CHAPTER VI

DISCUSSION
The statistical analysis of the data puts forth certain findings in terms of different variables included in the present study. The results have been presented in Tables I to XXVII, and Figures I to VI.

The Personality Questionnaire (Eysenck and Eysenck, 1973) was standardized on the Ss from Commerce and Business Management faculty. The reliability of the Personality Questionnaire was established by using the Internal Consistency method and the Test-retest method. The reliability scores obtained through the Internal Consistency with the help of odd-even method were:

- Extraversion +.47
- Neuroticism +.85
- Psychoticism +.44
- Lie +.74

Majority of the items showed high reliability with the exception of the Psychoticism scale. Plug (1979) had also reported similar results on Afrikan Ss. Virdi (1982) and Mohan & Virdi (1983, 1984) had reported similar results on university students.

The test-retest reliability was established by using the Personality Questionnaire itself. The questionnaire was readministered with one month intervening (Eysenck and
Eysenck, 1978) to overcome the immediate memory effects, practice and transfer effects. The test-retest reliability on the following variables was found to be considerably high:

- Extraversion: +.91
- Neuroticism: +.97
- Psychoticism: +.87
- Lie: +.91

Virdi (1982) and Mohan & Virdi (1983, 1984) had also reported similar high test-retest reliability scores with university students.

**EXTRAVERSION:**

It was hypothesized that the Extraversion dimension of the Personality Questionnaire would be highly reliable and valid. Extraversion emerged to be a reliable dimension in the present study. The results are in line with those of earlier studies (Eysenck and Eysenck, 1973; Plug, 1979; Chattopadhyay, Biswas and Chattoraj, 1981; Virdi, 1982 & Mohan and Virdi, 1983, 1984).

The criterion related validity was established with the help of Vigilance task; Reminiscence (Backward Alphabet Writing) and Persistence task.

**EXTRAVERSION AND VIGILANCE:**

It was hypothesized that Extraversion would be positively related to vigilance. In the present study a
positive relationship was obtained as hypothesized but, it was not significant. The results have been supported by Lynn (1972); Kishimoto (1977); Keena (1981); Virdi (1982) and Mohan & Virdi (1983, 1984). However, an almost negligible relationship may be because the extraverted subjects are inferior to the introverted subjects, this is so because they generate reactive inhibition faster and dissipate it more slowly (Griew and Lynn, 1960). These results are similar to those of Bakan (1963); Bakan et al. (1963); Broadbent (1963); Buckner and McGrath (1963) and Paramesh (1963). Hogan (1966) found that extravers made significantly fewer correct detections and were inherently less cautious (Tune, 1966). Tong et al. (1977) failed to find a significant relationship between the two.

EXTRAVERSION AND REMINISCENCE:

It was hypothesized that Extraversion would correlate positively with reminiscence. Results reveal a positive but insignificant correlation between them. Lynn (1960) found a positive correlation between Extraversion and Reminiscence. Similar results have been reported by Child (1966), Shamberg et al. (1969); Mohan and Shashi (1972). Mohan and Rajinder (1973); Mohan & Munjal (1979) failed to find significant results.

EXTRAVERSION AND PERSISTENCE:

As stated in the hypothesis, Extraversion was expected to be positively related to persistence. A positive however

NEUROTICISM

It was expected that Neuroticism will emerge as a reliable and valid dimension of personality. It has been found highly reliable in the present study and the results obtained are in line with those of Eysenck and Eysenck (1973); Plug (1979); Chattopadhyay, Biswas and Chattoraj (1981); Jegede (1981); Virdi (1982), and Mohan & Virdi (1983, 1984).

The criterion validity was established with the help of vigilance task; Reminiscence and Persistence.

NEUROTICISM AND VIGILANCE:

It was hypothesized that Neuroticism would have a positive relationship with vigilance due to its nature as an autonomic drive. A glance at the results disproves this hypothesis.

A negative relationship among Neuroticism and Vigilance can be explained on the basis of Yerkes-Dodson Law (1908) which suggests a curvilinear relationship between
Neuroticism and Reminiscence

Neuroticism was expected to be positively related to Reminiscence. However, the results are exactly opposite to this. Eysenck (1962) had pointed out that "it seems that Neuroticism as a personality variable presents some special complexities and difficulties to the investigator attempting to link it with personality measures of an objective kind. These problems arise as a result of the curvilinear relation between drive and performance (Yerkes-Dodson, 1908). Thus, it is possible that in two groups of Ss fairly low on Neuroticism, a positive correlation of Neuroticism with Reminiscence may be observed, while in groups of Ss who are extremely high on Neuroticism a negative correlation may be found.

