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The Big 5 Personality Traits And Its Relation With Creativity

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Abstract: Creativity has been acknowledged as one of the predominant factors influencing individual's contribution in various domains of life. History shows, that creative people possess unusual traits which make them different from their less creative counterparts. The present study was carried out on a group of reputed creative persons (national award winners) in the field of performing arts, visual arts and innovators in the area of science and technology. The total sample size is 180 (50 performing artists, 50 visual artists, 30 innovators, and 50 corporate executives which constituted the control group) aged between 30-65 years. For this purpose Standard Progressive Matrices developed by Ravens (1996) was used for screening purpose, in addition to the NEO-FFI-3 (Costa and McCrae, 1992) which was used to assess the Big 5 personality areas of openness to experience, conscientiousness, extraversion, agreeableness and neuroticism. To achieve the objectives Mean, SD, Kruskal Wallis 'H' test followed by Maan-Whitney 'U'testwere the statistical tests used. Finally discriminant analysis was applied to strengthen the predictive validity of the test. Results yielded that out of the three creative groups, innovators were found to have a significantly higher mean value on openness to experience and conscientiousness, performing artists were found to have a significantly higher score on extraversion and agreeableness while visual artists were found to score high on neuroticism. Finally, openness to experience was found to be the most discriminating factor between the creative and the less creative (corporate executives).

Keywords: Agreeableness, Creativity, Conscientiousness, Extraversion, Neuroticism, Personality, Traits

INTRODUCTION:

The vast and splendid civilization that has been built step by step bears the testimony of human endeavour. Pondering over it, it can be asserted that different sections of people in society have been contributing in their unique ways to the growth of civilization. These contributions flow from different sources. At one extreme reference may be drawn to routine activities performed by the common masses, while at the other extreme are people who have been adding new aspects to the world through their innovative ideas and thinking, ranging from promotion of cultural archetypes to giving us aesthetic pleasure. Thus, creativity refers to the phenomenon whereby something new and somewhat valuable is being generated in the form of an idea, a scientific theory, musical composition, a piece of art, paintings and so on. Creativity is regarded as one of the highest faculties of human beings, one of the greatest resources of humankind. It is what makes humans so different from other primates. It is thus:

An ability- A simple definition is that creativity is the ability to imagine or create something new. It also involves the ability of generating new ideas by altering or reapplying the existing notions.

An attitude- It is also an attitude of being open to new ideas, readily accepting the changes, a flexibility in the outlook, the habit of enjoying something good, accepting change and newness and a willingness to play with ideas and possibilities.

A Process- Creative persons strive hard and engage continually in improving the existing ideas by making gradual changes and refinements to their work.

Researchers have defined Creativity in several ways. Some of them are:

Starko (2005) suggested that ―Creativity is an interaction between person, product and environment in that the creative individual transforms information gained from within his/her culture which results in a variation of the original source.

Torrance (1966) defined creativity as ―A process of becoming sensitive to problems, deficiencies, gaps in knowledge, missing elements, disharmonies, and so on; identifying the difficulty; searching for solutions, making guesses, or formulating hypotheses about the deficiencies: testing and retesting these hypotheses and possibly modifying and retesting them; and finally communicating the results.

History recalls the fact that some prominent personalities like Van Gough, Beethoven, Michael Faraday have made significant contributions despite their physical and mental disadvantages. When the biographies of famous scientists and innovators are analyzed it is found that these people had an intense focus on their work which was necessary to take them beyond the reach of ordinary people.

Many a times it is seen that in spite of possessing creative traits some people cannot excel in their lives. This may be due to the absence of certain other personality traits required for creativity.

