SOCIO-DEMOGRAPHY, PERSONALITY PROFILE AND ACADEMIC PERFORMANCE OF VARIOUS CATEGORIES OF MEDICAL STUDENTS

R.C. JILOHA & JUGAL KISHORE

ABSTRACT

To compare the Scheduled Caste (SC) & Scheduled Tribe (ST) students with general students regarding their school and family background, personality profile and personal problems, a stratified systematic sample of 261 medical students was taken who filled up their individual set of questionnaires consisting of semistructured sociodemographic proformas, Personality Trait Inventory (PTI) and Students Personal Problems Index. Statistically significant differences were observed when schooling, family income, parents education and occupation and academic performance of general, SC and ST students were compared. Although no statistical differences on personality trait were observed, on activity and cyclothymic personality trait SC and ST students scored less, whereas, they scored more on depressive tendency, emotional instability and social desirability personality traits. The personal problems were different in three groups and also the number of attempts made to pass their professional examinations. Intervention measures have been suggested.

Key words: Scheduled Caste & Scheduled Tribe, general category, medical education, sociodemographic, personality traits, students personal problems

Historically, India has remained a society of hierarchies in which the constituent members were placed in a well established and explicitly defined set of social positions determining the extent of their entitlement to respect, prestige, influence, wealth and education (Hutton, 1961). Since after independence, Scheduled Castes (SCs) and Scheduled Tribes (STs) which form the lowest rung of Hindu-social order, came to be accepted as equal to other citizens of the country to avail equal opportunities in national life (Government of India, 1991). With the desire to bring low castes in step with the higher castes, reservation policy was introduced offering them the advantage of basic education & professional education among other benefits.

However, some section of larger society didn't appreciate the policy for the reasons that the social mobility on the crutches of reservation was likely to produce substandard and inefficient professionals (Maheswari, 1991). Holding this view, Kulhara (1992) reacted that the principles of efficiency, merit and excellence are being sacrificed at the altar of convenience and instead mediocrity is flourishing.... Chaudhry et al. (1997) in their study on various categories of medical students found that SC and ST group students performed poorly as compared to general category students. It was further observed that their performance remained poor from their school days. They have less intellect with little grasping power and are not as accustomed to work hard.
Capacity to respond to and benefit from education depends upon the level of child's intellect, language & emotional maturity (Pringle, 1974). Unsuccessful students are comparatively older in age, have poor academic background, from less educated or illiterate parents, they are complacent and have poor emotional integrity (Wig et al., 1972). Lipton et al. (1984, 1988) and Huxham et al. (1989) studied the academic performance of undergraduate and postgraduate medical students in relation to their personality profile and found less favourable self-concept among poor performers. Brigg et al. (1991) in their study of 227 medical students found association between decreased academic performance and low socioeconomic background. Malik and Manchanda (1994) in their study of students who got admission in medical colleges found that majority of students hailed from upper socioeconomic status, educated parents, public school background and carried high motivation.

Medical education is considered to be costly education imparted by a university. A student's failure needs to be understood because it amounts to wastage of resources and there is a possibility that some students might be failing to acquire knowledge consistent with their ability. What makes SC and ST students more vulnerable? A comparative data of sociodemographic profile, personality characteristics and personal problems with academic performance of SC, ST and general category medical students is almost nonexistent. The present study is an attempt in this direction. Objectives of this study are: to find out differences in family and economic status, parental education and occupation, personality traits and personal problems among these three groups of undergraduate medical students.

MATERIAL AND METHOD

Sample: A stratified systematic sample of 261 medical students from first and second professional classes and internship batch from Maulana Azad Medical College, New Delhi was taken in for study. The sample comprised of 195 (74.7%) general category, 42 (16.1%) SC & 24 (9.2%) ST students. The college admitted 180 students each year with the distribution of 27 (15%) SC, 13 (7%) ST and 140 (78%) general category students. At the time of study in November 1995, the third professional students were busy preparing for their final examination and didn't participate in the study. Batch of interns undergoing rotatory internship training, was included. The students drawn from first professional were 97, second professional 89 and 79 from internship batch. The subjects under study had to complete a set of questionnaires on voluntary basis.

Tools: 1. Semistructured questionnaire consisting of 10 items on demography, caste (scheduled caste, scheduled tribe and general caste), parental occupation (as described by the student) and education, family income (Income in rupee per month), schooling of the student (Public, government, central and others) and performance in the last professionals examination (First professional students were excluded in the analysis of their performance). 2. Students Personal Problems Index (Wig et al., 1971), a simple and quantitative self reporting questionnaire with fair validity and reliability was administered to assess the students' personal problems. 3. Personality Trait Inventory (PTI) - it is meant to assess the personality of an individual. It is found to be simple and applicable in different settings. Its reliability and validity is tested in Indian population (Verma et al., 1990). This inventory was used to compare different areas of personality in the three groups under study. We have not tried to find out the causes of variation in personality in three groups.

