

A STUDY OF SOURCE TRAITS : MEDICAL STUDENTS

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ABSTRACT

Medical profession is one of the prestigious and esteemed professions amidst the professional opportunities available to young aspirants. Armed Forces Medical College by its virtue of selective admission procedures, training and induction becomes the primary focus of such research. The aim of the present study was to evaluate source traits of 300 medical students, 150 each from AFMC and civil medical college. 16 PF was administered to evaluate the source traits of study groups. Findings revealed significant differences between two colleges. The students from two colleges differed significantly on factors 'B', 'F', 'G', 'I', 'O', Q1, Q3, Q4.

Key words : Source traits, medical students

Medical profession is one of the prestigious and esteemed professions amidst the professional opportunities available to the young aspirants. According to ancient medical textbooks of Charak, Sushruta, Kashyap and Vag Bhatt, very stringent conditions were laid down for admitting a student to medical studies. The desirable personality traits of medical student were that he be tranquil, tolerant affectionate, simple and humble (Bizlani, 1994).

The prerequisite of personality attributes has been reiterated by Medical Council of India. It is interesting to note that several of the objectives outlined by Medical Council of India are related to the abilities pertaining to the psychosocial factors and personality attributes (Kacker, 1996). Personal qualities and attributes were given due emphasis by Collins et al. (1995). It has been substantiated by him that selection of medical student on the basis of academic criteria alone is inadequate and assessment of personal attributes should be given due emphasis. Personality tests have been shown to forecast better about the performance of student during the clinical years than the measures of intellectual ability alone (Watson, 1987). MBBS graduates

are expected to serve in a society. The challenge is there on them to develop multifaceted qualities and personality traits to offer the humanitarian and scientific health care.

Zeldow (1991) has supported the value of assessment of personality of doctors. On the contrary, Adrich (1987) and Weiss et al. (1988) have denied the value of personality as a predictor of medical student's performance.

Resourcefulness of the personality has a cushioning impact against stress and anxiety (Watts, 1972). Sklowdoski (1991) applied Cattle's personality questionnaire and H Gough's psychological inventory for assessment during the period of recruitment. Conclusions point explicitly the high positive-correlation between the level of maturity of the personality structure and adaptive abilities. It also confirms the usefulness of psychological evaluation at the time of selection of candidate to Military Medical Academy. Peng & Khaw (1995) has found 16 personality questionnaire to be useful in identifying source traits. They also noted that source traits of being enthusiastic, venturesome, self-opinionated having positive correlation with performance.

The learning environment provided by a

Medical College helped in organising the experiences of a doctor in relation to personal characteristics and family background. Armed Forces Medical College in India differs from Civil Medical Colleges in respect of training of cadets to suit the specific requirement of Armed Forces. Successful students are expected to be competent doctors as well as military officers.

In view on the above, the study was planned to compare and analyse the source traits of students of two colleges, with different environmental setup and different criteria of intake i.e. a Civil Medical College and Armed Forces Medical College.

MATERIAL AND METHOD

Sample for the study comprised of 300 medical students; 150 each from Armed Forces Medical College and Civil Medical College. Sample was selected randomly, 50 each from IInd, IVth and VIIth term respectively. All these groups were not exam goers, hence their performance on test inventory wasn't affected by the proposed state of anxiety of exam goers.

Students from IInd, IVth and VIIth were chosen for correlating the XII std./univ. marks with the personality profile of the students. Since IInd term students were fresh entrants their XIIth std. marks reported in information schedule were taken for calculating the correlation. IVth term student already had 1st university exam result available to them. Likewise VIIth term students also had university exam results available to them therefore they were included in the plan of study. Liaison was made with the subject teacher and each term students were administered questionnaire in-group setting. Firstly Information schedule was given to them to be filled up. After completion of that 16PF Form "A" (1982) was administered. Data so collected was analysed by chisquare, ANOVA and Carl Pearson - Correlation Co-efficient methods.

RESULTS

Study groups were not homogenous in respect of type of family and place of residence.

As illustrated in table no.1, there were more number of males (80.33%) in AFMC as compared to females (10.67%). Whereas in civil medical college males formed 63.39 of sample size and females were 36.67%. The study groups were homogenous in respect of parental occupation too (defence/civil) (table 1).

TABLE 1
SOCIODEMOGRAPHIC CHARACTERISTICS
OF STUDY GROUP

	AFMC (n=150)	Civil M C (n=150)	Significance
Sex			
Male	134 (89.33)	95 (63.39)	X ² =3.40 p<.001
Female	16 (10.67)	55 (36.67)	
Type of family			
Nuclear	133 (88.67)	123 (81.99)	N.S.
Joint	17 (11.33)	27 (18.01)	
Place of residence			
Rural	131 (87.33)	120 (80)	N.S.
Urban	19 (12.67)	30 (20)	
Parental background			
Defence	22 (14.61)	11 (7.33)	N.S.
Civil	128 (85.33)	139 (92.67)	

% in parenthesis; $\chi^2=3.40$ (Yates corrected)

Maximum number of students had obtained 80% and above marks in XIIth std. in both the colleges. Whereas students with 90% and above marks were more in civil medical college (table 2). The IInd term student had not appeared for university examination at the time of evaluation and university marks were available only for IVth term and VII term (table 3).

