CHAPTER-V
DISCUSSION OF RESULTS
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5.1 Discussion Based on an Analysis of Variance

Results vide Table 4.1 achieved with the help of ANOVA comparing male and female including athletes and non-athletes lead us to conclude that from among the 5 variables under study, there was a significant difference between male and female students from the total sample (Male : N = 156 and Female: N = 208) on the variable of academic achievement (F = 16.339) and male and female students differed significantly on the academic achievement and the female students were better than male ones in academic achievement.

This finding is supported by the results of Newman (1988), who also found significant differences between male and female students of physical education in their GPA (Grade Point Average). Other studies which support female superiority include those of Anglin (1985) and Bennett (1990).

Results vide Table 4.2 comparing athletes and non-athletes, it is concluded that there were significant differences between athletes and non-athletes on the variables of achievement-motivation (F = 10.950, interests (F = 7.070), intelligence (F = 60.232) and academic achievement (F = 21.604). This implied that athlete and non-athlete students differed significantly on the variables of achievement-motivation, interests, intelligence and academic
achievement and the non-athletes were better than athletes in achievement-motivation, interests, intelligence and academic achievement.

This finding is supported by the results of Staton (1988) who also found significant differences between athletes and non-athletes in their achievement-motivation. Other studies which support non-athletes’ superiority include those of Patterson (1988), Pflueger (1988), Halm (1989) and Manning (1990).

The finding is supported by the results of Gary (1970) who also found significant differences in the interests between athletes and non-athletes. Other studies which support non-athletes’ superiority include those of Dobois (1976), Anderson (1977) and Petitpas (1981).

This finding is supported by the results of Mills (1985) who also found significant differences between athletes and non-athletes in their intelligence. Other studies which support non-athletes’ superiority include those of Petitpas (1981), Hazelton (1987) and Patterson (1988).

This finding is supported by the results of Bryant (1987) who also found significant differences between athletes and non-athletes in their academic achievement. Other studies which support non-athletes’ superiority include those of Yeager (1980), Mills (1985), Hill (1985), Patterson (1988) and Newman (1988).
Results vide Table 4.3 comparing faculties differences on different variables. It leads us to conclude that there were significant differences among the various faculties on the variables of personality traits (\(F = 3.503\)) achievement motivation (\(F = 6.2660\)), interests (\(F= 2.880\)) intelligence (\(F = 29.649\)) and academic achievement (\(F=5.026\)).

These suggested that they differed significantly and statistically from among various faculties on the variables mentioned above i.e., personality traits, achievement-motivation, interests, intelligence and academic achievement and the students of the faculty of management sciences were better than the ones of the faculty of science and technology, in personality traits, the students of the faculty of management sciences were better than those of the faculty of engineering in achievement-motivation, the students of the faculty of sciences were better than the students of the faculty of education in intelligence and the students of the faculty of dentistry were better than the ones of the faculty of engineering in academic achievement.

The results vide Table 4.3 reveal that

1. The personality traits (\(F = 3.503\)) of the students of the faculty of management sciences show the highest (\(M = 62.158\)) while it shows the lowest by the students of faculty of science and technology (\(M = 44.430\))
2. In the case of achievement-motivation ($F = 6.266$), the students of the faculty of management sciences are the highest ($M = 150.421$), whereas it is found that the lowest in those of the faculty of engineering ($M = 124.78$).

3. The interests ($F = 2.880$) of the students of the faculty of sciences are the highest ($M = 89.818$) but lowest in the case of the students of the faculty of engineering ($M = 61.978$).

4. Intelligence ($F = 29.649$), shows the highest in the students of the faculty of medicine ($M = 115.103$) whereas it is the lowest in those of the faculty of education ($M = 101.158$).

5. For the academic achievement ($F = 5.026$), it is found the highest in the students of the faculty of dentistry ($M = 273.740$) while it shows the lowest in those of the faculty of engineering ($M = 226.780$).