Procedure: First and second professional students were contacted in their respective class rooms and the nature of the study was explained to them. Fifty percent (every alternate) students were asked to complete the pretested self-reported semistructured
# Table 1: Demographic Characteristics of the Study Population

|                  | General (N=195) (%) | SC (N=42) (%) | ST (N=24) (%) | Total (N=261) |
|------------------|---------------------|--------------|--------------|--------------|
| **Sex**          |                     |              |              |              |
| Male             | 68.71               | 85.71        | 45.63        | 181          | 69.35        |
| Female           | 31.29               | 14.29        | 54.17        | 80           | 30.65        |
| **Age (in years)** |                    |              |              |              |
| 17-18            | 25.65               | 21.43        | 37.50        | 68           | 26.05        |
| 19-20            | 40.51               | 19.05        | 12.60        | 90           | 34.40        |
| 21-22            | 16.41               | 26.19        | 16.67        | 47           | 16.01        |
| 23-24            | 15.38               | 19.05        | 29.16        | 45           | 17.24        |
| 25-26            | 0.51                | 7.14         | 4.17         | 5            | 1.92         |
| 27 & above       | 1.54                | 7.14         | 0.00         | 6            | 2.30         |
| **School***      |                     |              |              |              |
| Public           | 80.00               | 38.59        | 37.50        | 181          | 69.35        |
| Central          | 7.17                | 21.43        | 33.33        | 31           | 11.87        |
| Local Government | 9.74                | 38.59        | 29.16        | 42           | 16.10        |
| Others           | 3.08                | 1.59         | 0.00         | 7            | 2.68         |
| **Area of origin @** |                 |              |              |              |
| Urban            | 97.43               | 90.48        | 83.33        | 248          | 95.01        |
| Rural            | 2.57                | 9.52         | 16.67        | 13           | 5.00         |
| **Family income (in Rs./month)@@** |       |              |              |              |
| 1000-5000        | 9.74                | 23.80        | 50.00        | 41           | 15.71        |
| 5001-10000       | 43.59               | 61.90        | 41.67        | 121          | 48.36        |
| 10001-15000      | 17.44               | 4.77         | 8.33         | 38           | 14.55        |
| 15001-20000      | 9.23                | 2.36         | 0.00         | 19           | 7.28         |
| 20001-50000      | 6.87                | 2.38         | 0.00         | 14           | 5.38         |
| 50001-100000     | 1.54                | 0.00         | 0.00         | 3            | 1.15         |
| Not responded    | 11.79               | 4.77         | 0.00         | 25           | 9.56         |

* General Vs SC : $X^2=2.93$, d.f.=1, p=0.08, General Vs ST : $X^2=5.80$, d.f.=1, p=0.01.
** General Vs SC : $X^2=19.98$, p=0.001, General Vs ST : $X^2=11.49$, p=0.04.
*** Public and others (all) General Vs SC : $X^2=29.06$, d.f.=1, p<0.0001; General Vs ST : $X^2=20.78$, d.f.=1, p=0.0001,
@@ $X^2=11.16$, d.f.=2, p=0.003. @@@ General Vs SC : $X^2=14.54$, d.f.=5, p=0.01, General Vs ST : $X^2=26.71$, d.f.=5, p=0.0006.

Analysis: Mean scores on personality trait inventory were calculated as described elsewhere (Verma et al., 1990) whereas mean scores on the students personal problems index were obtained by summing up all individual scores and divided by the total students in different groups. To get the significant result at 5% level, proportion, chi-square, ANOVA statistical tests were used.

