v) The study is delimited to the tools: Metacognition inventory by Govil (2003), Self-Confidence inventory by Agnihotri (1987) and Family Environment scale by Bhatia and Chadha (1993) only.

METHOD OF THE STUDY

After selecting, defining and stating the problem, the task which the research worker has to do is to decide about the method, procedure and techniques to be used for collection; analysis and interpretation of data needed for investigation. Research studies adopt different methods.

In the present study the descriptive survey method has been used. This method is useful in finding out the facts of the present situation in a most precise way. In this study the investigator enquired about the academic achievement, metacognition, self-confidence and family environment of 10+1 students of senior secondary schools of HBSE.

RESEARCH DESIGN

In order to find out Academic Achievement of 10+1 Students in relation to their Metacognition, Self-Confidence and Family Environment, and to see the interaction effect of Gender, Locale and Type of School on Academic Achievement, Metacognition, Self-Confidence and Family Environment, a factorial design involving three-way analysis of variance, i.e., (2 X 2 X 2) has been employed in the study. Factorial design is usually employed to study the effect of two or more independent variables operating simultaneously.

VARIABLES INVOLVED IN THE STUDY

The present study involved the following variables:

Independent Variable: In the present study, Metacognition, Self- Confidence, Family Environment and demographic variables like Gender, Locale and Type of School are independent variables.
Dependent Variable: In the present study, Academic Achievement is the dependent variable.

POPULATION OF THE STUDY

In the present study 10+1 students, studying in different Sr. Sec. Schools (Government and Private) situated in the state of Haryana and recognized by HBSE formed the population.

SAMPLE OF THE STUDY

The multi-stage and stratified random sampling technique was used to select the sample from the population. Haryana state was divided into four zones namely North, South, East and West. Out of each zone, one district was picked up by using the lottery technique. Thus, all the four districts i.e. Kaithal, Rewari, Rohtak and Hisar formed the sample of the study. List of all senior secondary schools was obtained from District Education Departments. Out of the list 48 senior secondary schools (24 from rural and 24 from urban) were selected randomly. In the present study, a sample of 800 students studying in class XI has been selected, 200 students from each district mentioned above. The total sample has been divided equally on the basis of gender, locale and type of school. From each school students were taken depending upon the number of students available in the school.

TOOLS USED IN THE STUDY

The following tools have been employed in the study:

(i) Metacognition inventory by Govil (2003)
(ii) Self-confidence inventory by Agnihotri (1987)
(iii) Family Environment scale by Bhatia and Chadha (1993)
(iv) Academic Achievement was determined on the basis of percentage obtained by the students in class X annual examination conducted by HBSE

STATISTICAL TECHNIQUES USED

The following statistical techniques were used in the present study for analysis of data:
Descriptive Statistics

In order to describe the characteristics of sample descriptive statistics like percentage, bar graphs, frequency polygon, mean, median, mode, standard deviation, skewness, kurtosis and Pearson’s coefficient of correlation were used.

Inferential Statistics

To draw inferences from the obtained results inferential statistics like Analysis of Variance (ANOVA), and t-test were used.

Data was analyzed by using SPSS 18.0 version

MAIN FINDINGS

The statistical data of the study reveals the following main findings:

➢ Findings Based on Coefficient of Correlations

1. There exists significant and positive relationship between academic achievement and metacognition of 10+1 students.
2. There exists significant and negative but low relationship between academic achievement and self-confidence of 10+1 students.
3. There exists significant and positive relationship between academic achievement and family environment of 10+1 students.
4. There exists significant and positive relationship between academic achievement and relationship dimensions of family environment of 10+1 students.
5. There exists significant and positive relationship between academic achievement and personal growth dimensions of family environment of 10+1 students.
6. There exists significant and positive relationship between academic achievement and system maintenance dimensions of family environment of 10+1 students.

➢ Findings Based on Factor Differences among Different Variables

(A) Comparison of Male-Female, Rural-Urban and Government-Private School students on Academic Achievement.

1. There exists significant difference between academic achievement scores of male and female 10+1 students. Both have high academic achievement scores but the
academic achievement of female students is found to be higher than those of the male students.

2. There exists no significant difference between academic achievement scores of rural and urban 10+1 students. Both rural and urban students have high academic achievement scores.

3. There exists significant mean difference between academic achievement scores of students studying in government and private schools. Academic achievement of students studying in private schools is higher than that of students studying in government schools.

(B) Comparison of Male-Female, Rural-Urban and Government-Private School students on Metacognition.

1. There exists significant difference between mean scores of male and female 10+1 students on metacognition. Both male and female students have average score on metacognition but mean scores of female students are higher than those of male students. This indicates that female students have higher metacognition than their male counterparts.

