IMPACT OF FAMILY CLIMATE, MENTAL HEALTH, STUDY HABITS AND SELF CONFIDENCE ON THE ACADEMIC ACHIEVEMENT OF SENIOR SECONDARY STUDENTS

ABSTRACT

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1.1 INTRODUCTION
The world is becoming more and more competitive and quality of performance is the key factor for personal progress. Excellence particularly, in academics and generally in all other areas has been seen as an important aspect. Parents desire that their children climb the ladder of performance to as high level as possible. This desire of a high level of achievement puts a lot of pressure on students, teachers, institutions and the educational system itself in general. In fact it appears as if the whole system of education revolves around academic achievement of the students, though various other outcomes are also expected from the system. Hence, efforts have always been made to find out strategies and mechanism to improve excellence. Therefore, many factors have been hypothesised and researched by the researchers. They come out with different results, at time, complementing each other but at times contradicting each other. A complete and comprehensive picture of academic achievement still seems to elude the researchers. The search, therefore, continues and educational researchers all over the world are still seeking a breakthrough in elucidating this phenomenon. In the present investigation it is presumed that students’ academic achievement is determined by Family climate, Mental health, Study habits and Self-confidence and this is the reason why, the aim of the present investigation was to study the “Impact of Family Climate, Mental Health, Study Habits and Self Confidence on the Academic Achievement of Senior Secondary Students.”

1.2 FAMILY CLIMATE AND ACADEMIC ACHIEVEMENT
“The family is the only socially recognised relation for child bearing and the essential agency for child rearing, socialization, and introducing the child to the culture of the society, thereby shaping the basic character structure of our culture and forming the child's personality.” (Frank, 1948)

The infant begins his life under the fostering affection and care of his parents and other near and dear ones who are associated with the family. As he grows, he receives the first lesson of life in his family and tries to imbibe the habits, ideals and patterns of behaviour of his family members. In this way, family continuously influences him throughout his life. Happy and harmonious relationship between children and parents and other members of the family contribute to the development of sense of security. Through this, child develops a sense of belongingness. He needs to have a place in the family structure
and be recognised as an individual and must be respected. Child’s needs and feelings should neither be taken for granted or ignored. Every child just like an adult needs recognition for his achievement and success from the members of his family. Praise, encouragement, attention and recognition need to be given truly and frequently. The family provides opportunities to the child to experience success. The experience of success by itself immensely contributes to the growth and development of a child.

Not only Family Climate, child’s academic achievement depends upon a complex of factors within the child like intelligence, frustration, stress, attitude etc. And factors external to child like teachers, curriculum, methods of teaching & evaluation & school environment etc.

1.3 MENTAL HEALTH AND ACADEMIC ACHIEVEMENT

It has long been acknowledged that a variety of psychosocial and health problems affect learning and performance in profound ways. Such problems are exacerbated as youngsters internalize the debilitating effects of performing poorly at school and are punished for the misbehaviour that is a common correlate of school failure. Due to these reasons schools have come under enormous pressure in recent years to demonstrate academic gains and to address deeply rooted disparities among students’ of different races, ethnic groups, and income levels. Clearly, boosting academic achievement should be a top priority. Over the past decade, research studies and reviews have consistently concluded that student health status and achievement is deeply connected. Evidence has been mounting that meeting the basic developmental needs of students — ensuring that they are safe, drug-free, healthy, and resilient — is central to improving their academic performance (Allensworth, Lawson, Nicholson, & Wyche, 1997; Marx, Wooley, & Northrup, 1998; Mitchell, 2000).

Recent research studies have proved that learning is not the activity of single, but is bound up with total personality of learner. Mental health is an essential to the learning process as intelligence. In short we can say that mental health is an inseparable part of education. For education sound mental health is the first condition. If children are not in sound mental health, they cannot concentrate in learning and retain knowledge received in the classroom. Therefore learning is dependent on sound Mental health.
1.4 STUDY HABITS AND ACADEMIC ACHIEVEMENT

Study habits are habitual way of exercising and practicing the abilities for learning. "Poor habits of study not only retard school progress but develop frustration, destroy initiative and confidence and make prominent the feeling of worthlessness towards himself and the subject of study whereas effective methods ensure success, happiness and sense of accomplishment" — Smith, Sammuel and Field (1948).