A negative correlation between the Neuroticism and Reminiscence has been supported by some earlier studies also.
NEUROTICISM AND PERSISTENCE:

Neuroticism was expected to be negatively related to persistence. Results provide confirming evidence though statistically insignificant. A negative relationship may be due to too high a drive in the neurotic subjects. The disrupting effects of drive would produce more distractability in the subjects especially when the work is more complex. This has been supported by the findings of Himmelweit and Petrie (1951); Eysenck (1955); Eysenck and Costello (1961); Singh (1962); Singh et al. (1966); Mohan and Mujer (1972); Mohan and Kumar (1973); Virdi (1982) and Mohan & Virdi (1983,1984).

PSYCHOTICISM:

As per hypothesis, the Psychoticism dimension was found to be reliable(Eysenck & Eysenck,1978; Baumann & Foster,1981; Jegede,1981; Virdi,1982). The criterion validity was not established as none of the correlations were found to be significant i.e. Psychoticism with Vigilance, Reminiscence and Persistence respectively. Psychoticism was found to be negatively related to Vigilance (Eysenck and Eysenck,1978; Virdi and Mohan & Virdi, 1983,1984) and Persistence; and positively related to Reminiscence.
The reliability of the Lie (Social Desirability) Scale was established (Plug, 1979; Chattopadhyay, Biswas and Chatteraj, 1981; Eysenck, 1981; Jegede, 1981; Virdi, 1982 and Mohan & Virdi, 1983, 1984). The criterion validity was not established as none of the correlations were found to be significant. Social desirability was found to be negatively related with Vigilance and Persistence (Virdi, 1982 and Mohan & Virdi, 1983, 1984); and positively with Reminiscence.

According to Dubey (1975), actual performance depends on the ability and motivation of people involved which are directly related besides knowledge, training, experience and interests to their background and personal traits such as intelligence, personality and level of aspiration.

However, the construct validity was established with the help of P.E.N. Inventory and Eysenck Personality Inventory. The correlations obtained were highly significant (Virdi, 1982 and Mohan & Virdi, 1983, 1984). With P.E.N. Inventory the results were:

- Extraversion: +.87
- Neuroticism: +.91
- Psychoticism: +.75
- Lie: +.80
With the Eysenck Personality Inventory the correlations were -

- Neuroticism : .86
- Extraversion : .83
- Lie : .59

With regard to the Commerce and Business Management Ss who were used for the purpose of standardisation, it may be stated that very few studies in India have been carried out with this tool so far. Therefore, it is very difficult to compare the findings of the study with others in similar culture.

A more comprehensive study with adequate sample drawn from various comparable departments in different universities offering similar courses and over a period of time is likely to reveal very useful results.

The mean scores of the total sample on the Personality Questionnaire were:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Extraversion</td>
<td>13.80</td>
<td>13.33</td>
<td>13.56</td>
</tr>
<tr>
<td>Neuroticism</td>
<td>9.93</td>
<td>9.35</td>
<td>9.66</td>
</tr>
<tr>
<td>Psychoticism</td>
<td>4.94</td>
<td>5.07</td>
<td>5.28</td>
</tr>
<tr>
<td>Lie</td>
<td>10.34</td>
<td>10.35</td>
<td></td>
</tr>
</tbody>
</table>

A general look at the mean scores shows that Indian students, with exception to the Psychoticism scores, scored lower on Extraversion and Neuroticism than the British students.
INTERCORRELATIONS:

Total Sample:

In the case of total sample (Table III), Extraversion was found to correlate significantly (at .01) and negatively with Neuroticism. Eysenck (1967) had stated that those who were high on Neuroticism also tend to be Introverted, it is so because high levels of arousal of the visceral brain system should lead to arousal of the reticular activity system. This accounts for the negative correlations between Extraversion and Neuroticism. Bartholomew (1959); Hamilton (1959); Child (1964); Madan (1967); Colston (1969); Mohan & Rajinder (1973); Sudhakar (1978); Tapasakk, et al. (1979). Heather and Robert (1979); Verma and Upadhyay; Meena (1981); Virdi (1982); Mohan and Virdi (1983,1984) and Mohan & Sharma (1984) also reported a significant negative correlation between Extraversion and Neuroticism. This establishes the independence of Extraversion and Neuroticism dimensions as Eysenck (1964, 1967, 1971, 1975, 1978) had found.