Results vide Table 4.4 showed that the achievement motivation ($F = 12.727$) and interests ($F = 43.831$) were found to be significant at .01 level indicating that in the faculty of engineering, there existed a significant differences between athletes and non-athletes only on the variables of achievement-motivation and interests regard to the faculty of engineering, and athletes were better than non-athletes in achievement-motivation and interests.
This finding is supported by the results of Smith (1977) who also found significant differences between athletes and non-athletes in their achievement-motivation. Other studies which support athletes' superiority include those Shen (1983), Patterson (1987) and Loudermilk (1989).

This finding is supported by the results of Patterson (1988) who also found significant differences between athletes and non-athletes in their interests. Other studies which support athletes' superiority include those of Browlow (1979), Bryant (1982) and Henderson (1984).

Results vide Table 4.6 showed that on the variables of achievement-motivation ($F = 8.614$) and interests ($F = 12.558$), there were significant differences between athletes and non-athletes. This means that athlete and non-athlete students differed significantly on the variables of achievement-motivation and interests in respect of the faculty of medicine and the athletes are better in achievement-motivation and interests.

This findings is supported by the results of Smith (1977) who also found significant differences between athletes and non-athletes in their achievement-motivation. Other studies which support athletes' superiority include those of Browlow (1979), Bryant (1982) and Henderson (1984).

This findings is supported by the results of Patterson (1987) who found significant differences between athletes and non-athletes in their interests. Other studies
which support athletes' superiority include those of Browlow (1979), Bryant (1982) and Henderson (1984).

Results vide Table 4.7 showed that on the significant difference existed on the variables of intelligence \((F = 7.73)\) indicating that the athletes and non-athletes differed significantly only on the variable of intelligence in the case of faculty of humanities and social sciences and non-athletes were better than athletes in the intelligence.

This finding is supported by the results of Mills (1985) who also found significant differences between athletes and non-athletes in their intelligence. Other studies which support non-athletes' superiority include those of Petitpas (1981), Hazelton (1987) and Patterson (1988).

Results vide Table 4.9 showed that the F-value \((F = 5.418)\) was found to be significant on the variable of interests as a result of ANOVA comparing between athletes and non-athletes in case of faculty of pharmacy. This indicated that the athlete and non-athlete group students differed significantly on the variable of interests and the athletes were better than the non-athletes in interests.

This finding is supported by the results of Patterson (1988) who also found significant differences in their interests between athlete and non-athlete. Other studies which support athletes' superiority include those of Browlow (1979), Bryant (1982), and Henderson (1984).
Results vide Table 4.13 showed that the results F-value were found to be significant on the variable personality traits ($F = 4.356$) suggesting that athlete and non-athlete students differed significantly on the variables of personality traits in regard to faculty of natural resources, and the athletes were better than the non-athletes in personality traits. This finding is supported by the results of Anderson (1977) who also found significant differences in the personality traits. Other studies which support athletes' superiority include those of the one berry Browlow (1979), Shen (1983), Reeves (1983) and Forry (1985).

However, the results vide Table 4.5, 4.8, 4.10, 4.11, 4.12 and 4.14 showed that the F-values comparing the athletes with non-athletes showed there were no significant differences on any variables in cases of faculties of education, management sciences, nursing, dentistry, sciences and science and technology.

5.2 **Discussion Based on t-Test**

The analysis of the data discussed in the fourth chapter, vide Table 4.15 leads us to conclude that there were significant differences on the variables of achievement motivation ($t = -3.31$), interests ($t = -2.66$), intelligence ($t = -7.76$) and academic achievement ($t = -4.65$). This indicated that achievement-motivation, interests, intelligence and academic achievement between athletes and non-athletes differed significantly.
The mean scores of the non-athletes are higher than those of the athletes on all the four variables i.e., achievement-motivation ($=130.93, 139.30$), interests $(M=64.73, 75.66)$, intelligence $(M=100.83, 108.44)$ and academic achievement $(M = 227.97, 255.50)$. Surprisingly, the variable of personality traits, the mean of athletes $(M = 56.73)$ is higher than that of the non-athletes $(54.26)$ even if these are not statistically supported and non-athletes were better than athletes in achievement-motivation, interests, intelligence and academic achievement.