Gordon Allport (1961) defines personality as the dynamic organization within the individual of those psychophysical systems that determine his characteristic behaviour and thought. Creativity cannot be conceptualized as a mere cluster of intellectual traits but it is also a personality type, commonly identified as ―The Creative Personality. Creativity is embedded within personality and personality is considered as a major propellant of creativity. There are certain traits which are common among the creative personalities which make them unique individuals. It is, thus, the personality traits that are likely to provide explanation for why some people dare to stand out in the crowd and do things differently. Personality traits thus seem to be strong predictor of creativity and therefore seem to be a popular topic of creativity research. Thus, the present study envisages to study the link between the Big 5 factors of personality and creativity. Review of related literature pertaining to Big Five Factors of personality came up with conflicting findings. For instance, some research has found that some creative people are introverted (Feist, 1999; Roy, 1996) on the other hand some report that creative people are extroverted (Buchanan & Bandy, 1984; Carne &Kirton, 1982;Ohnmacht, 1970). While other studies have reported mixed findings. Openness to experience, neuroticism traits are found to be positively related with creative personalities. While trait conscientiousness and agreeableness are found to be negatively correlated with creative personalities. This is, so far, the general trend of results. Thus, an urge is felt to know more about the creative person‘s personality in the light of the above mentioned factors. Further, as results on personality factors of creative factors are rather inconclusive, there was also a need to explore whether creative people from different fields differ in their personality dimensions.

2. METHODOLOGY

2.1 Objective:

To analyse the difference in the Big Five Factors of Personality (openness to experience, conscientiousness, extraversion, agreeableness and neuroticism) between the innovators, performing artists, visual artists and the comparative group (the corporate executives).

2.2 Hypotheses:

Congruent with the above stated objective the following hypotheses were formulated for the study:

1) There will be no significant difference between the innovators, performing artists, visual artists and the corporate executives in terms of openness to experience.
2) There will be no significant difference between the innovators, performing artists, visual artists and the corporate executives in terms of conscientiousness.
3) There will be no significant difference between the innovators, performing artists, visual artists and the corporate executives in terms of extraversion.
4) There will be no significant difference between the innovators, performing artists, visual artists and the corporate executives in terms of agreeableness.
5) There will be no significant difference between the innovators, performing artists, visual artists and the corporateexecutivesintermsofneuroticism

2.3 Sample and its characteristics:

2.3.1 Sample Size

The sample comprised of 30 innovators, 50 performing artists, 50 visual artists and 50 corporate executives (N=180).

2.3.2 Age:

The age range for all the groups were 30-65 years. This age was selected for the study because most research has shown that creativity tends to peak at age 30-65 (Fauteux, 1995).

2.3.3 Area:

The samples were selected from different areas of Assam. The Innovators included in the study belonged to different areas of Assam including Guwahati, Nagaon, Tezpur, Dibrugarh, Morigaon, Tinsukia, Nalbari, Lakhimpur, Bongaigaon and Dhubri. Performing artists were from Guwahati, Jorhat, Majuli and Barpeta (Majuli and Barpeta are also known as the cultural hub of Assam). Visual Artists also belonged to Guwahati, Nagaon, Barpeta and Dibrugarh.

2.3.4 Culture:

To minimize the effect of cultural variations, the participants were matched in terms of their culture, as people of Assamese origin alone were included.

2.3.5 Gender:
The study included only male creative persons and executives. Females were not included, as female sample for all the groups were difficult to identify.
2.3.6 Mode of sampling:
In the present study, purposive sampling was followed since samples of recognized innovators, performing artists and visual artists only were included in the research. Innovators, whose patents were accepted by ASTEC (Assam State Technology Environment Council) and those recognized by National Innovation Foundation were included. Performing artists included in the present study are known celebrities creating their own piece of music or dance i.e, they did not merely reproduce the compositions created by the music directors or choreographers. The artists were reputed in their respective fields and most of them represented Assam at both national and international levels and few had been conferred with the ―"Padmashree" award. Visual Artists included for the study were sculptors and painters. They were noted artists of Assam representing the state at national and international levels and finally the corporate executives. Corporate executives were included as the comparative group. They were from sectors like BSNL, Aircel, Airtel companies. They were taken as the comparative group as their job tasks are more or less repetitive (routine tasks) which appears to require minimum creativity.