Study habits are techniques, which a student employs to go about his or her studies, which are consistent and have become stereotyped as a result of long application or practice. It is one of the major factor effecting academic achievement of the students. Psychologists and educationists believe that good study habits are the gateway of knowledge and wisdom. It is one of the effective means of systematic development of knowledge, language and personality of the individual.

The task of learning is not related to the teacher alone but it also requires many things on the part of the learners, like his ability to schedule his time, the plan of the study, concentration, note taking, mental review, mass and part learning etc. and therefore, “Study is self-directed education” but this does not mean that the student should be left entirely to his own devices in his search for knowledge.

According to Secondary Education Commission (1952-53):

“The underachievers need some form of special help or remedial education and guidance to overcome their difficulties and achieve up to the maximum of their potential. To plan remedial education and guidance programme for underachievers we need to know about the factors related to and their possible contribution towards underachievement.”

1.5 SELF CONFIDENCE AND ACADEMIC ACHIEVEMENT

Life is full of challenges and surprises and it is intelligence and self-confidence which prepares us for facing these challenges and accepting these surprises as successfully as possible. Self-Confidence is the conviction that one is generally capable of producing desired results. Self-confidence is related with success. A confident attitude, a belief and a faith in oneself and one’s ideas are essential in getting ahead but it should also be remembered that self-confidence grows with success that means it is desirable to develop those qualities within oneself that makes for success. It has been found that the child who perceives himself to be able, confident, adequate and a person of worth has
more energy to spend on academic achievement and will use his intelligence to be utmost, on the other hand, the child who perceives himself as worthless incapable and less confident may not come up to the optimum level of attainment.

Now, it is important to find out how self-confidence and other factors taken in this research would influence academic achievement. If a positive relationship is found between these variables (family climate, mental health, study habits and self-confidence) and academic achievement, it will be of immense importance to the most important social institutions concerned with the education of child – family and school. Thus family and teachers must be helped to realize the importance of positive family & school environment, mental health, good study habits and role of confidence for the academic excellence of its younger members. Also, what measures one can undertake to improve academic achievement.

1.6 STATEMENT OF THE PROBLEM
In this investigation researcher aimed to study the “Impact of Family Climate, Mental Health, Study Habits and Self Confidence on the Academic Achievement of Senior Secondary Students.”

1.7 OBJECTIVES OF THE STUDY
1. To study the relationship between criterion variable (i.e. academic achievement) and various predictor variables that is (family climate, mental health, study habits and self confidence).
2. To study the contributory role of various predictor variables (i.e. family climate, mental health, study habits and self confidence) on criterion variable (i.e. academic achievement).
3. To study the contributory role of various predictor variables (i.e. family climate, mental health, study habits and self confidence) on criterion variable (i.e. academic achievement) for the students of science stream.
4. To study the contributory role of various predictor variables (i.e. family climate, mental health, study habits and self confidence) on criterion variable (i.e. academic achievement) for the arts stream group.
5. To establish regression equation for the prediction of the criterion variable in relation to science stream group.
6. To establish regression equation for the prediction of criterion variable in relation to
7. To study the nature of the distribution of scores of criterion variable (i.e. academic achievement) and predictor variables (i.e. family climate, mental health, study habits and self confidence).

1.8 SUBSIDIARY OBJECTIVES
Following subsidiary objectives have been formulated for the present study -
1. To compare the academic achievement of students of two faculties that is science and arts.
2. To compare the criterion variable (i.e. academic achievement) and predictor variables (i.e. family climate, mental health, study habits and self confidence) of male and female students of science stream group.
3. To compare the criterion variable (i.e. academic achievement) and predictor variables (i.e. family climate, mental health, study habits and self confidence) of male and female students of arts stream.