This finding is supported by the results of Patterson (1988) who also found significant differences between athletes and non-athletes in their achievement-motivation, on hypothesis II, "The achievement-motivation of athletes will be significantly higher than that of non-athletes." The results rejected athletes and accepted non-athletes' superiority include those of Staton (1988), Pflueger (1988), Halm (1989) and Manning (1990).

This finding is supported by the results of Gary (1970) who also found significant differences in their interests on hypothesis III, "The interests of athletes will be significantly different from those of non-athletes." The examination of research rejected those of athletes and accepted non-athletes. Other studies which support non-athletes' superiority include those of Dobois (1976), Anderson (1977), and Petitpas (1981).
This finding is supported by the results of Pattipas (1981) who also found significant differences between athletes and non-athletes in their intelligence, on hypothesis IV, "The intelligence of athletes will be significantly different from that of non-athletes. The results rejected athletes and accepted non-athletes respectively. Other studies which support non-athletes' superiority include those of Mills (1985), Hazelton (1987), and Patterson (1987).

This finding is supported by the results of Bryant (1982) who also found significant differences between athletes and non-athletes in their academic achievement, on The results rejected athletes and accepted non-athletes hypothesis V, "The academic achievement of athletes, will be significantly different than those of non-athletes." The results rejected athletes and accepted non-athletes, respectively. Other studies which support non-athletes' superiority include those of Yeager (1984), Mills (1985), Hill (1985), Patterson (1988) and Newman (1988).

This finding is supported by the results of Anderson (1977) who also found non-significant differences between athletes and non-athletes in their personality traits, on hypothesis I, "The personality traits of athletes will be significantly different from those of non-athletes", This finding is also supported by the result of studies of Evie (1972), Nowlin (1974) and Dobois (1976).
The analysis of the data vide Table 4.16 the results showed that on the variable of academic achievement, the significant differences were found ($t = -4.04$), comparing the male and female students. The means of the male ($M = 240.78$), female ($M = 258.73$) were lower than those of the female. This means that female student seemed to differ significantly from the male students on the variable of academic achievement and female students were better than male students in their academic achievement.

This finding is supported by the results of Newman (1988) who also found significant differences between male and female students. Other studies which support females’ superiority include those of Anglin (1985) and Bennett (1990).

Results vide Table 4.17 showed that the $t$-value comparing the athletes and non-athletes in case of faculty of engineering were found to be significant on the variables of achievement-motivation ($t = 3.57$) and interests ($t = 6.62$), indicating that the athletes and non-athletes differed significantly on the variables of achievement-motivation and interests. The mean scores showed that the athlete group scored higher than that of the non-athlete group as the mean of the athlete group (42.90, 100.60) and the non-athlete group (188.94, 49.52) and the athletes were better than non-athletes in achievement-motivation and interests.
This finding is supported by the results of Smith (1977) who also found significant differences between athletes and non-athletes in this achievement-motivation. Other studies which support athletes' superiority include those of Loudermilk (1983), Shen (1983) and Patterson (1988).

This finding is supported by the results of Patterson (1988) who also found significant differences between athletes and non-athletes in this interests. Other studies which support athletes' superiority include those of Browlow (1979), Bryant (1982) and Henderson (1984).

In case of results vide Table 4.19, the t-values were found to be significant on the variables of achievement-motivation (2.93) and interests (3.54). The mean scores obtained by the athlete students were higher than those of the non-athlete students as the mean of the athletes (147.29, 100.00) and of the non-athletes (122.72, 56.03). This implied that these differed significantly. The mean between the two groups on the variables of achievement-motivation and interests in favour of the athlete group of students in the case of faculty of medicine and the athletes were better than non-athletes in the achievement motivation and interests.