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questionnaire, Personality Trait Inventory (PTI) and Students Problems Index, independently on the voluntary basis. Interns were contacted in their departments of posting and absentees were contacted in their hostel rooms to collect the representative sample. Set of questionnaires was administered to the interns in the same way as it was done with the first and second professional students.
TABLE 2
PARENTAL EDUCATION

| Educational Level | General (N=195) | SC (N=42) | ST (N=24) | Total (N=261) |
|-------------------|----------------|----------|-----------|---------------|
|                   | %              | %        | %         |               |
| Father*           |                |          |           |               |
| Illiterate        | 0.00           | 9.36     | 0.00      | 4             |
| 1-5 class         | 0.00           | 4.76     | 0.00      | 2             |
| 6-10 class        | 1.24           | 11.90    | 2.14      | 10            |
| 11-12 class       | 2.15           | 7.14     | 4.15      | 11            |
| Diploma           | 9.74           | 7.14     | 2.93      | 13            |
| Graduate          |                |          |           |               |
| Nonprofessional   | 29             | 14.88    | 7         | 42            |
| Professional      | 43             | 22.05    | 2         | 53            |
| Postgraduate      |                |          |           |               |
| Nonprofessional   | 39             | 20.00    | 4         | 50            |
| Professional      | 47             | 24.20    | 3         | 54            |
| Doctor of philosophy | 11           | 5.74     | 0         | 11            |
| Mother**          |                |          |           |               |
| Illiterate        | 2              | 1.03     | 5         | 22            |
| 1-5 class         | 1              | 0.51     | 3         | 4             |
| 6-10 class        | 11             | 5.64     | 3         | 24            |
| 11-12 class       | 14             | 7.18     | 3         | 24            |
| Graduate          |                |          |           |               |
| Nonprofessional   | 65             | 33.85    | 5         | 79            |
| Professional      | 35             | 18.49    | 2         | 41            |
| Postgraduate      |                |          |           |               |
| Nonprofessional   | 40             | 20.51    | 0         | 41            |
| Professional      | 14             | 7.18     | 0         | 14            |
| Doctor of philosophy | 8              | 4.10     | 0         | 8             |
| Not responded     | 1              | 0.51     | 0         | 4             |

* Father's education as less than 12th class and compared with higher: General Vs SC: X²=16.29, d.f =1, p=0.0001, General Vs ST: Fisher p=0.01.
** Mother's education as illiterate compared other classes jointly: General Vs SC: Fisher p=0.0001, General Vs ST: Fisher p<0.0001. Mother education as graduate or less compared with more than graduate, General Vs SC X²=65.25, d.f =1, p<0.0001, General Vs ST: X²=41.47, d.f =1, p=0.0001

RESULTS

Table 1 shows demographic characteristics of the study population. 181 (69.35%) were males and 80 (30.65%) were female students. Female students were significantly more in ST group (54.17%). SC and ST category students were older in age than the general category students.

Majority of students 248 (95.01%) came from urban background. However urban representation of SC and ST students was comparatively less (90.48% and 83.33% respectively). 80% of the general category students had public school background in comparison to 38.59% SC and 37.50% ST students who had studied in public schools. This was a significant difference. Majority of SC and ST students had their education either in central schools or in government schools. There was a statistically significant difference in the monthly family income. Family income more than Rs 10,000/- per month was significantly high in general category students.

Table 2 shows parental education.
### Table 3: Father’s Occupation

| Occupational category          | General (N=186) | SC (N=40) | ST (N=24) | Total (N=250*) |
|-------------------------------|-----------------|-----------|-----------|---------------|
|                               | N               | %         | N         | %             | N             | %             |
| Professionals                 | 96              | 51.16     | 13        | 32.50         | 5             | 20.83         | 114           |
| Civil servant                 | 10              | 5.38      | 2         | 5.00          | 0             | 0.00          | 12            |
| Government servants (nonspecific) | 26              | 13.46     | 17        | 42.50         | 13            | 54.17         | 56            |
| Businessman                   | 15              | 7.69      | 1         | 2.50          | 1             | 4.17          | 17            |
| Bank servants                 | 12              | 3.59      | 0         | 0.00          | 0             | 0.00          | 12            |
| Technical workers             | 8               | 1.54      | 0         | 0.00          | 1             | 4.17          | 9             |
| Farmers                       | 1               | 0.51      | 2         | 5.00          | 0             | 0.00          | 3             |
| Labourers                     | 0               | 0.00      | 3         | 7.50          | 2             | 8.33          | 5             |
| Retired                       | 18              | 6.67      | 2         | 5.00          | 2             | 8.33          | 22            |

* Fathers of nine in general group and two in SC group students had expired.