2.4 Tools Used:
i) Standard Progressive Matrices:
The Standard Progressive Matrices was developed by **Raven (1996)** and it has been used for the purpose of screening the intellectual levels of the subjects. The Standard Progressive Matrices is made up of five sets or series of diagrammatic puzzles exhibiting serial change in two dimensions simultaneously. Each of the puzzles has a part missing which the person taking the test has to find among the options provided. The test consists of 60 problems which are divided into five sets (A, B, C, D and E), each made up of 12 problems. In each set the first problem is, as much as possible, self-evident. The problems which follow build on the argument of those that have gone before and become progressively more difficult. The five sets provide five opportunities to grasp the method of thought required to solve the problems and five progressive assessments of the person's capacity for intellectual assessment. The SPM was originally designed to cover the widest range of mental abilities and to be equally useful with people of all ages, irrespective of their education, nationality or physical conditions. It is a self-administered test. The SPM has a good internal consistency with split half reliability coefficients exceeding .90 and a modal value of .91. Evidence from factor-analytic research suggests that while SPM is a good measure of general intellectual ability, it is not a pure'**g '** estimate. It has good factorial validity.
ii) NEO-FFI-3
This test was developed by Paul Costa and McCrae (1992). They examined all the possible personality traits and come up with a set of five factors. These five factors are called Big Five Factors. These factors include: Openness to Experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism.
1. **Openness to experience:** Those who score high on this factor are imaginative, unconventional, willing to question authority, prepared to entertain new ethical, social and political ideas while people scoring low are rigid, conventional.
2. Conscientiousness: It is one trait which was once called character. High C scorers are scrupulous, punctual, reliable, self-controlled while low scorers are impulsive.
3. Extraversion: Sociability is one trait which is related to extraversion. Individuals who score high like people and prefer to be in large groups and gatherings, assertive, active, talkative, thrill seeking, energetic, optimistic while on the other end of the dimension are people who are shy, prefer to be alone.
4. Agreeableness: It is a dimension of interpersonal tendencies. The agreeable person is altruistic, sympathetic and eager to help others while low scorers are antagonistic, egocentric, and competitive.
5. Neuroticism: It is one of the most pervasive domains. High scorers are moody, touchy, restless, distressed, hypertensive while low scorers are well adjusted, relaxed and calm.
It may be administered individually or in groups. There is no time limit but most respondents require 5-10 minutes to complete the measure. However, older adults and those with limited reading skills may take longer. The reliability coefficient falls within the range of .75 to .89 and show that the NEO-FFI-3 scales are good approximation of the full domain scales. The internal consistencies reported are shown below:

Table 1: Value of Internal Consistencies of the Big 5 dimensions

Openness to Experience	Conscientiousness	Extraversion	Agreeableness	Neuroticism
0.80	0.83	0.79	0.75	0.79

It has high discriminant validity and construct validity.

2.5 PROCEDURE:

A total of 180 participants were included in the study using the method of purposive sampling. After collecting the lists of reputed creative people in the field of innovation, performing artists and visual artists, each of the individuals was approached individually. The researcher introduced herself, due consent was sought from them and appointments were fixed with them (both creative and comparative group participants). All the subjects were approached in their residences, working places (studios, art schools, offices) and data were collected. Initially the participants were screened by administering Standard Progressive Matrices developed by Raven so that only those who scored high enough to exhibit average intellectual level or higher, were included for participation in the present research study. After completion of the test the selected participants were asked to fill up the NEO-FFI 3 inventory. Finally, after completion the participants were thanked and the data was subjected to statistical analysis.

3. ANALYSIS:

Statistical analysis was done with the help of Statistical Package of Social Science (SPSS-20.0). Mean and Standard Deviation were calculated followed by Kruskal Wallis 'H' test to see whether there exists any significant difference between the four groups in terms of each of the 5 Big Factors of personality. Maan-Whitney 'U' test was carried out as a post hoc analysis to locate the exact point of difference. Finally discriminant analysis was carried out to find out the most discriminating factor which differentiated creative's from their less creative counterpart.