This finding is supported by the results of Smith (1973) who also found significant differences between athletes and non-athletes in their achievement-motivation.
Other studies which support athletes' superiority include those of Browlow (1979), Bryant (1982) and Henderson (1984).

Results vide Table 4.20 the t-value was found to be significant only the variable of intelligence (t = 2.78) comparing athlete and non-athlete students in regard to the faculty of humanities and social sciences. The mean scores of the non-athletes (102.91) were higher as compared to the athlete student (94.00), suggesting that the non-athletes were more intelligence than the athlete group in case of faculty of humanities and social services and the non-athletes were better than athletes in intelligence.

This finding is supported by the results of Mills (1985) who also found significant differences between athletes and non-athletes in their intelligence. Other studies which support non-athletes' superiority include those of Petitpas (1981), Hazelton (1987) and Patterson (1988).

The analysis of the data vide Table 4.22 the results showed that there was significant differences only on the variable of interests (t = 2.33). The mean scores showed that the athletes group (M = 92.70) achieved higher than the non-athlete (69.00). This indicated that athlete and non-athlete students differed significantly on the variable of interests in favour of the athlete group of students in case of faculty of pharmacy. The athletes were better than non-athletes in the interests.
This finding is supported by the results of Patterson (1988) who also found significant differences between athletes and non-athletes in their interests. Other studies which support athletes' superiority include those of Browlow (1979), Bryant (1982) and Henderson (1984).

Results vide Table 4.26 the significant differences existed on variables of personality traits (t = 2.09) and academic achievement (2.03) comparing the athlete students and non-athlete students in regard to the faculty of natural resources. The mean scores showed that the athlete students obtained higher (56.00, 255.86) as compared to the non-athlete students (44.23, 223.07) in regard to personality traits and academic achievement, respectively. This means that the athlete students differed significantly on the variables of personality traits and academic achievement in case of faculty of natural resources and the athletes were better than the non-athletes in personality traits and academic achievement.

This finding is supported by the results of Anderson (1977) who also found significant differences between athletes and non-athletes in their personality traits. Other studies which support athletes' superiority include those of Theobiberry (1979), Shen (1983), Reeves (1983) and Forry (1985).

This finding is supported by the results of Baize (1990) who also found significant differences between
athletes and non-athletes in their academic achievement.

On the other hand, the results vide Table 4.18, 4.21, 4.23, 4.24, 4.25 and 4.27 showed that the t-value comparing was athlete and non-athlete students was not found to be significant in the cases of faculties of education, management sciences, nursing, dentistry, sciences and science and technology.

This suggest that the athlete and non athlete students did not differ on all the variables under study viz., intelligence and achievement-motivation, interests, intelligence and academic achievement in case of faculties of education, management sciences, nursing, dentistry, sciences and science and technology.

The analysis of the data vide Table 4.28, leads us to conclude that in case of variable of personality traits, there were a significant difference among various faculties under study. These significant differences can be summarised as follows:

1. Faculty of engineering with faculty of pharmacy (t= -2.00), faculty of natural resources (t = 2.44), and faculty of science and technology (t = 2.73)
2. Faculty of education with faculty of natural resources (t= 3.04), faculty of science and technology (t = 3.26)
3. Faculty of medicine with faculty of pharmacy (t= -2.06), faculty of natural resources (t = 2.24) and faculty of science and technology (t = 2.53)
4. Faculty of humanities and social sciences and faculty of pharmacy (t = -2.16) and faculty of science and technology (t = 2.13)

5. Faculty of management sciences with faculty of natural resources (t = 3.72) and faculty of science and technology (t = 3.90)

6. Faculty of pharmacy with faculty of dentistry (t = 2.69), faculty of natural resources (t = 5.18) and faculty of science and technology (t = 5.43)