Extraversion was found to correlate significantly with socio-economic-status (p < .05). George (1973) considered the impact of social-status; a correlation between the two has been reported by Virdi (1982); and Mohan and Virdi (1983,1984).

A positive correlation was expected between Neuroticism and Psychoticism. This has been favored (Lykken, 1957). Akhtar
Neuroticism was found to be negatively related to social desirability (p < 0.05). Farley and Koh (1976) stated that social desirability had effects of Neuroticism. Similar negative correlation has been reported by Palsane and Lodhi (1979); Ummat (1982).

A negative but significant correlation was expected between Psychoticism and Social desirability (i.e. Lie). This has been favoured and the results are in line with Eysenck and Eysenck (1978); Heather and Robert (1979); Gulati (1982); Virdi (1982); Williams (1982); Mohan and Gulati (1983, 1984); and Mohan and Virdi (1983, 1984).

Socio-economic status was found to correlate positively with Psychoticism (p < 0.05) and negatively with social desirability (p < 0.05). A positive correlation was found between social-desirability and age (p < 0.05).

**SUB-GROUPS:**

**ARCHITECTURE:**

Architecture Ss were found to have the highest mean score on Psychoticism and they belonged to a highest socio-economic strata as stated by the means obtained and the depiction in graphs.
A significant negative correlation was found between Psychoticism and Social desirability (p < .05).

APTS:

Social desirability was found to be negatively related to Neuroticism (p < .05) and Psychoticism (p < .05); similar results have been reported by Gulati (1982), Virdi (1982); Mohan & Gulati (1983, 1984) and Mohan & Virdi (1983, 1984).

A positive correlation was found between Psychoticism and age (p < .05).

BIO-SCIENCE:

A negative correlation was found between Extraversion and Neuroticism (p < .01). Eysenck (1959, 1964) stated that a negative relation between Extraversion and Neuroticism was connected with the fact that the regression line of Neuroticism and Extraversion is significantly bent at the extreme Introverted end ...". This stand-point has been reiterated by Sigal, Star and Franks (1958a); Rafi (1965); Elliot (1972). The results obtained are similar to those of Gulati (1982); Virdi (1982); Mohan & Gulati (1983, 1984); and Mohan & Virdi (1983, 1984).

A negative correlation was found between Psychoticism and Social desirability (p < .05).
The Commerce and Business Management Ss obtained the highest mean scores than the rest of the group on Extraversion. These results are similar to those obtained by Dubey (1975); Mohan and Kapoor (1977). This difference is visible in the graph (Figure IV). This group has also been found to be second in position where Age is concerned; their mean age being 22.14 (Mohan and Kapoor, 1977 reported 22.6 mean age). This group belonged to a comparatively higher socio-economic status than the rest, this difference is depicted in the graph and the mean scores, it stands on a third position where Socio-economic-status is concerned.

Extraversion was found to correlate negatively with Neuroticism (p < .05) and positively with Socio-economic-status (as shown by the mean scores). A negative correlation was obtained between Neuroticism and age (p < .05).

EDUCATION:

The Education Ss had the highest mean scores on social desirability and secured a third position where age was concerned (mean 21.52).

Extraversion correlated positively with socio-economic-status (p < .05).

ENGINEERING:

The Engineering Ss scored comparatively higher on
Psychoticism (i.e. they secured a third position with a mean score of 6.3\textsuperscript{4}); and Socio-economic status. This difference has been depicted graphically (Figure IV).

Psychoticism was found to correlate negatively with social desirability (p \textless .01) and positively with Socio-economic status (p \textless .05).

FINE ARTS:

None of the correlations were found to be significant. Similar results have been reported by Gotz and Gotz (1979). According to Taylor (1974) the relationships between art and personality though diverse are dependent upon a complex set of variables; a multidimensional approach to enquiry in the area of art / personality relationships is necessary in order to comprehend it fully.

The Fine-arts Ss had second highest mean scores on Psychoticism. Gotz and Gotz (1979) found successful artist\textsuperscript{s} scored much higher on Psychoticism.

