A FACTOR ANALYTICAL STUDY OF TEMPERAMENT, CHARACTER, EMOTIONAL INTELLIGENCE AND NEED ACHIEVEMENT OF COMMERCE FACULTY

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Abstract

The main objective of the study is to find out the common factors that account for the relationship between Emotional Intelligence, Need Achievement, Temperament and Character. A sample of 69 post graduate students was randomly selected from the commerce faculty in Aligarh Muslim University. Three different research instruments were used to measure the variables: Emotional intelligence Scale (EIS) by Anukool Hyde, Sanjyot Pethe and Upinder Dhar, The Temperament and Character Inventory (TCI) by Cloninger et. al. and Achievement Motivation Test (n-Ach scale) by Pratibha Deo and Asha Mohan. The analysis was done by SPSS in two steps: Computation of Inter-correlations among the variables and Factor analysis of the sub dimensions of all the four variables. Six (6) Factors emerged in the factor analysis namely: Emotional Intelligence with High Need Achievement, Reflective and Persistent Personality, Self Actualization Orientation, Lively and Conscientious Personality, Bold and Enthusiastic Personality and Motivated for Self-development with Self Centered Attitude. The factors in detail are discussed in the paper.

Keywords: *Emotional Intelligence, Temperament, Character, Need Achievement and Factor Analysis.*

INTRODUCTION

The investigator chose these four variables on the basis that firstly Emotional Intelligence has recently gained utmost importance and is being applied in all the fields and has earned an edge over IQ in the last decade. Temperament and Character variables are together used mostly in clinical studies. Just like motives are central to any theory of personality and therefore has a strong education implication so are our emotions. Motives are

emotions in actions. Temperament and character are both biological and psychological. We cannot disregard temperament and character from any understanding of human behaviour and therefore these implications to the field of education cannot be overlooked. It was felt that these variables as a major part of personality should be dealt in educational field. The variable 'need achievement" is very important from education point of view. It becomes immensely important to apply these variables in the educational field and classroom environment where the achievement motivation is of paramount importance for the students.

The question raised in the mind of the researcher is whether Emotional Intelligence has any relation with Need Achievement. As far as the Character and Temperament are concerned, there are seven (7) dimensions and again we want to know whether Emotional Intelligence is any way related to or has any relationship with these factors. Similarly in recent times Self-Regulation and Self-Monitoring have been emphasized in learning situations. Self-regulation and monitoring studies are done in the context of cognitive and metacognitive studies. Since we consider personality characteristics as generalized in different walks of life including learning, perception etc, therefore the study of personality factors seems to be relevant to Need Achievement as well as to Emotional Intelligence.

The operational definitions of the four variables taken into consideration for the research are:

EMOTIONAL INTELLIGENCE

'Emotional Intelligence is defined as the ability to monitor one's own and other's feelings and emotions to discriminate among others, and use this information to guide one's thinking and action. Emotional intelligence involves the ability to perceive accurately, appraise, and express emotions; the ability to access and /or generate feelings when they facilitate thoughts, the ability to understand emotions and emotional knowledge and intellectual growth.'

(**(Mayer and Salovey 1993)**

On the basis of various definitions many sub dimensions have evolved of Emotional Intelligence. Therefore emotional intelligence can be defined in terms of sub dimensions like: Self Awareness, Empathy, Self-Motivation, Emotional Stability, Managing Relations, Integrity, Self Development, Value Orientation, Commitment and Altruistic Behavior.

NEED ACHIEVEMENT(n-Ach)

'Achievement motivation (n-Ach) is defined as a disposition to strive for success in competition with others with some standard of excellence, set by the individual. Motive to achieve requires an act of some norms of excellence, long term involvement and unique accomplishment.'   **(McClelland et al., 1985)**

TEMPERAMENT

'The temperament is generally described as biologically based components of personality which are set to be independent heritable, manifest early in life and involve pre conceptual biases in perception, memory and habit formation.'

(Cloninger et al., 1993)

On the basis of various definitions many sub dimensions have evolved of Temperament. Therefore Temperament can be defined in terms of sub dimensions like: Novelty Seeking, Harm Avoidance, Reward Dependence and Persistence.

CHARACTER

'Character dimensions are consciously learned components of personality which mature in adulthood and influence personal and social effectiveness by insight learning about self concepts.'   **(Cloninger et al., 1993)**

On the basis of various definitions of Character, it can be defined in terms of sub dimensions like: Self Directedness, Cooperativeness and Self Transcendence.