1.9 HYPOTHESES
The following hypotheses are undertaken in this investigation:
1. There is significant relationship between criterion variable (i.e. academic achievement) and various predictor variables (i.e. family climate, mental health, study habits and self confidence).
2. Each predictor variables (i.e. family climate, mental health, study habits and self confidence) will significantly contribute in determining the criterion variable (i.e. academic achievement).
3. Each predictor variable (i.e. family climate, mental health, study habits and self confidence) will significantly contribute in determining the criterion variable (i.e. academic achievement) for the students of science stream.
4. Each predictor variables (i.e. family climate, mental health, study habits and self confidence) will significantly contribute in determining the criterion variable (i.e. academic achievement) for the students of arts group.

1.10 SUBSIDIARY HYPOTHESES
1. There will be no statistically significant difference in the mean of the academic
achievement of students of two faculties i.e. science and arts.

2. There will be no statistically significant difference between the mean of male and female respondents of science stream in relation to their criterion variable i.e. academic achievement and predictor variables (i.e. family climate, mental health, study habits and self confidence).

3. There will be no statistically significant difference between the mean of male and female respondents of arts stream in relation to their criterion variable i.e. academic achievement and predictor variables (i.e. family climate, mental health, study habits and self confidence).

1.11 DELIMITATIONS

1. As India is a vast country it is difficult to cover the entire geographical area in a single study like the proposed one. Therefore, the sample has been selected from U.P. Board Schools of Aligarh and Etawah city.

2. The study is conducted only on the XII th class Senior Secondary Students of Science and Arts streams.

1.12 TOOLS USED IN THE STUDY

In order to meet the needs, aims and objectives of the present work, the following tools and measures were adopted:

- Family Environment Scale (FES) developed by Bhatia and Chadha (1993).
- Mental Health Battery (MHB) developed by Singh and Gupta (2008).
- Study Habits Inventory (PSSHI) by Palsane and Sharma (2003).
- Self Confidence Inventory (ASCI) by Agnihotri (1993).

1.13 SIZE OF THE SAMPLE

The main consideration in the selection of the sample was its representativeness. In this study representativeness was ensured by adopting simple random sampling without replacement selection technique. Sampling without replacement means that there are no repetitions or duplications of the units in the sample. A sample of 865 students was taken under this study.

(a) Selection of the institutions- To select the institutions from which target sample has been taken, first the investigator brought the list of Intermediate colleges of Etawah and Aligarh from the District Inspector of Schools office. Only 19 schools were taken from Etawah and Aligarh city. These schools were selected through lottery method, and male
and female respondents both from science and arts stream were selected by using simple random sampling without replacement technique.

(b) Selection of the sample- The final sample of male and female students of science and arts stream from the total cluster of students studying in XII class of science and arts group of each institution between 16 to 18 years of age were selected.

1.14- STATISTICAL TECHNIQUES Employed:

In the present research work, the data is analysed on the basis of these statistical techniques: for studying the relationship between criterion variable (i.e. academic achievement) and various predictor variables, correlations are used. To study the contributory role of various predictor variables on criterion variable, multiple regression analysis is used. For calculating significant difference between two groups t-test is used by using mean and standard deviation, because for rejecting or accepting any hypothesis based on variables these tests are very important.

1.15- FINDINGS

Findings of the present investigation are presented in two parts: (i) findings related to the major objectives, (ii) findings related to the subsidiary objectives.

1.15.1- FINDINGS RELATED TO THE MAJOR OBJECTIVES

Obj. 1: Relationship between various predictive variables and Academic achievement.

Relationship between four predictive variables and academic achievement of total students was ascertained by computing product moment coefficient of correlations and the findings thus drawn are presented below:

(i) Significant & positive relationship was found between Family Climate and Academic Achievement for total number of students.

(ii) Mental Health was found to be significantly and positively related to the academic achievement of total number of students.

(iii) Significant & positive relationship was found between Study Habits and Academic Achievement for total number of students.

(iv) Self Confidence was found to be significantly and positively related to the academic achievement of total number of students.