3.1 RESULTS:

The results are depicted in the tables below:

Table 2: Showing the Mean and SD Scores on each of the Big 5 factors of personality

Groups / Factors	Innovators		Performing Artists		Visual Artists		Corporate Executives	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Openness to Experience	38.87	5.022	36.24	4.443	36.48	4.722	26.82	4.561
Conscientiousness	39.17	4.624	37.32	3.787	36.82	4.521	27.98	5.783
Extraversion	25.43	6.078	27.88	5.875	22.72	7.730	30.08	6.709
Agreeableness	25.33	4.908	28.40	6.250	25.96	5.90	27.80	4.295
Neuroticism	28.53	9.243	26.52	6.450	32.64	7.958	20.88	6.120

Table 3: 'H' Values Obtained from Kruskal-Wallis Non-Parametric Analysis of Variance (ANOVA) on each of the Big Five Factors of Personality

FACTORS	df	'H' values
Openness to Experience	3	84.180**
Conscientiousness	3	76.593**
Extraversion	3	24.771**
Agreeableness	3	5.510*
Neuroticism	3	49.031**

*p< 0.05, **< 0.01

Table 4: Mann- Whitney 'U' Values on each of the Big 5 Factors of Personality

Dependent Variable	(I) Main Group	(J) Main Group	Mann-Whitney 'U' Values
Openness to Experience	Innovators	Performing Artists	511.5 (*)
		Visual Artists	529 (*)
		Corporate Executives	71(*)
	Performing Artists	Innovators	5115.5 (*)
		Visual Artists	1241
		Corporate Executives	189.5 (*)
	Visual Artists	Innovators	529 (*)
		Performing Artists	1241
		Corporate Executives	189(*)
	Corporate Executives	Innovators	71
		Performing Artists	189.5 (*)
		Visual Artists	189 (*)

Conscientiousness	Innovators	Performing Artists	524.5 (*)
		Visual Artists	518.5 (*)
		Corporate Executives	102 (*)
	Performing Artists	Innovators	524.5 (*)
		Visual Artists	1121
		Corporate Executives	225 (*)
	Visual Artists	Innovators	518.5 (*)
		Performing Artists	1121
		Corporate Executives	263.5 (*)
	Corporate Executives	Innovators	102 (*)
		Performing Artists	225 (*)
		Visual Artists	263.5 (*)
Extraversion	Innovators	Performing Artists	569.5
		Visual Artists	577.5
		Corporate Executives	464 (*)
	Performing Artists	Innovators	569.5
		Visual Artists	755 (*)
		Corporate Executives	1054
	Visual Artists	Innovators	577.5
		Performing Artists	755 (*)
		Corporate Executives	608 (*)
	Corporate Executives	Innovators	464 (*)
		Performing Artists	1054
		Visual Artists	608 (*)
Agreeableness	Innovators	Performing Artists	550
		Visual Artists	702
		Corporate Executives	566.5
	Performing Artists	Innovators	550
		Visual Artists	1044
		Corporate Executives	1220
	Visual Artists	Innovators	702
		Performing Artists	1044
		Corporate Executives	1057
	Corporate Executives	Innovators	566.5
		Performing Artists	1220
		Visual Artists	1057
Neuroticism	Innovators	Performing Artists	598
		Visual Artists	578
		Corporate Executives	351 (*)
	Performing Artists	Innovators	598
		Visual Artists	681 (*)
		Corporate Executives	697.5 (*)
	Visual Artists	Innovators	578
		Performing Artists	681 (*)
		Corporate Executives	314 (*)
	Corporate Executives	Innovators	351 (*)
		Visual Artists	697.5 (*)
		Performing Artists	314 (*)

Table 5: Levels Scored by Participants on the Big Five Factors of Personality

Groups Factors	Innovators	Performing Artists	Visual Artists	Corporate Executives
Openness to Experience	Very High M =38.87	High M= 36.24	High M= 36.48	Average M=26.82
Conscientiousness	High M= 39.17	High M=37.32	High M=36.82	Average M= 27.98

Extraversion	Average M=25.43	Average M= 27.88	Low M=22.72	Average M=30.08
Agreeableness	Low M=25.33	Average M=28.40	Low M=25.96	Average M=27.80
Neuroticism	High M=28.53	High M=26.52	Very High M=32.64	Average M=20.88

Table 6: Discriminant Functions:

Variables	Functions
Openness to Experience	.482
Conscientiousness	.413
Extraversion	-.087
Agreeableness	.074
Neuroticism	.105

3.2 Discussion:

Results of the study reveal that 'H' value for 'Openness to Experience' was found to be 84.18 which is significant at both 5 percent and 1 percent level. Thus, the proposed hypothesis no 1 which states that there will be no significant difference between innovators, performing artists, visual artists and corporate executives on openness to experience is not accepted.

