

## Personality Characteristics of Commerce and Engineering Graduates – A Comparative Study

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The personality profiles of 200 students pursuing MBA course have been compared in the present study. Cattell's 16 PF Questionnaire was used to study the personality differences among students with respect to their academic background and gender. The hypotheses examined were: Male students are not significantly different from female students and students with B.Com degree are not significantly different from those with an engineering degree. Results showed that there were no significant differences among students in the personality profiles based on academic background except for measures of sensitivity and perfectionism. Another findings also indicated that there were significant gender based differences in some measures of personality like warmth, sensitivity, vigilance, abstractedness and openness to change. The implications of these findings are discussed for educationists and subject experts with respect to course content, delivery and counseling of students.

**Keywords:** Warmth, Sensitivity, Vigilance, Abstractedness, Openness to change

The students of management education have diverse backgrounds. MBA is a multi pronged course with several electives that cater to the requirements of a wide spectrum of jobs in different industries. Male and female students take up management education to better equip themselves for higher managerial roles. Though students from almost every discipline can pursue a degree in management, it has been observed that mostly individuals graduating in the areas of commerce (B.Com) and Engineering (BE or B.Tech) have been enrolling themselves for post graduate courses in management. The students from different educational backgrounds have exposure to different concepts and subjects. This may result in differences in their aptitude. This could have an impact on their appreciation and understanding of the issues discussed in a business management class at the postgraduate level. There is a possibility that these differences might later influence their choice of electives in the

second year of the MBA program and subsequently the line of their career.

Management education aims at shaping individuals to function effectively as managers. The students are imparted knowledge and skills that will help them in the decision making process and in efficient handling of day to day operations in a variety of professions. Factors like stress tolerance and team participation have become very essential in the current organizational context in achieving optimal results. Management education hence aims at building skills that helps achieve a greater person – job fit.

There is a lot of diversity when these students get placed after the completion of their MBA courses. The job profiles range from general management positions to specific areas like finance, marketing or operations. The choice of subjects could be influenced by the differences in the personality of different students. For example, a reserved and shy person may not be

suitable for a marketing job, but if this person is interested in pursuing his career in this line, counseling and training this person would help develop those skills required to fit into the job. So, an analysis and comparison of the personality characteristics of commerce and engineering graduates could aid in understanding their choice of electives and in achieving a better person – job fit. Also for a faculty teaching MBA courses, this could aid in selecting an appropriate combinations of teaching methods to facilitate an effective transfer of knowledge.

Researchers and practitioners alike agree that the overall personality has an impact on the working styles and performance of individuals. Many studies have found personality to be related to academic performance, choice of electives, completing university education, and choice of career (Tett, Jackson & Rothstein, 1991; Singh, 1994). Same issues are understood and acted upon differently by different people (Song, Wu & Zhao, 2002). The educational and gender related differences could also have an impact (Felder & Deitz, 2002). These differences often contribute to their effectiveness in the work context.

Furnham, Jackson and Miller (1999) found that the personality profiles of pilots, and pilot incumbents differed significantly from the general population. The researchers opined that given the nature of the job of a pilot, the applicants self select themselves to produce a distinct personality profile that fits the job of a pilot. Sánchez and Rejano (2001) found certain personality traits to be related to academic failure. Students failing in their courses scored significantly higher in neurosis and extraversion than did their population group.

Ibrahim, Abu-Obeid and Al-Simadi (2002), in their study of the effect of personality traits on architectural aesthetics' evaluation, pointed that personality traits had a strong effect on our perception of the

environment and that the relationship between environmental perception and personality traits is a dynamic one.

Clark and Pearson (1983) found that Black natural science majors were from a higher social class and more practical and tough-minded than the Black social and non-science majors. The White natural science majors were more masculine sex-role oriented and more sober than were the White social and non-science majors. In comparison with non-science majors, natural science majors were more often first born and from higher social class families with fewer siblings. This study explored the differences in academic choices and the personality factors of the participating sample.

Management education is a broad based concept with several specific streams and offering a range of electives. A research along similar lines in the Indian context, studying the differences in academic background and gender in relation to differences in personality could offer insights into the profiles of students and the factors that govern their choice of career. Hence there is a need to study the differences in personality based on academic background and gender.

### **Objectives**

1. To examine the differences in personality characteristics between commerce and engineering graduates.
2. To find out the gender differences in personality characteristics in the total sample.

### **Method**

#### **Sample:**

The sample consisted of 100 commerce and 100 engineering graduates who are pursuing Masters in Business Administration program from a reputed business school in India for the academic year 2007 to 2009. Out of the 100 students each in commerce and engineering, 50% of them are males and

50% are females. The mean age of males was 24.11 years and the mean age of females was 23.03 years. The mean age of the participants was 23.57 years and the standard deviation being 1.88.