OBJECTIVES OF THE STUDY

The objectives of the present study are given below:

1. To study the relationship between ten sub dimensions of Emotional Intelligence and Need Achievement.

2. To study the relationship between ten sub dimensions of Emotional Intelligence and four sub dimensions of Temperament.

3. To study the relationship between the ten sub dimensions of Emotional Intelligence and three sub dimensions of Character.

4. To study the relationship between the four sub dimensions of Temperament and Need Achievement.

5. To study the relationship between the three sub dimensions of Character and Need Achievement.

6. To study the relationship between the four sub dimensions of Temperament and three sub dimensions of Character.

7. To search the factors involved in Emotional Intelligence, Need Achievement, Temperament and Character.

The main objective of the study is to find out the common factors that account for the relationship between Emotional Intelligence, Need Achievement, Temperament and Character.

HYPOTHESES

In order to study the objectives the following hypotheses were formulated in the form of null-hypothesis:

1. There is no relationship between any sub dimensions of Emotional Intelligence and Need Achievement.

2. There is no relationship between any sub dimensions of Emotional Intelligence and any sub dimensions of Temperament.

3. There is no relationship between any sub dimensions of Emotional Intelligence and any sub dimensions of Character.

4. There is no relationship between any sub dimensions of Temperament and Need Achievement.

5. There is no relationship between any sub dimensions of Character and Need Achievement.

6. There is no relationship between any sub dimensions of Temperament and any sub dimensions of Character.

For objectives from one (1) to six (6), the investigator employed the product moment correlation. In order to test the hypotheses from one to six, product moment correlation was found between the four variables along with their sub dimensions.

In order to study the seventh (7th) objective the investigator used the rotated varimax techniques of Factor Analysis.

DESIGN AND METHODOLOGY

SAMPLE

In the present study, the target population was all the post graduate students of Aligarh Muslim University. The total intake in post-graduation of the commerce faculty is 105. A sample of 69 students was randomly selected.

RESEARCH INSTRUMENT/TOOLS USED

For collecting relevant information for the present study, this investigator used three different research instruments to measure the variables:

1. Emotional intelligence Scale (EIS) by Anukool Hyde, Sanjyot Pethe and Upinder Dhar [2001].
2. The Temperament and Character Inventory (TCI) by Cloninger et. al. [1994].
3. Achievement Motivation Test (n-Ach scale) by Pratibha Deo and Asha Mohan 1985].

ANALYSIS OF DATA

All the calculations were done on the computer with the help of a software package named as Statistical Package for Social Sciences (SPSS) (version 10.0). The analysis was done in two steps:

- Computation of Inter-correlations among the variables
- Factor analysis of the sub dimensions of all the four variables.

STUDY OF CORRELATION MATRIX OF THE COMMERCE SAMPLE

There were 19 variables in the study which were inter correlated. The size of the commerce sample was 69 including post graduate students of Faculty of Commerce, Aligarh Muslim University. .

Here,   N (sample size) = 69

df (degree of freedom) = N-2

= 69 − 2 = 67

It was found from the statistical tables that for 67 degrees of freedom, the value of correlation (r) must be at least **.273**, to be significant at **.05 level** and **.354** to be significant at **.01 level.**

The product moment correlation coefficient yielded the following results. Only the important and significant results have been summarized as follows:

1)Temperament: *Novelty Seeking*- a sub dimension of temperament has significant negative correlation with Harm Avoidance, Reward Dependence and Persistence (sub dimensions of Temperament) along with Self Directedness, Cooperativeness and Self Transcendence (all the sub dimensions of Character).

Harm Avoidance- a sub dimension of temperament has significant negative correlation with Reward Dependence, Novelty seeking and Persistence (sub dimensions of Temperament) and Self Directedness, Cooperativeness and Self Transcendence (all the sub dimensions of Character).

Reward Dependence- a sub dimension of temperament has a positive significant correlation with Self Directedness, Cooperativeness and Self Transcendence (the three sub dimensions of Character). Reward Dependence is negatively correlated to Novelty Seeking (a sub dimension of Temperament).

Persistence- a sub dimension of temperament is significantly and positively correlated to Self Directedness, Cooperativeness (sub dimensions of Character) and Reward Dependence (a sub dimension of Temperament). The variable negatively correlated to Persistence is Harm Avoidance (a sub dimension of Temperament).

1) Character: *Self Directedness*- a sub dimension of Character is positively correlated to Persistence (a sub dimension of Temperament) and Cooperativeness (a sub dimension of Character). Value Orientation (a sub dimension of Emotional Intelligence) is also positively correlated to Self Directedness. Self Directedness is negatively correlated to Novelty Seeking (a sub dimension of Temperament).