Father’s occupation as professional compared with others occupational groups combined:
- General vs SC: $X^2=5.73$, d.f.=1, $p=0.01$
- General vs ST: $X^2=6.43$, d.f.=1, $p<0.01$

### Table 4: Mother’s Occupation

| Occupational category          | General (N=195) | SC (N=42) | ST (N=24) | Total (N=261) |
|-------------------------------|-----------------|-----------|-----------|---------------|
|                               | N               | %         | N         | %             | N             | %             |
| Housewife                     | 101             | 51.80     | 36        | 56.72         | 22            | 91.57         | 159           |
| Teachers                      | 38              | 18.46     | 2         | 4.78          | 2             | 8.33          | 40            |
| Government servants (nonspecific) | 16              | 8.21      | 2         | 4.78          | 0             | 0.00          | 18            |
| Doctors                       | 18              | 9.23      | 0         | 0.00          | 0             | 0.00          | 18            |
| Professors                    | 10              | 5.13      | 0         | 0.00          | 0             | 0.00          | 10            |
| Bank servants                 | 5               | 2.56      | 0         | 0.00          | 0             | 0.00          | 5             |
| Nursing staffs                | 2               | 1.03      | 0         | 0.00          | 0             | 0.00          | 2             |
| Manager                       | 1               | 0.51      | 0         | 0.00          | 0             | 0.00          | 1             |
| Business woman                | 1               | 0.51      | 0         | 0.00          | 0             | 0.00          | 1             |
| Not responded                 | 5               | 2.56      | 2         | 4.78          | 0             | 0.00          | 7             |

Mother’s occupation as housewife compared with other occupation groups combined:
- General vs SC: $X^2=17.12$, d.f.=1, $p=0.0003$
- General vs ST: $X^2=11.40$, d.f.=1, $p=0.0007$
- SC & ST: Fisher $p=1.0$

(9.50%) fathers from SC group were illiterate, 14 (33.37%) graduate and 11 (26.19%) postgraduate. None of general category and ST group students had an illiterate father. 9 (37.5%) and 7 (29.17%) ST fathers were graduates and postgraduates respectively. Education among fathers of general category students was significantly more in this group 72 (36.93%) fathers were graduates, 86 (44.20%) were postgraduates and 11 (5.65%) were post-doctoral (Ph.D). None from other two groups was a Ph.D. 2 (1.03%) mothers were illiterate in general category in comparison to 15 (35.71%) mothers in SC and 5 (20.83%) mothers in ST group. In general category 104 (53.34%) mothers were graduate, 54 (27.69%) were postgraduate and 8 (4.10%) mothers were Ph.D. In SC group 1 (2.38%) mother was postgraduate and none in ST group. No mother in SC and ST group was a post-doctoral (Ph.D).

Table 3 depicts fathers occupation. Analyses of fathers occupation reveals statistical difference. General category students had 96 (51.16%) fathers who were professionals while professional fathers in SC and ST groups were 13 (32.50%) and 5 (20.83%) respectively. Government service showed more representation in SC, 17 (42.50%) and ST, 13 (54.17%) groups respectively. Government service was described nonspecific and in SC-ST group it
included mainly the workers who were scavengers, peons, orderlies and other class IV employee in various government offices. The professional group comprised of doctors, engineers, lawyer and charted accountants.

Table 4 shows mother's occupation. More housewives belonged to SC 36 (85.72%) and ST 22 (91.67%) categories. More representation of mothers as doctors, professors, bank officers was seen in general category students. Statistically high number of mothers from general category students were working in the offices.

Personality and Students Personal problems: Mean scores on personality traits inventory and students personal problems index in three group is shown in table 5. Low scores on activity (Active/Passive) and cyclothymic/schizothymic traits were observed in SC and ST students whereas they scored significantly more on depressive tendency and emotional instability traits. The social desirability was expressed more in SC and ST students as compared to general students. Higher scores were found on students personal problems index in ST (14.29±3.91) as compared to SC (9.73±5.1) and general students (9.26±4.75).

Academic performance is shown in table 6. There were significantly more SC & ST medical students who took two or more attempts to pass their professional examinations as compared to general category students. This difference was found in all three professional examinations. Although there was no difference in SC and ST students.

DISCUSSION

SC & ST students were older in age in our study as compared to general category students. It could be because of their late admission and repeated failures. This is one of the important features in the study by Wig et al. (1972) who studied characteristics of unsuccessful students. Early environmental influences of stimulation or isolation have a marked effect on measurable cognitive functions. Social class differences affecting language development emerge during the first year of life (Jaya Nagraja, 1986). Illiterate mothers of SC & ST students hardly provide such an environment of language stimulation we
|                  | First professional |                     | Second professional |                     | Third professional |                     |
|------------------|--------------------|---------------------|---------------------|---------------------|--------------------|---------------------|
|                  | Attempts of passing|                     | Attempts of passing|                     | Attempts of passing|                     |
|                  | One                | Two/more            | One                | Two/more            | One                | Two/more            |
|                  | (N=153)            | (N=15)              | (N=83)             | (N=16)              | (N=56)             | (N=23)              |
| General          | 81.04              | 20.00               | 76.19              | 31.35               | 76.19              | 31.25               |
| SC               | 13.73              | 46.67               | 15.87              | 50.00               | 15.87              | 50.00               |
| ST               | 5.23               | 33.33               | 7.94               | 18.75               | 7.94               | 18.75               |