**Tools:**

**Cattell's sixteen personality factor questionnaire (IV ed):** Cattell's 16 PF is a well researched, reliable and valid test which measures 16 primary source factors of a person. Form A of the 16PF is being used for the present study. These 16 primary factors are again combined to give eight secondary or global factors. The primary and secondary factors are bipolar.

**Procedure:**

Permission was taken from the director of the school and the test was administered in the classroom. The first 100 engineering and 100 commerce students covering 50% males and 50% females were picked up from the attendance register and were asked to assemble in the classroom. Participants signed the consent forms that indicated that all data furnished by them would be kept strictly confidential. The students were then asked to mention their graduation discipline, sex and their age on the 16 PF questionnaire. The students were further instructed to read the instructions printed on the questionnaire and were asked to give the first response that comes to their mind. Any doubts raised by the students were clarified by the researchers before they started answering the questionnaire.

After the students answered the questionnaire, the same was collected and subjected for scoring and interpretation. The raw scores were calculated using the stencils provided by the institute for personality and ability testing. Based on the norms for age and sex the raw scores were converted to standard ten scores. As per the manual, scores ranging from 1 to 3 were considered as low, 4 to 7 were considered as average

and scores from 8 to 10 were considered as high scores.

**Results and Discussion**

Table – 1 shows the mean, standard deviation and the t values calculated for the primary personality factors across different academic backgrounds such as commerce and engineering. The t values calculated for the primary factors based on academic background showed that some primary factors were significant for measures like tough mindedness (factor I) and perfectionism (factor Q3). The mean calculated showed that the students with engineering background were more tough minded than the students with commerce background. This shows that the engineering students are more self-reliant, realistic, responsible and emotionally tough. They tend to keep the group operating on a practical and realistic "no-nonsense basis as compared to the commerce background students. Another significant difference found is the measure of perfectionism. Engineering students are more socially aware, controlled, self-disciplined and perfectionists as compared to the commerce background students. These differences could have probably emerged due to the number of years of study in their graduation as the engineering students spend four years and commerce students spend three years to complete their graduation. The curriculum for engineering course is more technical and focused and demands more perfection to be successful and also due to the fact that the engineering students spend more years with their classmates they tend to become tougher minded and focused as they are given lot of team assignments in their curriculum as compared to the commerce graduates.

The mean calculated for the measure of vigilance though not significant in the present study showed that engineering students are good team members as compared to the

commerce graduates. Earlier studies have also found that science majors were more practical and tough-minded than the non-science majors (Clark et al., 1983). Engineers were often thought of to be very

pragmatic. Studies conducted by Harrison, Tomblen and Jackson (1955) and Moore and Levy (1951) have found that engineers tend to be more ingenious and concrete-minded and practical.

**Table -1 Mean, SD and t-values of the primary personality factors of commerce and engineering graduates**

Personality factors	Measure	Commerce		Engineering		t value
		Mean	SD	Mean	SD	
Reserved vs warm (A)	Warmth	4.84	1.72	5.08	1.54	1.038
Concrete vs Abstract (B)	Reasoning	5.36	1.91	5.67	1.70	1.211
Reactive vs Emotionally stable (C)	Emotional Stability	5.40	2.29	5.62	2.05	0.716
Differential vs Dominant (E)	Dominance	5.80	1.47	5.88	1.68	0.358
Serious vs Lively (F)	Liveliness	4.55	2.08	4.66	1.82	0.398
Expedient vs Rule Conscious (G)	Rule bound ness	6.44	1.70	6.68	1.75	0.984
Shy vs Socially bold (H)	Social Boldness	5.97	1.70	6.08	1.79	0.447
Utilitarian vs Sensitive (I)	Sensitivity	5.44	2.04	4.76	1.89	2.446**
Trusting vs Vigilant (L)	Vigilance	6.21	1.95	5.95	1.98	0.936
Grounded vs Abstracted (M)	Abstractedness	4.77	1.67	4.93	1.96	0.622
Forthright vs Private (N)	Privateness	7.46	2.15	7.47	1.94	0.035
Self-assured vs Apprehensive (O)	Apprehension	5.51	2.08	5.39	1.95	0.420
Traditional vs Open to change (Q1)	Openness to change	5.67	1.73	5.58	1.77	0.364
Group oriented vs Self-reliant (Q2)	Self-reliance	5.37	1.67	5.05	1.87	1.277
Tolerates disorder vs perfectionism (Q3)	Perfectionism	6.16	2.03	6.66	1.82	1.834*
Relaxed vs Tense (Q4)	Tension	4.78	2.20	4.53	1.80	0.881