7. Faculty of nursing with faculty of natural resources (t = 2.62) and faculty of science and technology (t = 2.93)

8. Faculty of dentistry with faculty of science and technology (t = 2.17)

9. Faculty of sciences with faculty of natural resources (t = 2.36) and with faculty of sciences and technology (t = 2.67)

The results vide Table 4.28 present the descriptive statistics of variables of personality traits of the sample in different faculties:

i) The students of the faculty of engineering had lower mean than that of the students of the faculty of pharmacy (t = -2.00, M = 55.17, M = 61.67). But the students of the faculty of engineering had higher mean than that of the students of the faculties of natural resources and science and technology (t =
2.44, \( M = 55.17, \bar{M} = 44.46 \), and \( (t = 2.73, M = 55.17, \bar{M} = 44.43) \).

ii) The students of the faculty of education had higher mean than that of the students of the faculties of natural resources and science and technology \( (t = 3.04, M = 57.66, \bar{M} = 46.46) \) and \( (t = 2.53, M = 57.66, \bar{M} = 44.43) \).

iii) The students of the faculty of medicine had lower mean than that of the students of pharmacy \( (t = -2.06, M = 54.74, \bar{M} = 61.67) \). The students of the faculties of medicine had higher than that of the students of natural resources and science and technology \( (t = 2.24), M = 54.74, \bar{M} = 44.46 \) and \( (t = 2.53, M = 54.74, \bar{M} = 44.43) \).

iv) The students of the faculty of humanities and social sciences had lower mean than that of the students of the faculty of pharmacy \( (t = -2.16, M = 53.82, \bar{M} = 61.67) \). The students of the faculties of humanities and social sciences were higher than the students of science and technology \( (t = 2.13, M = 53.82, \bar{M} = 44.43) \).

v) The students of the faculty of management sciences had higher mean than that of the students of the faculties of natural resources and science and technology \( (t = 3.72, M = 62.16, \bar{M} = 46.46) \) and \( (t = 3.90, M = 62.16, \bar{M} = 44.43) \).
vi) The students of the faculty of pharmacy had higher mean than that of the students of the faculties of dentistry, natural resources and science and technology (t = 2.69, M = 61.67, M = 52.94), (t = 5.18, M = 61.67, M = 46.46) and (t = 5.43, M = 61.67, M = 44.43). vii) The students of the faculty of nursing were higher than the students of the faculties of natural resources and science and technology (t = 2.67, M = 56.35, M = 46.46), and (t = 2.93, M = 56.35, M = 44.43).

vii) The students of the faculty of nursing had higher mean than that of students of the faculties of natural resources and science and technology (t = 2.67, M = 56.35, M = 46.46), and (t = 2.93, M = 56.35, M = 44.43).

viii) The students of the faculty of dentistry had higher mean than that of the students of the faculty of science and technology (t = 2.17, M = 52.94, M = 52.94, M = 44.43).

ix) The students of the faculty of sciences had higher mean than that of the students of the faculties of natural resources and (t = 2.36, M = 55.73, M = 46.46) and science and technology (t = 2.67, M = 55.73, M = 44.43).

The results vide Table 4.29 show that on the variable of achievement-motivation, there existed significant
differences among the various faculties. These results may be presented as followed:

Significant differences were found between:

1. Faculty of engineering with faculties of education (t = -2.99), humanities and social sciences (t = -3.03), management sciences (t = -5.04), pharmacy (t = -4.71), nursing (t = -5.74), dentistry (t = -3.44), sciences (t = -2.27) and faculty of natural resources (t = -3.01)

2. Faculty of education with faculties of management sciences (t = -2.44) and nursing (t = -2.19)

3. Faculty of medicine with faculties of management sciences (t = -4.22), pharmacy (t = -3.47), nursing (t = -4.58), and dentistry (t = -2.23)

4. Faculty of humanities and social sciences with faculty of management sciences (t = -2.40)

5. Faculty of management sciences with faculties of dentistry (t = 2.74), sciences (t = 3.70), natural resources (t = 3.89) and sciences and technology (t = 3.40)