Supportive data from Mann-Whitney 'U' test indicates that each of the creative groups differed significantly from the corporate executives. It can be stated that creative groups significantly differ on openness to experience from that of the comparative group. Significant differences were also found between innovators & performing artists, innovators & visual artists but the performing artists & visual artists showed no difference. Among the creative groups, innovators had a higher mean (M=38.87), followed by visual artists (M=36.48) and performing artists (M=36.24). The corporate executives scored the lowest (M=26.82). Referring to the classification table we find that innovators had a very high score, performing artists and visual artists had a high score while the corporate executives had an average score.

Support for the present findings come from a study carried out by Furnham(1999) who found openness to experience as the most significant predictor of creativity. Further, openness has been found to be beneficial for creative performance in work settings particularly when there are divergent ways of solving a problem (George & Zhou, 2001). In a recent study Chamorro- Premuzic and Furnham(2005) too concluded that Openness to Experience is positively linked to creativity. Openness to experience refers to the tendency towards intellectual curiosity, aesthetic sensitivity and appreciation of other's culture. Thus, innovators, visual artists and performing artists scoring high on such factors are curious to discover things and to be in contact with different customs while those scoring low are narrow-minded, disinterested in variety, not receptive to new ideas or novel ways of doing things. It follows then that the creative groups tend to be more aware of their emotions, to think in unconventional and original ways, to operate easily with abstract concepts and avoid concrete concepts. The innovators in this study, however, have even higher openness to experience than the other creative groups. This could possibly be due to the nature of their work as scientific innovations usually result from manipulation of information and ideas gathered from experience. Hence, innovators essentially need to be open to wide range of experiences and be flexible in their cognitive domain. It is important to note that in contrast the corporate executives had average (in other words normal) level of openness to experience.

In terms of **'**Conscientiousness' the computed 'H' value for conscientiousness is 76.593 which is significant at both critical levels. Thus, hypothesis no 2 which states that there will be no significant difference between the innovators, performing artists, visual artists and comparative group in terms of conscientiousness is not accepted. Supportive data from table 4 shows that among the three creative groups, significant differences were found between innovators and performing artists, innovators and visual artists. Each of these three groups also differed from the corporate executives. It is interesting to note that innovators possess highest conscientiousness (M=39.17) followed by performing artists (M=37.32) and visual artists (M=36.82) and the corporate executive have the lowest mean value (M=27.98). From the classification table it can be inferred that all the three creative groups had a high score while the corporate executives had a low score on conscientiousness.

Studies so far carried out on the relationship between conscientiousness and creativity are supportive of the current findings. In a study conducted by King (1996) it was found that people who lacked creative ability can still produce creative acts through high conscientiousness. Another study was conducted by Kemp (1996) where musicians scored high on conscientiousness. Other studies which reported high conscientiousness in creative persons include research reported by Helson, Agronick and Roberts(1995). Most of the innovators included in this study are required to come up with their innovations, strictly adhering to time limit which could be one reason for enhanced score of the innovators on conscientiousness. Not only innovators even the performing as well as visual artists are confronted with the challenge posed upon them by deadlines for completing and

submitting their innovative pieces of work. In this process they learn to create new compositions, art pieces within the time allotted to them. Further, competence and preference for order are essential elements of conscientiousness which are also found in the creative individuals. In the light of these facts, it is quite likely that creative individuals are probably high on conscientiousness. That the corporate executives scored low as compared to the creative groups, on conscientiousness is rather surprising as it would appear that such a group would face high pressures to be methodical, disciplined and deliberate, due to the nature of their work being routine and repetitive. Else, is it just the reverse? Because of the routine, repetitive nature of their work, is it possible that they have become lackadaisical and laid-back?