\* $p = .05$ ; \*\* $p = .01$

**Table -2 Mean, SD and t-values of the primary personality factors across gender**

Personality factors	Measure	Male		Female		t value
		Mean	SD	Mean	SD	
Reserved vs warm (A)	Warmth	5.51	1.55	4.41	1.54	5.042**
Concrete vs Abstract (B)	Reasoning	5.54	1.70	5.49	1.93	0.195
Reactive vs Emotionally stable (C)	Emotional Stability	5.80	2.08	5.22	2.23	1.901
Differential vs Dominant (E)	Dominance	5.78	1.63	5.90	1.53	0.537
Serious vs Lively (F)	Liveliness	4.71	1.99	4.50	1.91	0.761
Expedient vs Rule Conscious (G)	Rule bound ness	6.56	1.64	6.56	1.82	0
Shy vs Socially bold (H)	Social Boldness	6.00	1.78	6.05	1.70	0.203
Utilitarian vs Sensitive (I)	Sensitivity	5.98	1.74	4.22	1.83	6.960**
Trusting vs Vigilant (L)	Vigilance	5.61	1.93	6.55	1.89	3.479**
Grounded vs Abstracted (M)	Abstractedness	5.14	1.85	4.56	1.74	2.284*
Forthright vs Private (N)	Privateness	7.49	1.91	7.44	2.17	0.173
Self-assured vs Apprehensive (O)	Apprehension	5.47	1.92	5.43	2.11	0.140
Traditional vs Open to change (Q1)	Openness to change	5.22	1.83	6.03	1.56	3.370**
Group oriented vs Self-reliant (Q2)	Self-reliance	5.37	1.77	5.05	1.77	1.277
Tolerates disorder vs perfectionism (Q3)	Perfectionism	6.51	1.71	6.31	2.15	0.728
Relaxed vs Tense (Q4)	Tension	4.67	1.94	4.64	2.08	0.105

\* $p = .05$ ; \*\* $p = .01$

Table 2 shows the mean, standard deviation and the t values calculated for the primary personality factors across gender. There are significant gender differences in the primary factor measures like warmth (A), utilitarian (I), vigilance (L), abstractedness (M) and open to change (Q1). This shows that males are more outgoing, tender-minded, good team members, abstracted and less open to change as compared to females. These findings are in accordance with the previous studies conducted by Bourke (2001; 2002) which showed that boys are more tender-minded than the girls. Girls were found to be more independent than the boys (Bourke, 2002).

The results have implications for the faculty members involved in facilitating learning in the MBA course. Studies have shown that people have different learning style preferences that can be related to personality based differences (Rothschild, Jacqueline & Piland, 1994; Irani, Scherler, Harrington & Telg, 2000). Management education is a blend of several disciplines. The method of evaluation adopted also aims at a holistic development with a broad aim of shaping people to become successful managers. The differences in the personality factors among the MBA students suggest a need for different parameters for evaluation to ensure a better and objective assessment of the learning process of students. Different people adopt different styles and the preferred styles are related to personality and individual differences (Honey & Mumford, 1982; Kolb, 1976). This also has an implication for classroom management and teaching. The instructional design could include lectures, discussion, experiential exercises, cases and problem solving as part of classroom activities for creating a better learning environment. The results of this study also show that the sample did not differ significantly on several personality factors. These similarities across gender and

educational background could be due to several reasons. One important factor to which similarities could be attributed is the fact that the business school from which the sample was drawn has a well defined process for selecting eligible students for the management program. A rigorous process that includes a written test, presentation and interview could result in the choice of students who possess certain similarities in traits and attitudes which are perceived as desirable in potential managers. As suggested by Furnham, Jackson & Miller (1999) self selection could also account for similar kind of people opting for further education in the field of management.

Based on the results it is apparent that focused counseling would further hone the skills and competencies of students and make them more adaptive to different work pressure situations. Also, individual counseling requirements would vary given the different backgrounds of the students. Further, additional inputs like this would give insight to the counselors in shaping the overall personality of the students so that they fare better in the corporate world. Overall, relevant factors as observed in the study which have a bearing on the performance effectiveness can be singled out for attention by psychologists, trainers, subject experts so that the talent potential of the students is appropriately assessed for fine tuning and development. This study clearly brought out the impact of factors like sensitivity, independence, perfectionism, team work, openness to change and so on in bringing the differences between gender and academic background of the students so that it helps in dealing with different sets of problems accordingly.

### **Conclusion**

The present study shows that the students with engineering background are more tough minded and perfectionists as compared to commerce graduates and



another finding is that men are more outgoing, tender-minded, good team members, abstracted and less open to change as compared to females.

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