Cooperativeness- a sub dimension of character is positively correlated to Reward Dependence and Persistence (sub dimensions of Temperament) and Self Directedness (a sub dimension of Character). And it is found that Cooperativeness is positively correlated to Self Transcendence (a sub dimension of Character). Cooperativeness is significantly and negatively correlated to Novelty Seeking (a sub dimension of Temperament).

Self-Transcendence- a sub dimension of character is positively correlated to Reward Dependence (a sub dimension of Temperament) and Cooperativeness (a sub dimension of Character).

1)Need Achievement: Need Achievement is significantly and positively correlated with Persistence (a sub dimension of Temperament); with Self Directedness and Cooperativeness (sub dimensions of Character). Need Achievement has maintained a positive and significant relationship with almost all the sub dimensions of Emotional Intelligence.

2)Emotional Intelligence: Emotional Intelligence has yielded a constant positive and significant relationship with Need Achievement. Emotional Intelligence is positively correlated to Reward Dependence (a sub dimension of Temperament). Further Emotional Intelligence is negatively correlated to Harm Avoidance (a sub dimension of Temperament).

Therefore the researcher has rejected all the null hypotheses as significant relationships were observed in some or the other sub dimensions of all the four variables, namely, Emotional Intelligence, Need Achievement, Temperament and Character.

FACTOR ANALYSIS OF COMMERCE SAMPLE

The factor analysis for the commerce sample led to the emergence of 6 different factors accounting for variance in 19 variables. The detailed discussion of factor loadings, their name and their interpretation is given below. The figures within brackets indicate the factor loading of the concerned variables.

TABLE- I   UNROTATED MATRIX OF COMMERCE SAMPLE

VARIABLES/COMPONENTS	1	2	3	4	5	6
T1- Novelty Seeking	.060	**-.495**	**.529**	**.559**	.145	-.050
T2- Harm Avoidance	-.124	-.043	**-.841**	-.159	.223	-.054
T3- Reward Dependence	.016	**.580**	**-.330**	**.337**	**-.384**	.144
T4- Persistence	.085	**.332**	**.638**	**-.348**	-.022	.244
C1- Self Directedness	.016	**.718**	.151	-.252	**.483**	-.018

C2- Cooperativeness	-.034	**.860**	.136	.012	-.028	.202
C3- Self Transcendence	.040	**.513**	.018	**.348**	**-.521**	-.258
NA- Need Achievement	**.770**	.132	.117	-.034	-.029	.158
E1- Self Awareness	**.695**	-.123	-.072	**-.315**	-.183	-.045
E2- Empathy	**.718**	.043	-.028	-.148	.246	.094
E3- Self Motivation	**.723**	.019	-.171	.079	.203	-.036
E4- Emotional Stability	**.780**	.027	.122	-.271	-.044	**-.327**
E5- Managing Relations	**.532**	-.160	-.098	.117	-.240	**.597**
E6- Integrity	**.650**	.183	-.077	.139	-.118	-.069
E7- Self Development	**.635**	.014	.094	-.053	-.067	.286
E8- Value Orientation	**.335**	**.368**	.137	**.505**	**.357**	-.287
E9- Commitment	**.391**	.060	-.157	**.537**	**.338**	.156
E10- Altruistic Behaviour	**.569**	.022	-.023	-.023	-.290	**-.562**
EI- Total Emotional Intelligence	**.995**	-.014	.010	.017	.018	-.119

Extraction Method Principal Component Analysis

6 Components extracted.

TABLE- II ROTATED MATRIX OF COMMERCE SAMPLE

VARIABLES/COMPONENTS	1	2	3	4	5	6
T1- Novelty Seeking	-.105	**-.380**	-.246	**.423**	**.682**	.036
T2- Harm Avoidance	-.066	-.090	-.054	.048	**-.884**	-.055
T3- Reward Dependence	-.055	.120	**.765**	.124	-.237	.228
T4- Persistence	-.094	**.620**	-.054	-.269	**.470**	.121
C1- Self Directedness	-.025	**.864**	-.015	.176	-.125	-.207
C2- Cooperativeness	-.085	**.735**	**.488**	.073	.022	.099
C3- Self Transcendence	-.177	.031	**.824**	.018	.124	-.167
NA- Need Achievement	**.701**	.107	.081	.168	-.078	**.327**
E1- Self Awareness	**.758**	-.053	-.069	-.186	.018	.127
E2- Empathy	**.688**	.170	-.191	.219	-.068	.095
E3- Self Motivation	**.651**	.031	.061	**.376**	-.133	.120
E4- Emotional Stability	**.872**	.075	.035	-.030	.105	-.164
E5- Managing Relations	.361	-.125	.033	.040	.129	**.755**
E6- Integrity	**.576**	-.242	.029	.178	.058	.268
E7- Self Development	**.551**	.074	.073	.068	.050	**.419**
E8- Value Orientation	.313	.209	**.302**	**.720**	.148	-.241
E9- Commitment	.171	-.040	.202	**.715**	-.063	.247
E10- Altruistic Behaviour	**.691**	-.171	**.361**	-.029	.165	**-.358**