2. There exists significant difference between metacognition mean scores of rural and urban 10+1 students. Both the groups fall in the average level of metacognition but rural students possess higher score on metacognition as compared to urban students.

3. There exists no significant difference between students studying in government and private schools on metacognition. The mean scores on metacognition of students studying in government and private schools are average.

(C) Comparison of Male-Female, Rural-Urban and Government-Private School students on Self-Confidence.

1. There exists significant difference between mean scores of male and female 10+1 students on self-confidence. Both male and female students have average level of self-confidence but male students have higher self-confidence than female students.

2. There exists no significant difference between mean scores of rural and urban students on self-confidence. The mean score of urban students is slightly higher
than the mean score of rural students but the difference is not significant, which shows that rural and urban students do not differ in their self-confidence both have average level of self-confidence.

3. There exists significant difference between students studying in government and private schools on self-confidence. Students studying in private schools are more self-confident as compared to students studying in government schools.

**(D) Comparison of Male-Female, Rural-Urban and Government-Private School students on Family Environment.**

1. There exists significant difference between mean scores of male and female 10+1 students on family environment. Both male and female students have average score on family environment but mean scores of female students are higher than those of male students. This indicates that female students have favourable family environment than male students.

2. There exists significant mean difference between family environment of rural and urban students. When the results are compared in the context of the mean scores, it was found that mean scores of urban students is lower than rural students. It indicates that rural students have better family environment than urban students.

3. There exists no significant difference between students studying in government and private schools on family environment.

**(E) Comparison of Male-Female, Rural-Urban and Government-Private School students on Relationship Dimensions of Family Environment.**

1. There exists significant difference between mean scores of male and female 10+1 students on relationship dimensions of family environment. Both male and female students have average score on subscales i.e. cohesion, expressiveness, conflict; and acceptance and caring of relationship dimensions. Significant difference was found between male and female 10+1 students on cohesion. The mean value of females on cohesion is higher than that of males. No significant difference was found between male and female students on the factor expressiveness and conflict. Significant difference was found between male and female students on the factor acceptance and caring. The mean value of females on factor acceptance and caring is higher than that of males.
2. There exists significant difference between mean scores of rural and urban 10+1 students on relationship dimensions of family environment. Both rural and urban students have average score on subscales cohesion, expressiveness, conflict; and acceptance and caring of relationship dimensions. Significant difference was found between rural and urban students on all the subscales. The mean value of rural students on the subscales cohesion, expressiveness, conflicts and acceptance and caring is higher than that of urban students.

3. There exists no significant difference between students studying in government and private schools on relationship dimensions of family environment. There exists significant difference between students studying in government and private schools on the subscales cohesion and expressiveness. Students studying in government schools are on higher side of both the subscales than students studying in private schools. No significant difference was found between students studying in government and private schools on the subscales conflict and acceptance and caring.

(F) Comparison of Male-Female, Rural-Urban and Government-Private School students on Personal Growth Dimensions of Family Environment.

1. There exists significant difference between mean scores of male and female 10+1 students on personal growth dimensions of family environment. Both male and female students have low score on the factors independence and average score on active recreational orientation. Significant difference was found between male and female students on independence. The mean value of females on the factor independence is higher than that of males. Significant difference was found between male and female students on the factor active recreational orientation. The mean value of females on factor active recreational orientation is higher than that of males.

2. There exists no significant difference between mean scores of rural and urban students on personal growth dimensions of family environment. Both rural and urban students have low score on the factors independence and average score on active recreational orientation. No Significant difference was found between rural and urban students on the subscale independence. Significant difference was
found between rural and urban students on the factor active recreational orientation. The mean value of rural students on factor active recreational orientation is higher than that of urban students.

3. There exists no significant difference between students studying in government and private schools on personal growth dimensions of family environment. No significant difference was found between students studying in government and private schools on the subscales independence and active recreational orientation.

(G) Comparison of Male-Female, Rural-Urban and Government-Private School students on System Maintenance Dimensions of Family Environment.

1. There exists significant difference between mean scores of male and female 10+1 students on system maintenance dimensions of family environment. Significant difference was found between male and female students on subscale organization. The mean value of females on organization is higher than that of males. Significant difference was found between male and female students on the subscale control. The mean value of females on subscale control is higher than that of males.

2. There exists no significant difference between mean scores of rural and urban 10+1 students on system maintenance dimensions of family environment. No Significant difference was found between rural and urban students on subscale organization. Significant difference was found between rural and urban students on the subscale control. The mean value of rural students on subscale control is higher than that of urban students which shows high degree of limit setting within the family of rural students.