6. Faculty of pharmacy with faculties of sciences (t = 2.00), natural resources (t = 2.21), and science and technology (t = 2.44)

7. Faculty of nursing with faculties of dentistry (t = 2.12), sciences (t = 3.13), natural resources (t = 3.39) and science and technology (t = 3.35).
The results vide Table 4.29 represent the descriptive statistics of variables of achievement-motivation of the sample in different faculties:

i) The students of the faculty of engineering had lower mean than that of the students of the faculties of education \( (t = 2.99, M = 124.73, \bar{M} = 138.55) \), humanities and social sciences \( (t = 3.03, M = 124.78, \bar{M} = 139.59) \), management sciences \( (t = 5.00, M = 124.75, \bar{M} = 150.42) \), pharmacy \( (t = 4.21, M = 124.78, \bar{M} = 144.69) \), nursing \( (t = 5.74, M = 124.78, \bar{M} = 146.49) \), dentistry \( (t = 3.44, M = 124.78, \bar{M} = 139.92) \), sciences \( (t = 2.22, M = 124.78, \bar{M} = 136.09) \) and natural resources \( (t = 3.01, M = 124.78, \bar{M} = 136.72) \)

ii) The students of faculty of education had lower mean than that of the students of the faculties of management sciences \( (t = 2.44, M = 138.55, \bar{M} = 150.42) \) and nursing \( (t = 2.19, M = 138.55, \bar{M} = 146.69) \)

iii) The students of the faculty of medicine had lower mean than that of the students of the faculties of management sciences \( (t = 4.42, M = 131.23, \bar{M} = 150.42) \), pharmacy \( (t = 3.47, M = 131.23, \bar{M} = 144.69) \) and dentistry \( (t = 2.23, M = 131.23, \bar{M} = 139.97) \)

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iv) The students of the faculty of humanities and social sciences had lower mean than that of the students of the faculty of management sciences \( (t = -2.40, M = 150.42) \)

v) The students of the faculty of management sciences had higher mean than that of the students of the faculties of dentistry \( (t = -2.74, M = 150.42, M = 139.97) \), sciences \( (t = -3.70, M = 150.42, M = 136.09) \) natural resources \( (t = 3.89, M = 150.42, M = 136.92) \) and science and technology \( (t = 3.40, M = 150.42, M = 133.82) \)

vi) The students of the faculty of pharmacy had higher mean than that of the students of the faculties of sciences \( (t = 2.00, M = 144.69, M = 136.09) \) natural resources \( (T = 2.21, M = 144.69, M = 196.92) \) and science and technology \( (t = 2.44, M = 144.69, M = 133.82) \)

vii) The students of the faculty of nursing had higher mean than that of the students of the faculties of dentistry \( (t = 2.12, M = 146.69, M = 136.09) \) natural resources \( (t = 3.39, M = 146.69, M = 136.92) \), and science and technology \( (t = 3.35, M = 146.69, M = 133.82) \).

The analysis of the data vide Table 4.30 regarding the variable of interests shows a difference in significance among various faculties as followed:
A significant difference was found between:

1. Faculty of engineering with faculties of education 
   \( (t = -2.13) \), humanities and social sciences \( (t = -3.19) \), management sciences \( (t = -2.28) \), dentistry \( (t = -2.31) \), sciences \( (t = -3.84) \), and natural resources \( (t = -1.99) \)

2. Faculty of education with faculty of sciences \( (t = -2.08) \)

3. Faculty of medicine with faculties of humanities and 
   social sciences \( (t = -2.70) \), management sciences \( (t = -2.37) \) and sciences \( (t = -3.30) \)

4. Faculty of humanities and social sciences with 
   faculty of nursing \( (t = 2.43) \)

5. Faculty of management sciences with faculty of 
   nursing \( (t = 2.15) \)

6. Faculty of pharmacy with faculty of sciences \( (t = -2.15) \)

7. Faculty of nursing with faculty of sciences \( (t = -3.11) \)

8. Faculty of sciences with faculties of natural 
   resources \( (t = 2.16) \) and science and technology \( (t = 2.55) \).