Obj. 2: Contributory role of various predictive variables on the Academic Achievement of total students.
In order of magnitude of regression weights, out of the eight dimensions of Family Climate only two dimensions i.e. Active recreational orientation and Independence were found prominent in determining variation in Academic achievement of total students (N=865). The role of both the dimensions was found to be significant. From the regression coefficients it was inferred that one unit increase in externality scores of Active recreational orientation and independence, cause .10738 & .08521 unit’s increment respectively in the Academic Achievement of total students.

Out of the six dimensions of Mental Health only two dimensions i.e. Intelligence and Emotional Stability were found important in determining the Academic achievement. The role of both the dimensions Intelligence and Emotional stability was found to be significant. One unit increase in Intelligence was found to cause .32122 units increment in the academic achievement of total students.

But a negative regression coefficient was obtained for dimension Emotional stability. And the value of the regression coefficient were indicative of the fact that with one unit increment in the Emotional Stability score, academic achievement of the total students decreases by .09257 units.

Out of the eight dimensions of Study Habits only one dimension i.e. Memory was found prominent in determining variation in Academic achievement. The role of Memory was found to be significant. One unit increase in Memory was found to cause .09653 units increment in the academic achievement of total students.

But variable Self-confidence does not play any significant role in influencing Academic achievement.

The values of R (coefficient of multiple correlation) were found to be significant in case of Active recreational orientation (R=.2198), Independence (R=.2101), Intelligence (R=.3612) & Memory (R=.1546), which reflects that significant multiple relationship exists between these variables and criterion variable. But the value of R (coefficient of multiple correlation) was found not significant in case of Emotional stability (R=.0230), which reflects that there exists negative & not significant relationship between Emotional stability and Academic achievement.

The values of R² (coefficient of multiple determination) being .17, which shows that about 17% of the variance in Academic achievement total students is accounted by the joint contribution of the these dimensions i.e. Active recreational orientation,
Independence, Intelligence, Emotional Stability & Memory, and the remaining percentage of the variance is still to be accounted for.

Therefore, the second research hypothesis "each predictor variables (i.e. family climate, mental health, study habits, and self confidence) will significantly contribute in determining the criterion variable (i.e. academic achievement)" is partially accepted.

**Obj. 3: Contributory role of various predictive variables on the Academic Achievement of science students.**

In order of magnitude of regression weights, out of the eight dimensions of Family Climate only one dimension i.e. Active recreational orientation played a prominent role in determining variation in Academic achievement of science students. The role of this dimension is found to be significant. From the regression coefficients, it was inferred that one unit increase in externality scores of Active recreational orientation, cause \(0.14950\) units increment in the Academic Achievement of science students.

Out of the six dimensions of Mental Health only two dimensions i.e. Intelligence and Emotional Stability were found important in determining the Academic achievement. The role of both the dimensions was found to be significant. One unit increase in Intelligence was found to cause, \(0.30753\) units increment in the academic achievement of science students.

But a negative regression coefficient was obtained for dimension Emotional stability. And the value of the regression coefficient were indicative of the fact that with one unit increment in the Emotional Stability score, academic achievement of the science students decreases by \(0.10048\) units.

Out of the eight dimensions of Study Habits, only two dimensions i.e. Note taking and Memory were found important in determining the Academic achievement. The role of both the dimensions was found to be significant. One unit increase in Memory was found to cause, \(0.08372\) units increment in the Academic achievement of science students.

But a negative regression coefficient was obtained for the dimension Note taking. And the value of the regression coefficient were indicative of the fact that with one unit increment in the Note taking score, Academic achievement of the science students decreases by \(0.10606\) units.
Here also variable Self-confidence does not play any significant role in influencing academic achievement of arts students.

The values of $R$ (coefficient of multiple correlation) were found to be significant in case of Active recreational orientation ($R=.2020$), Intelligence ($R=.3292$) & Memory ($R=1097$), which reflects that significant multiple relationship exists between these variables and criterion variable. But the value of $R$ (coefficient of multiple correlation) was not found significant in case of Emotional stability ($R=-.0132$) & Note taking ($R=-.0630$) which reflects that there exists no relationship between Emotional stability and academic achievement & Note taking and Academic achievement.