3. There exists no significant difference between students studying in government and private schools on system maintenance dimensions of family environment. No significant difference was found between students studying in government and private schools on the subscales organization and control.
Findings Based on Interactional Analysis among Different Factors

(A) Effect of Gender, Locale and Type of School on Academic Achievement
1. The two-way interaction effect between gender and locale is significant. Urban female students have highest mean score on academic achievement and rural male students have lowest mean score on academic achievement.
2. The two-way interaction between gender and type of school is significant. Female students studying in private schools have highest mean score on academic achievement and male students studying in government schools have the lowest mean score on academic achievement.
3. There exists no significant interactional effect between locale and type of school with respect to academic achievement.
4. The three-way interaction among gender, locale and type of school is significant with respect to academic achievement. Female urban students studying in private schools have highest mean academic achievement and male rural students studying in government schools have the lowest mean academic achievement.

(B) Effect of Gender, Locale and Type of School on Metacognition
1. The two-way interaction effect between gender and locale is significant. Female rural students have highest mean metacognition and female urban students have the lowest mean metacognition.
2. The two-way interaction effect between gender and type of school is significant. Female students studying in private schools have highest mean score on metacognition and male students studying in private schools have the lowest mean score on metacognition.
3. There exists no significant interaction effect between locale and type of school with respect to metacognition.
4. The three-way interaction among gender, locale and type of school is not significant with respect to metacognition.

(C) Effect of Gender, Locale and Type of School on Self Confidence
1. There exists no significant interaction effect between gender and locale, gender and type of school and locale and type of school on self-confidence. Also, there
exists no significant interaction among gender, locale and type of school with respect to self-confidence.

(D) Effect of Gender, Locale and Type of School on Family Environment
1. The two-way interaction effect between gender and locale on family environment is significant. Female rural students have highest mean score on family environment and urban male students have the lowest mean score on family environment.
2. The two-way interaction effect between gender and type of school is significant. Female students studying in private schools have highest mean score on family environment and male students studying in private schools have the lowest mean score on family environment.
3. There exists no significant interaction effect between locale and type of school with respect to family environment.
4. The three-way interaction among gender, locale and type of school is not significant with respect to family environment.

(E) Effect of Gender, Locale and Type of School on Relationship Dimensions of Family Environment
1. There exists no significant interaction effect between gender and locale with respect to relationship dimensions of family environment.
2. The two-way interaction effect between gender and type of school is significant. Female students studying in private schools have highest mean score on relationship dimensions of family environment and male students studying in private schools have the lowest mean score on relationship dimensions of family environment.
3. There exists no significant interaction effect between locale and type of school with respect to relationship dimensions of family environment.
4. The three-way interaction among gender, locale and type of school is not significant with respect to relationship dimensions of family environment.
(F) Effect of Gender, Locale and Type of School on Personal Growth Dimensions of Family Environment

1. There exists no significant interaction effect between gender and locale, gender and type of school and locale and type of school on Personal Growth Dimensions of family environment. Also, there exists no significant interaction among gender, locale and type of school with respect to this dimension.

(G) Effect of Gender, Locale and Type of School on System Maintenance Dimensions of Family Environment

1. The two-way interaction effect between gender and locale is significant with respect to system maintenance dimensions of family environment. On this dimension rural female students have highest mean score and rural male students have lowest mean score.

2. The two-way interaction effect between gender and type of school is significant with respect to system maintenance dimensions of family environment. Female students studying in private schools have highest mean score and male students studying in private schools have lowest mean score on system maintenance dimensions of family environment.

3. There exists no significant interaction effect between locale and type of school with respect to system maintenance dimensions of family environment.

4. The three-way interaction among gender, locale and type of school is not significant with respect to system maintenance dimensions of family environment.

CONCLUSIONS

By way of inference, 10+1 students of Haryana have been found to be high in their academic achievement but average in their metacognition, self-confidence and family environment. It may be concluded from the findings of the present study that metacognition, self-confidence and family environment are significantly related with the academic achievement of the students. From the factor differences among different variables we can conclude that female students perform better in their academic achievement, metacognition, and family environment, but male students are more self-confident. Rural students are better in metacognition and family environment as compared to urban counterparts but no significant differences were observed on academic
achievement and self-confidence. Also, in academic achievement and self-confidence private school students surpass government school students but no significant differences were observed between government and private school students on metacognition and family environment. Female urban students studying in private schools have highest mean academic achievement and male rural students studying in government schools have the lowest mean academic achievement. No significant three-way interactional effect of gender, locale and type of school was observed with metacognition, self-confidence, family environment and dimensions of family environment.