For 'Extraversion' the 'H' value is 24.771 which is significant at both the alpha levels. The present research therefore indicates that a significant difference exists between the groups with respect to extraversion. Thus, not accepting hypothesis no 3 which states that that there will be no significant difference between the innovators, performing artists, visual artists and comparative groups in terms of extraversion. Further, the 'U' values reveal that, significant difference exists between visual artists and performing artists. The corporate executives differed significantly from innovators and visual artists. The difference between the innovators and performing artists& performing artists and the corporate executives is not significant. Thus, visual artists were found to have the lowest mean value (M=22.72) followed by that of innovators (M=25.43) and performing artists (M=27.88). The corporate executives had a significantly higher mean value (M=30.08) than the innovators (M=25.43) and visual artists (M=22.72). Interpreting the mean scores by referring to the classification table it was found that innovators, performing artists and the corporate executives had an average score (i.e., they were ambiverts) while the visual artists had a low score on extraversion. The present findings are partially (because comparing the three creative groups included in the study the performing artists had a high mean value although the mean value falls under average category) in tune with research work carried out by Hammond and Edelmann (1991) who found creative performing artists to be high on extraversion. An explanation for performing artists being inclined towards extraversion can be attributed to the fact that extraversion provides responsiveness towards the strong interpersonal reward of being the centre of audience's attention, in other words their orientation towards social attention and rewards make them extrovert.

The 'H' value for the dimension 'Agreeableness'is 5.51 which is significant at only 5 percent level. Thus, the proposed hypothesis no 4 that there will be no significant difference between innovators, performing artists, visual artists and corporate executives is not accepted at 5 percent level. From the classification table it is found that innovators (M=25.33) and visual artists (M=25.96) possess a low score in agreeableness, while performing artists (M=28.40) and the corporate executives (M=27.80) had an average score. The present findings validate a number of studies which have suggested a negative association between agreeableness and creativity (Dudek, Berneche,Berube, & Royer, 1991; Eysenck, 1995, Feist 1993). A possible reason for performing artists possessing average agreeableness could be attributed to the fact that their success seems to depend on approval and appreciation from their audience they have a strong desire to be liked and accepted by people at large; they crave for admiration and warmth from the audience.

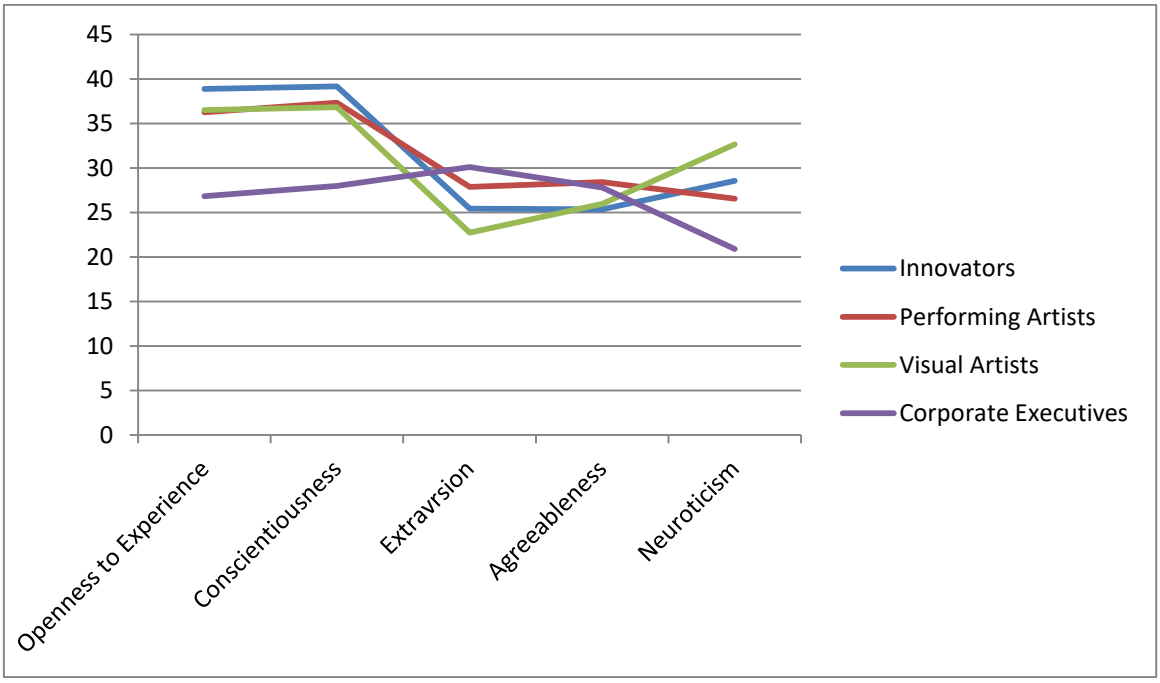
On 'Neuroticism' the 'H' value (49.031) is found to be significant at both 5 percent and 1percent level. Hence, the proposed hypothesis no 5 stating that there will be no significant difference between the four groups in terms of neuroticism stands "not accepted". Further, from Mann- Whitney 'U' test it is seen that the creative groups (innovators, performing artists and visual artists) differed significantly from the comparative group (corporate executives) on neuroticism. Among the creative groups significant difference was found between performing artists and visual artists. The visual artists had the highest mean value (M= 32.64) followed by innovators (M=28.53) at the second place, the performing artists at the third place (M=26.52) and the corporate executives had the lowest mean value (M=20.88). Finally after profiling the scores and referring to the classification it was found that visual artists had a very high score on neuroticism; innovators and performing artists also had high neuroticism score while the corporate executives had an average score on neuroticism. The emotional instability of the visual artists may provide them with intense motivation, the conviction, egocentricism, imagination and inspiration which in turn paves the way for new creations. Results of the present study support the findings of Burch et al (2006) in which artistic students were found to display higher levels of neuroticism. Further Batey and Furnham (2006) asserted that neuroticism bears a positive relationship with artistic creatively. Feist (1998) also demonstrated similar result where creative artists were found to possess more expressed traits of neuroticism. Neuroticism generates unusual response (Averill, 1999) which is one of the important manifestations of creativity.