The values of $R^2$ (coefficient of multiple determination) being .14, which shows that about 14% of the variance in academic achievement science students is accounted by the joint contribution of the these dimensions i.e. Active recreational orientation, Intelligence, Emotional Stability, Memory & Note taking and the remaining percentage of the variance is still to be accounted for.

Therefore, the third research hypothesis “each predictor variables (i.e. family climate, mental health, study habits, and self confidence) will significantly contribute in determining the criterion variable (i.e. academic achievement) for the students of science stream”, is partially accepted.

Object 4: Contributory role of various predictive variables on the Academic Achievement of arts students.

Out of the eight dimensions of Family Climate only two dimensions i.e. Control and Expressiveness were found important in determining the academic achievement. The role of both the variables was found to be significant. One unit increase in Control was found to cause .16761 units increment in the academic achievement of arts students.

But a negative regression coefficient was obtained for Expressiveness variable. And the value of the regression coefficient were indicative of the fact that with one unit increment in the Expressiveness score, academic achievement of the arts students decreases by .13805 units.

Out of the six dimensions of Mental Health only two dimensions i.e. Intelligence and Autonomy were found prominent in determining variation in academic achievement of arts students. From the regression coefficients it was inferred that one unit increase in
externality scores of Intelligence and Autonomy, cause only .14180 & .13093 unit’s increment respectively in the Academic achievement of Arts students.

Out of the eight dimensions of Study Habits only one dimension i.e. Budgeting time was found prominent in determining variation in academic achievement. The role of Budgeting time was found to be significant. One unit increase in Budgeting time was found to cause only, .19865 units increment in the academic achievement of arts students.

Here, also variable Self-confidence does not play any significant role in influencing academic achievement of Arts students.

The values of R (coefficient of multiple correlation) were found to be significant in case of Control (R=.2221), Intelligence (R=.2194), Autonomy (R=.1906) & Budgeting time (R=.2091), which reflects that significant multiple relationship exists between these variables and criterion variable. But the value of R (coefficient of multiple correlation) was not found significant in case of Expressiveness (R=.0763), which reflects that there exists negative & not significant relationship between Expressiveness and Academic achievement.

The values of $R^2$ (coefficient of multiple determination) being .14, which shows that about 14% of the variance in academic achievement of arts students is accounted by the joint contribution of these dimensions i.e. Control, Expressiveness, Intelligence, Autonomy & Budgeting time, and the remaining percentage of the variance is still to be accounted for.

Therefore, the forth research hypothesis “each predictor variables (i.e. family climate, mental health, study habits, and self confidence) will significantly contribute in determining the criterion variable (i.e. academic achievement) for the students of arts stream”, is partially confirmed.

**Obj. 5- Prediction of the criterion variable on the basis of predictive variables in relation to science stream group.**

On the basis of the regression coefficients an $X_1$ coefficient (constant), multiple regression equations was derived for science stream population, which is being presented as under.

In case of science respondents, value of $X_1$ coefficient (constant), was 139.66, and values of regression coefficients were: .30753, .14950, -.10606, -.10048 and .08372 for
In the equation, X̅ is the Academic Achievement predicted, while M6, F6, P4, M1 & P6 (intelligence, Active recreational orientation, Note taking, Emotional stability & Memory) are five dimensions of three predictive variables i.e. Family climate (b2), Mental health (b3) and Study habits (b4), with the equation X̅ (academic achievement predicted) for every student can be predicted knowing his scores on the other variables.

Obj. 6- Prediction of the criterion variable on the basis of predictive variables in relation to arts stream group.

On the basis of the regression coefficients an ‘a’ coefficient (constant), multiple regression equations was derived for arts stream population, which is being presented as under.