TABLE 2
AGGREGATE PERCENTAGE OF XII STD MARKS

Percentage	AFMC (n=150) number	Civil M C (n=150) number
60-69	8 (5.33)	3 (2.00)
70-79	41 (27.34)	8 (5.33)
80-89	83 (55.33)	85 (56.67)
90 and above	18 (12.00)	54 (36.00)

(% in parenthesis)

TABLE 3
AGGREGATE PERCENTAGE OF UNIVERSITY MARKS

Percentage	AFMC (n=100) N/%	Civil M C (n=100) N/%
46-55	18	14
56-65	74	61
66-75	3	22
76-85	3	2
86 and above	2	1

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Study group differed in source traits. Significant differences were found between the students of two colleges on factor B, F, G, 1, O, Q1, Q2, Q4 (table 4). In computed correlation of second order factors of personality and XIIth std./university marks of students it was revealed that only high anxiety v/s low anxiety to be negatively correlated with XII std. marks of civil medical college that too in students of IInd term only (table 5).

TABLE 4
SOURCE TRAITS - ANOVA

Factors	Variance ratio between colleges	Variance ratio between classes	Interaction between college & classes
A. Reserved vs outgoing	6.42 (NS)	3.26 (S)	1.24 (NS)
B. Concrete vs abstract thinking	45.60 (S)	1.00 (NS)	0.45 (NS)
C. High ego strength vs low ego strength	7.44 (NS)	0.85 (NS)	4.06 (S)
E. Submission vs dominance	0.001 (NS)	0.843 (NS)	1.300 (NS)
F. Desurgency vs surgency	8.731 (S)	4.474 (S)	1.611 (NS)
G. Expedient vs conscientious	0.584 (S)	4.181 (S)	0.640 (NS)
H. Threclia vs parmia	3.891 (NS)	1.190 (NS)	0.642 (NS)
I. Harria vs premsia	13.439 (S)	0.830 (NS)	1.806 (NS)
L. Alaxia vs protension	0.477 (NS)	1.805 (NS)	1.441 (NS)
M. Praxerira vs autia	1.757 (NS)	0.963 (NS)	1.078 (NS)
N. Forthright vs shrewd	0.100 (NS)	2.401 (NS)	0.003 (NS)
O. Untroubled adequacy vs guilt proneness	7.675 (S)	0.190 (NS)	0.768 (NS)
Q1. Conservation vs radicalism	5.036 (NS)	0.514 (NS)	2.397 (NS)
Q2. Group adherence vs self sufficiency	0.360 (NS)	1.549 (NS)	0.370 (NS)
Q3. Low interation vs high self concept	6.72 (S)	1.049 (NS)	0.2688 (NS)
Q4. Low ergic tension vs high ergic tension	4.814 (S)	4.539 (S)	0.734 (NS)

DISCUSSION

The training period of medical students has

been described as a constantly changing environment through which they navigate for 4-5 years and this affects their basic personality make up (Amita, 1987). Assessment of source traits unfolded various interesting findings in the present work. Study group differed on factor "A" (reserved v/s outgoing), factor "F" (desurgency v/s surgency), factor "G" (expedient v/s conscientious) and factor "I" (harria v/s premsia). Other factors in which subject groups differed significantly were factor "O" (uncontrolled adequacy v/s radicalism), factor "Q1" (conservatism v/s radicalism), factor "Q3" (low integration v/s high self concept control) and factor "Q4" (low ergic tension v/s high ergic tension).

AFMC students were found to be more abstract in thinking (B+), responsible (G+), sensitive (I+) and socially precise (Q3+) as compared to civil medical college students. Factor "B" (abstract v/s concrete thinking) of the 16 "PF" questionnaire provides a rough measure of intelligence (Cattell, 1970). Though AFMC students in the present study were found to be more abstract in thinking ($p < 0.05$) whether they were more intellectually endowed is a question that needs to be pondered upon. It may be pertinent to note here that AFMC cadets were selected through competitive exams at all India level, whereas in the civil medical college students secured their seats based on the academic performance at the state level.