EI- Total Emotional Intelligence	**.933**	-.012	-.082	.268	.049	.212

Extraction Method Principal component Analysis

Rotation Method Varimax with Kaiser Normalization.

FACTORS DERIVED AND THEIR INTERPRETATION OF COMMERCE SAMPLE

FACTOR 1. The highest loadings on Factor 1 are given by Variable 19- Total Emotional Intelligence (0.933), variable 12- Emotional Stability (0.872), variable 9- Self Awareness (0.758) and variable 8- Need Achievement (0.701), whereas, variable 18- Altruistic Behaviour (0.691), variable 10- Empathy (0.688), variable 11- Self Motivation (0.651), variable 14- Integrity (0.576), variable 15- Self Development (0.551) and variable 13- Managing Relations (0.361) have shown moderate loadings on this factor with variable 16- Value Orientation (0.313) showing low loading on factor-1. The factor has been named as *"Emotional Intelligence with High Need Achievement".*

"Emotional Intelligence with High Need Achievement".

The factor has been identified as Emotional Intelligence as it has significant loading on nine sub-dimensions of Emotional Intelligence (i.e, Empathy, Self Awareness, Self-Motivation, Emotional Stability, Managing Relations, Integrity, Value Orientation, Altruistic behavior and Self Development) along with high loading on Total Emotional Intelligence and Need Achievement.

The sub dimensions of Emotional intelligence were found to be significantly highly correlated with need achievement. It is seen that Need achievement is a part of Emotional Intelligence, since high emotional intelligence have a high need achievement. Emotions and motivation are inter-linked because no motivation can exist without having an emotional base or vice versa.

FACTOR 2. Variable 5- Self Directedness (0.864) and variable 6- Cooperativeness (0.735) have given highest loadings on factor 2, along with moderate loadings of variable 4- Persistence (0.620) and negative loading by variable 1- Novelty Seeking (-0.380). The factor thus has been identified as *"Reflective and Persistent Personality".*

"Reflective and Persistent Personality".

This personality shows reflective nature as it has negative loading on Novelty Seeking. Other variables like Persistence, Self Directedness and Cooperativeness shows a highly motivated personality.

FACTOR 3. Variable 7- Self Transcendence (0.824) has given the highest loadings on factor-3 whereas variable 3- Reward Dependence (0.765) and variable 6- Cooperativeness (0.488) has given the moderate loadings on factor 3. And variable 16- Value Orientation (0.302) and variable 18- Altruistic Behaviour (0.361) have a low loading on factor-3. Therefore the factor has been named as ***"Self Actualization Orientation".***

"Self Actualization Orientation".

As this factor has a high loading on Self Transcendence and Reward Dependence, it shows that the personality has an orientation towards being self-actualized. But it is not so self neglecting as it has significant loading on Cooperativeness and Altruistic Behaviour.

FACTOR 4. The highest positive loadings on factor 4 is by variable 16- Value Orientation (0.720) and variable 17- Commitment (0.715) with moderate loadings by variable 1- Novelty seeking (0.423) and variable 11- Self Motivation (0.376). The factor has been named as ***"Lively and Conscientious Personality".***

"Lively and Conscientious Personality".

The person is enthusiastic and impulsive because of positive loading on Novelty Seeking. Moreover a significant loading on Commitment, Value Orientation and Self Motivation makes a person conscientious towards others. This trait resembles factor 'F' (Liveliness) of Cattell's 16 PF.

FACTOR 5. The highest positive loadings on factor 5 is by variable 1- Novelty seeking (0.682) and variable 4- Persistence (0.470) and negative loading by variable 2- Harm Avoidance (-0.884). The factor-5 has been identified as ***"Bold and Enthusiastic Personality".***

"Bold and Enthusiastic Personality".

Personality displays a bold, uninhibited and spontaneous nature because of negative loading on Harm Avoidance. Positive loading on Novelty Seeking and Persistence gives a shade of persistent flexibility and impulsivity in his/her nature. This factor resembles Factor 'Q1' (Openness to Change) of Cattell's 16PF.