In case of arts respondents value of ‘X̅’ coefficient (constant), was 140.64, and values of regression coefficients were: .16761, .19865, .14180, -.13805, .13093 for F8, P1, M6, F2 & M3 respectively, the entire regression equation for arts respondents thus reads-

Achievement (X̅) = .02956(X̅) + .27273(X̅) + .00000(X̅) + 140.64

In the equation, X̅ is the Academic Achievement predicted, while F8, P1, M6, F2 & M3 (Control, Budgeting time, Intelligence, Expressiveness, Autonomy) are five dimensions of three predictive variables i.e. Family climate (b2), Mental health (b3) and Study habits (b4), with the equation X̅ (academic achievement predicted) for every student can be predicted knowing his scores on the other variables.

Obj. 7- Nature of the Distribution of Criterion and Predictive Variables Under Study

Nature of the Distribution of Criterion and Predictive Variables Under Study

The scores of the criterion variable (academic achievement) and the four independent variables (Family climate, Mental health, Study habits and Self confidence) were found to be normally distributed in the sample. The curves of Family climate scores of arts students were found to be negatively skewed (-.086). This value suggests that the data is skewed to the left, and is approximately symmetric. The excess kurtosis (.117) is slightly greater than zero implies that distribution is slightly lepto-kurtic. For the students of science stream these curves were found to be negatively skewed (-.584). This
suggests that data is skewed to the left, which implies that the distribution is moderately skewed. The excess kurtosis (.809) is slightly greater than zero implies that distribution is slightly lepto-kurtic.

The curves of Mental health scores of arts students were found to be negatively skewed (-.221). This value suggests that data is skewed to the left. The excess kurtosis (.673) is slightly greater than zero implies that distribution is slightly lepto-kurtic. For the students of science stream the negative value of skewness (-.515) suggests that data is skewed to the left. The excess kurtosis (.020) is slightly greater than zero implies that distribution is slightly lepto-kurtic.

The Study habits scores of arts students were found to be negatively skewed (-.584). This value suggests that data is skewed to the left, and the distribution is moderately skewed. The excess kurtosis (.097) is slightly greater than zero implies that distribution is lepto-kurtic. For the students of science stream the negative value of skewness (-.534) suggests that data is skewed to the left, and the distribution is moderately skewed. The excess kurtosis (.368) is greater than zero implies that distribution is lepto-kurtic.

The Self confidence scores of arts students were found to be negatively skewed (-.193). This value suggests that data is skewed to the left, and the distribution is approximately symmetric. The excess kurtosis (.031) is slightly more than zero implies that distribution is lepto-kurtic. For the students of science stream the positive value of skewness (.053) suggests that data is skewed to the right, and the distribution is approximately symmetric. The excess kurtosis (-.293) is slightly less than zero implies that distribution is plati-kurtic.

The Academic achievement scores of arts students were found to be positively skewed (.014). This value suggests that data is skewed to the right, and the distribution is approximately symmetric. The excess kurtosis (.492) is slightly more than zero implies that distribution is lepto-kurtic. This value implies reducing high probability for extreme values. For the students of science stream the negative value of skewness (-.004) suggests that data is ignogrably skewed to the left, and the distribution is approximately symmetric. The excess kurtosis (-.119) is slightly less than zero implies that distribution is plati-kurtic.

1.15.2- FINDINGS RELATED TO THE SUBSIDIARY OBJECTIVES
Sub. Obj. 1- Comparison of the Academic achievement of students of two faculties i.e., science and arts.

Significant difference was found between the respondents of science and arts stream on the variable of Academic achievement. The calculated mean values are 263.68 and 233.57 for science and arts group respectively. And the obtained t-value is 8.30 which is found significant at 0.01 level. These values indicate that the Academic achievement of science stream students is better than that of arts stream students. Therefore, the first subsidiary hypothesis is rejected.

Sub. Obj. 2- Comparison of the criterion variable (i.e. academic achievement) and predictor variables (i.e. family climate, mental health, study habits and self confidence) of male and female students of Science stream.

2(a)- Comparison of male and female respondents of science stream on the variable of Family climate.