First professional: General Vs SC: Fisher p=0.0002, General Vs ST: Fisher p=0.0001, SC Vs ST: X^2=0.07, d.f.=1, p=0.37, General Vs ST: Fisher p=0.06, Second professional: General Vs SC: X^2=11.02, d.f.=1, p=0.0009, General Vs ST: Fisher p=0.06, Third professional: General Vs SC: X^2=14.04, d.f.=1, p=0.0001, General Vs ST: X^2=5.63, d.f.=1, p=0.01, SC Vs ST: X^2=0.03, d.f.=1, p=0.86.

Witness in our study. Public school background of general category students provides them an advantageous position for language stimulation and verbal expression. Pringle (1974) points out that the benefit from education depends upon candidates fluency in language. It is observed that the SC students are less fluent in English (the medium of instruction) which serves negatively to achieve success. Malik and Manchanda (1994) who studied characteristics of successful medical college entrants, found that majority of them had come from public schools and most of them from English medium school. Economic status plays an important role in stimulation of adequate intellectual growth. A child born in poor family may suffer from protein calorie malnutrition which may retard his intellectual growth. Our SC & ST subjects hailing from traditionally poor families are likely to have arrested intellectual growth. High economic background of our general category students renders them free from all kinds of worries. Studies reveal that SC & ST students carry very low aspirations (Rath, 1976) for money, material, occupational status etc., they have very low self-esteem and lower need for achievement (Gokulnath & Mehta, 1972) they have a overwhelming concern for immediate needs for subsistence, with a static level of aspiration. They are extremely cautious and avoid taking risk where possibility of failure is there (Sinha, 1969) and where financial implication is involved. In our study both parents and specially the mothers had far less education in SC & ST groups in comparison to general group. This is an important factor for low achievement in SC & ST groups because when role model (Varma, 1992) is not available for proper identification with a successful person, they do not find studies to be a stimulating experience. It is expected that with the further spread of education, the next generation of educated parents will interact, qualitatively with the children in SC-ST families to avail the fruits of educational facilities.

Majority of fathers of general category students were professionals (51.16%) who by and large were doctors, engineers, lawyers and chartered accountants. Fathers of SC and ST students were more in government service, which was not specified in the results, however most of these were working in the government offices as scavengers, peons, attendents and other class IV employees. These SC & ST parents engaged in insignificant and less prestigious occupations are bound to breed emotional instable children destined to low achievement (Jiloha, 1995). Mean score of SC & ST students on
depression and emotional instability traits were significantly high as compared to general category students (Table 5) which could be contributory in low performance. Sinha (1985) explains that the SC & ST students have harsh self-criticism, less favourable self-concept, and rigid standards to evaluate their performance. This tendency is most damaging to the ego. It builds an internalised mechanism of self-discouragement and devaluation. These students are likely to experience social anxiety to subsequent encounters of ability testing situations (Clark et al., 1975) High scores on social desirability traits indicate that the SC and ST students are motivated to obtain others approval acceptance and affection than others disapproval and rejection and have social anxiety higher than the general category students which is likely to interfere in their work efficiency. This is the reason SC and ST category students had scored less on activity and cyclothymic traits.

When we observe the social, economic, educational, occupational and personal factors in SC and ST groups we find no statistical difference in these two groups. A similar observation was made by Pimpley (1987).

The study suggests that more failure in SC and ST groups is attributable to their poor social, economic and educational environment. The possibility of comparable academic results with the general category students could be there if these (SC and ST) students are given equal opportunity starting from childhood itself.

Wide variation in the sample size of the study group is the limitation of this study specially when studying the personality profile. With the existing resources it was not possible to overcome this limitations. Therefore there is a need to carry out detailed studies with larger population to establish cause and effect association.

Our results point towards the need for help to SC and ST students in the form of extra coaching to bring them at par with general category students. Personal counselling to change their negative attitude may also be of help.

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R.C. JILOHA*. Professor, Department of Psychiatry, GB Pant Hospital, New Delhi 110002, JUGAL KISHORE, Ex-Senior Resident, Department of Preventive & Social Medicine, Maulana Azad Medical College, New Delhi 110002.

*Correspondence