The results vide Table 4.30 represent the 
descriptive statistics of variables of interests of the 
sample in different faculties:
i) The students of the faculty of engineering had lower mean than that of the students of the faculties of education (t = -2.13, M = 61.98, M = 75.10) humanities and social sciences (t = -3.19, M = 61.98, M = 85.33), management of sciences (t = -2.28, M = 61.98, M = 85.11), dentistry (t = 2.31, M = 61.98, M = 72.65), sciences (t = -3.84, M = 61.98, M = 89.82), and natural resources (t = -1.99, M = 61.98, 75.16).

ii) The students of the faculty of education had lower mean than that of the students of the faculty of sciences (t = -2.08, M = 75.10, M = 89.82).

iii) The students of the faculty of medicine had lower mean than that of the students of the faculties of humanities and social sciences (t = -2.70, M = 63.92, M = 85.33), management sciences ( t = -2.37, M = 63.92, M = 85.11) and sciences ( t = -3.30, M = 63.92, M = 89.82).

iv) The students of the faculty of humanities and social sciences had higher mean than that of the students of the faculty of nursing ( t = 2.43) M 85.33, M = 67.95)

v) The students of the faculty of management sciences had higher mean than that of the students of the faculty of nursing ( t = 2.15, M = 85.11, M = 67.95)

vi) The students of the faculty of pharmacy had lower mean than that of the students of the faculty of
vii) The students of the faculty of nursing had lower mean than that of the students of the faculty of sciences (t = 3.11, μ = 67.95, μ = 89.92)

viii) The students of the faculty of sciences had higher mean than that of the students of the faculty of natural resources (t = 2.16, μ = 89.82, μ = 75.16) and sciences and technology (t = 2.55, μ = 89.82, μ = 72.82).

The analysis of the data vide Table 4.31 showed significant differences among the various faculties under study on the variable of intelligence. The conclusions obtained are presented below:

A significant difference was found between:

1. Faculty of engineering with faculties medicine (t = -14.4), management sciences (t = -8.79), pharmacy (t = -7.03) nursing (t = -5.95), dentistry (t = -8.33), sciences (t = -2.69) natural resources (t = 2.10) and science and technology (t = -10.86)

2. Faculty of education with faculties of medicine (t = -10.81), management sciences (t = -6.48), pharmacy (t = -5.56), nursing (t = -4.82), dentistry (t = -6.31), sciences (t = -2.01) and science and technology (t = -8.37)

3. Faculty of medicine with faculties of humanities and social sciences (t = 9.96), pharmacy (t = 6.14),
4. Faculty of humanities and social sciences with faculties management sciences (t = -5.96), pharmacy (t = -4.89), nursing (t = -4.18), dentistry (t = -5.70) and science and technology (t = -7.60)

5. Faculty of management sciences with faculties of pharmacy (t = 2.93), nursing (t = 3.01), sciences (t = 4.67) and natural resources (t = 5.58)

6. Faculty of pharmacy with faculties sciences (t = 2.83), natural resources (t = 3.78) and science and technology (t = -4.44)

7. Faculty of nursing with faculties of sciences (t = 2.23), natural resources (t = 3.11), and science and technology (t = 4.48)

8. Faculty of dentistry with faculties of sciences (t = 3.93), natural resources (t = 4.80), and science and technology (t = 2.89)