- Significant difference was found between male and female respondents of science stream. The mean value of females on factor cohesion is higher than that of males.
- Significant difference was found between male and female respondents of science stream. The mean value of females on factor expressiveness is higher than that of males.
- No significant difference was found between male and female respondents of science stream on the factor conflict.
- Significant difference was found between male and female respondents of science stream. The mean value of females on factor acceptance and caring is higher than that of males.
- Significant difference was found between male and female respondents of science stream. The mean value of females on factor independence is higher than that of males.
- Significant difference was found between male and female respondents of science stream. The mean value of females on factor active recreational orientation is higher than that of males.
- Significant difference was found between male and female respondents of science stream. The mean value of females on factor organization is higher than that of males.
- Significant difference was found between male and female respondents of science stream. The mean value of females on factor control and caring is higher than that of males.
Thus, we can say that a significant difference was found between male and female respondents of science stream. The mean value of females on the variable of Family Climate is higher than the mean value of males.

2(b)- Comparison of male and female respondents of science stream on the variable of Mental health.
- No significant difference was found between male and female respondents of science stream on the factor Emotional stability.
- Significant difference was found between male and female respondents of science stream. The mean value of females on factor Adjustment is higher than that of males.
- Significant difference was found between male and female respondents of science stream. The mean value of females on factor Autonomy is higher than that of males.
- Significant difference was found between male and female respondents of science stream. The mean value of females on factor Security-insecurity is higher than that of males.
- No significant difference was found between male and female respondents of science stream on the factor Self concept.
- No significant difference was found between male and female respondents of science stream on the factor Intelligence.

Thus, we can say that significant difference was found between male and female respondents of science stream. The mean value of females on the variable of Mental health is higher than that of males.

2(c)- Comparison of male and female respondents of science stream on the variable of Study habits.
- Significant difference was found between male and female respondents of science stream. The mean value of females on factor Budgeting time is higher than that of males.
- Significant difference was found between male and female respondents of science stream on factor Physical conditions for study. The mean value of females is higher than the mean value of males on factor Physical conditions for study.
- Significant difference was found between male and female respondents of science stream. The mean value of females on factor Reading ability is higher than that of males.
- Significant difference was found between male and female respondents of science stream. The mean value of males on factor Note taking is higher than that of females.
- Significant difference was found between male and female respondents of science stream. The mean value of females on factor Factors in learning motivation is higher than that of males.
- Significant difference was found between male and female respondents of science stream on the factor Memory. The mean value of females on factor Memory is higher than that of males.
- No significant difference was found between male and female respondents of science stream.
- Significant difference was found between male and female respondents of science stream. The mean value of females on factor Health is higher than that of males.

Thus, we can say that significant difference was found between male and female respondents of science stream. The mean value of females on the variable of Study habits is higher than the mean value of males.

2(d)- Comparison of male and female respondents of science stream on the variable of Self confidence.

- Significant difference was found between male and female respondents of science stream on the factor Self confidence. The mean value of males is higher than the mean value of females.

2(e)- Comparison of male and female respondents of science stream on the variable of Academic achievement

Significant difference was found between male and female respondents of science stream. The mean value of females on factor Academic Achievement is higher than that of males. Therefore, the second subsidiary hypothesis is partially confirmed.

Sub. Obj. 3- Comparison of the criterion variable (i.e. academic achievement) and predictor variables (i.e. family climate, mental health, study habits and self confidence) of male and female students of Arts stream.

3(a)- Comparison of male and female respondents of arts stream on the variable of Family climate.
No significant difference was found between male and female respondents of arts stream on the factor Cohesion.
No significant difference was found between male and female respondents of arts stream on the factor Expressiveness.
No significant difference was found between male and female respondents of arts stream on the factor Conflict.
No significant difference was found between male and female respondents of arts stream on the factor Acceptance & Caring.
No significant difference was found between male and female respondents of arts stream on the factor Independence.
No significant difference was found between male and female respondents of arts stream on the factor Active recreational orientation.
Significant difference was found between male and female respondents of arts stream on the factor Organization. Males possess higher mean on factor Organization as compared to females.
No significant difference was found between male and female respondents of arts stream on the factor Control.

Thus, we can say that no significant difference was found between Male and Female respondents of Arts stream on the variable of Family climate.