HOME-SCIENCE:

The Home-Science Ss obtained comparatively higher mean scores on Extraversion (mean 14.16). They had highest mean scores on Neuroticism. This group belongs to the females, and females have been found to have higher scores on Neuroticism (Amarjit 1970); Neumann, 1970; Mohan, 1976;
Satyarthi, 1979; Jegede, 1981; Mohan et al., 1981; Virdi, 1982; Gulati, 1982; Mohan & Gulati (1983, 1984; Mohan & Virdi, 1983, 1984). These Ss score lowest on Psychoticism and this is the youngest of all the groups (mean 18.16). These differences have been presented graphically (Fig. V).

None of the correlations were found to be significant.

LANGUAGES:

The language Ss got the second highest mean scores on Neuroticism (Malhotra, 1981).

A positive correlation was found between Extraversion and age (p < .01). Psychoticism was found to correlate negatively with social desirability (p < .01).

NURSING:

According to Susan (1977), Nursing is a predominantly female profession. Ss from Nursing faculty got a mean score of 10.50 on Neuroticism (i.e. they stood third amongst the groups). A close association has been found and reported among femininity and Neuroticism (Mohan, 1976; Satyarthi, 1979; Jegede, 1981; Gulati, 1982 and Virdi, 1982; Mohan & Gulati (1983, 1984); Mohan and Virdi, 1983; 1984). Nurses have been found to score considerably higher on social desirability (mean 11.88). Pryke and Harper (1977) reported that mature group scored higher on Lie within acceptable returns.
Similar results have been found by Parkes (1980). The mean scores suggest that the Nursing Ss were the eldest as compared to other groups, their mean age was 24.38. They scored lower than other groups where socio-economic-status was concerned. Satyarthi (1979) stated that Ss from low income group had higher scores on Neuroticism. On Extraversion this group got the lowest mean scores (i.e. 12.42). Those differences are perceptible on the graph (Fig. VI) with a rise and fall.

Social desirability was found to correlate negatively with Neuroticism (p < .05) and positively with age (p < .01) contrary to the findings of Pryke and Harper (1977). Age correlated positively with Socio-economic-status (p < .05).

Ss from science faculty had higher mean scores on Social desirability (i.e. they secured a third position over other groups with a mean of 11.74).

Neuroticism was found to correlate negatively with social desirability (p < .05). These results have been supported by the findings of Gulati (1982); Virdi (1982). Psychoticism was found to correlate negatively with social desirability (p < .01), those results are in line with those of Gulati (1982); Virdi (1982), Mohan and Gulati (1983,1984) and Mohan and Virdi (1983,1984).
SOCIAL SCIENCES

The Social-Science Ss followed the commerce and Business Management and Home-Science groups on Extraversion with a mean score of 14.10. They stood last in the series on Neuroticism and social desirability with mean scores of 7.30 and 8.62 respectively.

A negative correlation was found between Extraversion and Social desirability (p < .05).

ANALYSIS OF VARIANCE:

Subject (or Faculty) was found to be insignificant determiner of Extraversion (Kansekar and Sahu, 1970; Malhotra, 1981). Faculty was found to be a significant determiner of Neuroticism; Psychoticism (Malhotra, 1931); Social desirability; Age and Socio-economic-Status.

Item-analysis:

"Both reliability and validity depend ultimately upon the characteristics of the items making up the test. Any test can be improved through the solution, substitution, or revision of items" (Anastasi, 1982). For the purpose of such an improvement item-analysis is utilized.

The validity index values for Extraversion, Neuroticism, Psychoticism and Lie Scale items are given in the Tables.
The items that yielded low validity index i.e. lesser than .20 were underlined. These items are:

**Neuroticism** - item No. 44 and 79.
**Psychoticism** - item No. 2, 6, 53 and 80.
**Lie** - item No. 51 and 73

The low validity index (lower than .20) means that majority of the subjects gave similar responses to these items and that the items poorly discriminated between individuals in that sample.

Present endeavour in the area of Psychometrics aimed at standardizing, a prestigious instrument to measure personality, on a population of students undergoing various courses at a University in India. Eysenck's personality theory and research had culminated in the development of this personality questionnaire which was taken up in this study. All the major steps towards its standardization were taken yielding results which warrant a conclusion that with very minor adjustment of items this questionnaire is worthy of use as a research tool as well as an applied instrument for measuring for major dimensions (Extraversion, Neuroticism, Psychoticism and Social Desirability) of personality. However, it may be submitted that present study accomplishes a beginning of more vigorous and voluminous research and applied work with the Indian version of Personality Questionnaire in future.