FACTOR 6. The highest loading is by variable 13- Managing Relations (0.755) on Factor-6 and low loadings is given by variable 15- Self Development (0.419), variable 8- Need Achievement (0.327) and with low negative loading by variable 18- Altruistic Behaviour   (-0.358). Hence the factor has been named as *"Motivated for Self development with Self Centered Attitude".*
 <u>**"Motivated for Self development with Self Centered Attitude".**</u>

The factor is so named because there is a strong tendency for Self Development and manages relations well in social setting. The negative loading on Altruistic Behaviour makes him/her self centered as he does not work for the welfare of others. This factor resembles the low scorer description of 'Extraversion', namely being introvert, as described by Goldberg in his BIG FIVE Personality Model.

RESULT AND DISCUSSION

Many factors of personality have been derived by different psychologist. The findings of the present study show that a person/ groups of person exhibit different constellation/organization of personality traits. This may be related to the sample under study. Besides different constellation of personality traits, evidence for bipolar dimension have been found in the present study. For example: external- internal orientation (in both religiousness and emotional intelligence), reflective – impulsive orientation and optimism – pessimism orientation. When Emotional Intelligence is in a way very similar to Social Intelligence (Throndike, 1920), (Ahmed and Zainuddin, 2003) it exhibits itself in social orientation; however, when combined with Self Transcendence (dimension of Character) it might take an internal orientation in the personality. A developed sense of self actualized orientation is an evolutionary advantage- those who have it are better able to keep going in conditions when other might give up. The sense of purpose gives a heightened intrinsic motivation and a reason for living.

Just as a genius could use his intellect either to cure cancer or engineer a deadly virus, emotional intelligence can be used for good as well as evil or for selfish vested interest. Someone with a high emotional intelligence can inspire colleagues, or exploit them without a moral compass to guide people. (Thompson, 2006). For example Cooperativeness has an integrated conscience which also is of course related to morality, and the moral values and its development not only occurs through religious practice but also with how one knows and manages his emotions. The factor 'Religious Orientation' with intrinsic orientation is also present. The variable of emotional intelligence 'Self Development' with predominance of 'Self Centeredness may be related to the present sample, more specifically 'age' may be responsible for self centeredness. Once a person gains self-confidence he/she may turn towards others development. Personality traits like 'Lively and Conscientious' and 'Bold and Enthusiastic' is also seen. Value Orientation present in Lively and Conscientious Personality makes it different and more responsible than Bold and Enthusiastic Personality.

EDUCATIONAL IMPLICATIONS

The educational implications of the four variables are discussed as follows:

The teacher's level of EQ is an important variable in creating a classroom where EI can be developed more effectively. And the single most important variable in the teacher's EQ is how they handle their own emotions, especially their negative emotions. An effective, successful teacher is largely one who can handle his or her negative feelings in an authentic, real and healthy way.

Character is at the core of leadership. We need sincere leaders who can build the Nation. Persistence- an aspect of temperament and Self Directedness, Cooperativeness and Self Transcendence (sub dimensions of character) have to be taken into consideration while planning strategies for teaching into classroom. These factors are important for personality development.

This study emphasizes the holistic approach to personality development among students. They have to be taught actions, choice and responsibility (Character). Self-Directedness is very important to make the students able for self-direction, as Goal Orientation is a part of Self Directedness. Recently educational psychologists have emphasized goal orientation which leads to better performance, learning and achievement.

The present day scenario is sometimes full of moral chaos and its resulting negative effects on various aspects of life. Educationists must deal with character in its psychological aspects for a fuller development of personality.

SUGGESTIONS FOR FURTHER RESEARCH

Though the present investigation has been carried out with due care and thought regarding various aspects of the research work, it may continue to have some shortcomings which have been realized during the conduction of the research. Being conscious of the shortcomings some suggestions are being made here for further investigations in this area:

- Cloninger (1993) has developed the Temperament and Character Inventory (TCI) with 226 items. The administration of the test with other variables has proved very comprehensive. Hence another test on temperament and character should be developed with fewer items and standardized in our Asian environment.
- The sample was restricted to Aligarh city only. The sample for the data collection could be outside Aligarh city so that a comparative study between the different departments of two or more universities can be studied. Moreover in Aligarh, only Aligarh Muslim University was selected with Social Sciences Faculty.
- The sample of the study can include Faculty of Arts, Life Sciences, Commerce, Medicine, Engineering and Business Administration.
- Other variables suggested for further research for factor analytic study are spiritual intelligence, cultural intelligence, aptitude creativity, study habits etc.

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