The need for the inclusion of personality variables in the realm of selection stems from the deliberations of several committees that have defined the contours of a future physician. Along with the cognitive and intellectual endowment, certain non-cognitive factors like personal integrity, responsibility and dependability are considered to be desirable traits by MCI's defined institutional objectives (Edinburgh Declaration, 1988). AFMC students have emerged to be more responsible, (conscientious G+, $p < 0.05$). Although the present study reveals differences on this dimension between the students of two colleges but this finding cannot be generalised to all other medical colleges (civil). Gurmit (1991) has reported in his study of students of Malay

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TABLE 5
CORRELATION-CO-EFFICIENT BETWEEN SECOND ORDER FACTORS AND XIITH STD MARKS

Sl	College	Term	Correlation between	Correlation coefficient	Significance
01	A	II	Introversion/extraversion XII std. marks	.22	NS
02	B	II	- do -	.01	NS
03	A	IV	Introversion	-.06	NS
04	B	IV	- do -	.06	NS
05	A	VII	- do -	-.10	NS
06	B	VII	- do -	-.12	NS
07	A	II	Low anxiety/high anxiety & XII std marks	.20	NS
08	B	II	- do -	-.35	Sig
09	A	IV	Low anxiety/high anxiety university marks	.13	NS
10	B	IV	- do -	-.3	NS
11	A	VI	- do -	.11	NS
12	B	VII	- do -	.0	NS
13	A	II	Tenderminded/though poise & XII std n marks	.07	NS
14	B	II	- do -	.11	NS
15	A	IV	Tenderminded vs tough poise & university marks	.18	NS
16	B	IV	- do -	.0	NS
17	A	VII	- do -	.05	NS
18	B	VII	Subdued vs independence & XII std marks	.11	NS
19	A	II	- do -	.16	NS
20	B	IV	Suvduedness vs independence	.0	NS
21	A	IV	- do -	-.03	NS
22	B	VII	- do -	.13	NS
23	A	VII	- do -	-.23	NS
24	B		- do -	-.02	NS

A - AFMC, B - Civil Medical College

Medical College to be abstract in thinking and conscientious.

Surprisingly AFMC students have shown premsic tendency ($p < 0.05$). This tendency has been associated with imaginative thinking. Cattell has found this to be largely environmental in origin (Cattell & Beleff, 1955). AFMC students have shown overall premsic tendencies with no significant difference between classes ($p > 0.05$). This indicated disposition attribute of AFMC students. This inherent trait may have been enhanced because of the tradition of AFMC of inculcating and encouraging creativity. This finding is not in conformity with the conventional stereotype of Armed Forces personnel. However, this is in agreement with the finding of AFMC students being more abstract in thinking.

Medical Council of India (1992) envisages that medical students should be able to recognise social and professional obligations. AFMC students have further emerged to be more socially

precise and having strong control of emotions (table 4). Cattell (1970) observed that this trait characterises socially appropriate character responses, self-control, conscientiousness and regard for etiquette. Whether this observed difference is because of the disposition cannot be commented in definite terms. However, it is noteworthy that there is no difference between classes ($p > 0.05$). This might be indicating influence of the environment. Source traits of civil medical college students having desurgency (factor "F", $p > 0.05$), apprehensive tendency (O+, $p < 0.05$), radical in thinking (Q1+, $p < 0.05$) and high ergic tension (Q4+, $p < 0.05$), can be qualified by certain observations, probably prospect of finding a secured job after completion of the study may have militated against the factor of anxiety in AFMC students. In this respect, it is worth mentioning that the financial expenditure incurred as a result of the cost of medical education are a major source of concern and

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stress for many medical students (Wolf,1994). On the contrary AFMC is a fully residential college. Expenses for medical education are borne by the government. Nonetheless anxiety may emanate from various factors like psychosocial factors and lack of opportunity to maintain social and recreational sources of satisfaction (Steward et al.,1995).

Civil Medical College students being radical in thinking is equally noteworthy. Ray (1996) reiterated the need of medical students being radical and analytical in thinking. He advocated that emphasis to be placed on cultivating logical and scientific pattern of thinking. As there was no difference between the classes ($p>0.05$), this indicated liberal environment of civil medical college as compared to structured discipline of AFMC.

Computed correlation with second order factors of personality and XIIth std. marks of students revealed only low anxiety v/s high anxiety to be negatively correlated with XIIth std. marks of civil medical college students of IInd term. However, it is to be noted that AFMC students come through competitive exams, where as civil medical college students were predominantly from state board, hence disparity in the syllabi may be playing a part in the finding of this nature.

Findings of present study revealed AFMC students to be more abstract in thinking, imaginative, responsible and socially precise, where as civil medical college students were more analytical and had tendency to get anxious. Though there was an overall tendency towards environmental factors contributing to this finding, definite conclusion regarding the quantum of contribution of environmental factors or disposition attributes of the students can only be drawn after a systematic cohort study. It will give a better understanding if behavioral parameters are correlated with the source traits in addition to their academic performance. This will have an implication for devising selection criteria for suitable candidates and creating more appropriate milieu for training of students in AFMC and civil medical colleges.

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