Finally, results from discriminant analysis reveal that openness to experience has the highest discriminating weight (O.482). The results of the present study runs consistent with a study carried out by Yesil & Sozbilir (2013)where they found openness to experience as one of the significant trait contributing to innovative behavior. McCann (2011) also found a positive correlation between openness to experience and creativity.

Thus, the findings of our current research offers support to what is commonly known as the 'Creative Personality' mainly on the dimensions of Neuroticism where the Visual Artists, Innovators and Performing Artists had a high score compared to corporate executives. These results fit in with the "Neuroticism theory of

Creativity". The reason for creative people being neurotic could be their persistent tendency to dwell on problems for longer and notice trivial details than average people. Further, results also reveal a greater score on "openness to experience" and a lower score on "agreeableness" which is commonly seen among most of the creative people. Thus, an inference can be draw here that the creative persons exhibit traits of flexibility, imagination in thinking and are also receptive to noble ideas, they were also found to be non-conformist which is one of the significant traits of creative people. As evident results of discriminant analysis states that it is the trait openness to experience that discriminates most between the creative's and the less creative.

The aforementioned discussion can be summed up by providing a graphical represented which is depicted below:



Limitations of the Study:

1) The participants included for the present study were males, as it was difficult to identify adequate number of female creative participants. Further the sample for innovators was limited to 30 which is the minimum required for statistical analyses as this was the number of innovators who fulfilled the conditions for inclusion in the study i.e., they were national award winners recognized by National Innovation Foundation, IITG and Assam Science Technology and Environment Council . Therefore, generalization of the results is limited.
2) As eminent creative individuals were included for the study, it was very expensive in terms of time, money and labour.
3) To minimize the effect of culture the present study focused on people of Assamese origin, thus the participants were homogenous in terms of their culture. Therefore, the results may not be applicable to persons from other cultural origin.

CONCLUSION:

In conclusion, it can be stated that the creative groups exhibit characteristics which appear to be quite different from the comparative group of people in general which is indicative of being somewhat removed from the norm. In the present study it is revealed that the creative people have shown to manifest traits like openness to experience and conscientiousness more than their less creative peers.

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