3(b)- Comparison of male and female respondents of arts stream on the variable of Mental health.
Significant difference was found between male and female respondents of arts stream. The mean value of males on factor Emotional stability is higher than that of females.
Significant difference was found between male and female respondents of arts stream. The mean value of males on factor Adjustment is higher than that of females.
Significant difference was found between male and female respondents of arts stream. The mean value of females on factor Autonomy is higher than that of males.
Significant difference was found between male and female respondents of arts stream. The mean value of females on factor Security-insecurity is higher than that of males.
No significant difference was found between male and female respondents of arts stream on the factor Self concept.
No significant difference was found between male and female respondents of arts stream on the factor Intelligence.

Thus, it can be concluded that there exists no significant difference between male and female respondents of Arts stream on the variable of Mental health.

3(c) Comparison of male and female respondents of arts stream on the variable of Study habits.

Significant difference was found between male and female respondents of arts stream. The mean value of females on factor Budgeting time is higher than that of males.

No significant difference was found between male and female respondents of arts stream on the factor Physical conditions for study.

No significant difference was found between male and female respondents of arts stream on the factor Reading ability.

No significant difference was found between male and female respondents of arts stream on the factor Note taking.

No significant difference was found between male and female respondents of arts stream on the factor Factors in learning motivation.

No significant difference was found between male and female respondents of arts stream on the factor Memory.

No significant difference was found between male and female respondents of arts stream on the factor Taking examinations.

No significant difference was found between male and female respondents of arts stream on the factor Health.

Thus, it can be concluded that there exists no significant difference between Male and Female respondents of Arts stream on the variable of Study habits.

3(d) Comparison of male and female respondents of arts stream on the variable of Self confidence.

Significant difference was found between male and female respondents of arts stream. The mean value of females on the variable of Self confidence is higher than the mean value of males.

3(e) Comparison of male and female respondents of arts stream on the variable of Academic achievement.
Significant difference was found between male and female respondents of arts stream. The mean value of females on variable Academic achievement is higher than the mean value of males. Therefore, the third subsidiary hypothesis is partially accepted.

1.16- SUGGESTIONS FOR FURTHER RESEARCH

Academic achievement is the central concept in the area of Educational Psychology. Therefore immense importance is placed on academic achievement and the factors involved therein. The present study has thrown some light and insight into the relationship between predictive variables viz. Family climate, Mental Health, Study habits and Self confidence and the criterion variable i.e. Academic achievement of science and arts stream students of senior secondary school. Some broad suggestions on the lines on which further research studies can be conducted are given below:

(i) The present investigation was carried out on 520 science stream and 345 arts stream students, studying in class XII of the intermediate colleges of Etawah and Aligarh city. Similar study can be carried out on a larger sample to get better and more authentic results.

(ii) A similar study can be carried out upon the students of different educational levels, different age groups, different educational streams and different levels of socio-economic status.

(iii) A comparative study of similar type may be conducted on rural and urban students.

(iv) The predictive variables used in this study viz. Family climate, Mental Health, Study habits and Self confidence can be studied in relation to other variables like creativity, aspiration levels, self-concept etc.

(v) The academic achievement of students can be studied in relation to factors other than Family climate, Mental Health, Study habits and Self confidence.

(vi) The most puzzling result of this study was the low contribution of self confidence in determining the academic achievement of the students. This has made the investigator curious to know about the causes underlying this state of affairs. The investigator is therefore of the opinion that it would be meaningful if further research in this area is conducted.

(vii) Research may be planned to develop projective tools for measuring the predictive variables undertaken in the present investigation.
(viii) The board of intermediate education offers also the agriculture, constructive, business streams of courses. The present research has attempted to study the achievement in only science and arts streams. Prediction of achievement in other streams other than scientific and literary courses should also be made.

(ix) The present investigation is confined only to the students studying in intermediate classes (XII) of U.P. Board of Aligarh and Etawah Districts. Other districts or regions of the state should be included for further research.

(x) This study is confined only to govt. U.P. Board senior secondary school students; its findings cannot be applied to all the stages of education. Thus there is a need to generalize this study by taking a sample from all level of schooling to corroborate the findings of the study.