9. Faculty of sciences with faculties of science and technology (t = 6.04), and

10. Faculty of natural resources with faculty of science and technology (t = -7.11).

Results vide Table 4.31 present the descriptive statistics variables of intelligence of the sample in different faculties:
i) The student of the faculty of engineering had lower mean than that of the students of the faculties of medicine (t = -14.44, M = 101.34, M = 115.10), management sciences (t = 8.79, M = 101.34, M = 112.90), pharmacy (t = -7.03, M = 101.34, M = 108.55), nursing (t = -5.95, M = 101.34, M = 108.00), dentistry (t = -8.33, M = 101.34, M = 104.64), natural resources (t = -2.10, M = 101.34, M = 103.75), and science and technology (t = -10.86, M = 101.34, M = 110.36) sciences (t = 2.69, M = 101.34, M = 104.64) natural resources (t = 2.10, M = 101.34, M = 103.78), and science and technology (t = -10.86, M = 101.34, M = 114.46).

ii) The students of the faculty of education had lower mean than that of the students of the faculty of medicine (t = -10.81, M = 101.16, M = 115.10), management sciences (t = -6.48, M = 101.16, M = 112.90), pharmacy (t = -5.56, M = 101.16, M = 108.55), nursing (t = -4.82, M = 101.16, M = 108.00), dentistry (t = -6.31, M = 101.16, M = 104.64), and science and technology (t = -8.32, M = 104.16, M = 114.46).

iii) The students of the faculty of medicine had higher mean than that of the students of the faculties of humanities and social sciences (t = 9.96, M = 115.10, M = 101.59), pharmacy (t = 6.14, M = 115.10, M =
nursing (t = 6.11, M = 115.10, M = 110.36), sciences (t = 8.12, M = 115.10, M = 104.64) and natural resources (t = 9.35, M = 115.10, M = 103.78).

iv) The students of the faculty of humanities and social sciences had lower mean than that of the students of the faculties of management sciences (t = -5.96, M = 101.59, M = 112.90), pharmacy (t = -4.89, M = 101.59, M = 101.59, M = 108.00), dentistry (t = 5.70, M = 101.59, M = 110.36) and science and technology (t = -7.60, M = 101.59, M = 114.46).

v) The students of the faculty of management sciences had higher mean than that of the students of the faculties of pharmacy (t = 2.93, M = 112.90, M = 108.55), nursing (t = 3.01, M = 112.90, M = 108.00), sciences (t = 4.67, M = 112.90, M = 104.64) and natural resources (t = 5.58, M = 112.90, M = 103.78).

vi) The students of the faculty of pharmacy had higher mean than that of the students of the faculties of sciences (t = 2.83, M = 108.55, M = 104.64), natural resources (t = 3.11, M = 108.55, M = 103.78) and science and technology (t = -4.44, M = 108.55, M = 114.46).

vii) The students of the faculty of nursing had higher mean than that of the students of the faculties of sciences (t = 2.23, M = 108.00, M = 104.64), natural resources (t = 3.11, M = 108.00, M = 103.78) and had lower mean than that of the students of the
faculty of science and technology ( $t = 4.48$, $M = 108.00$, $M = 114.46$).

viii) The students of the faculty of dentistry had higher mean than that of the students of the faculties of sciences ($t = 3.93$, $M = 110.36$, $M = 104.64$), natural resources ($t = 4.80$, $M = 110.36$, $M = 103.38$) and had lower mean than that of the students of the faculty of science and technology ($t = -2.89$, $M = 110.36$, $114.46$).

ix) The students of the faculty of science had lower mean than that of the students of the faculty of science and technology ($t = 6.04$, $M = 104.64$, $M = 114.46$) and

x) The students of the faculty of natural resources had lower mean than that of the students of the faculty of science and technology ($t = -7.11$, $M = 103.78$, $M = 114.46$).

Finally, in the case of variable of academic achievement, the analysis of the data vide Table 4.32 lead us to conclude that the significant differences were found from among various faculties under study. The conclusions are given below. Significant differences were found between:

1. Faculty of engineering with faculties of education ($t = 2.35$), medicine ($t = -3.80$), management sciences ($t = -3.93$), nursing ($t = -4.71$), dentistry ($t = -$
5.19), sciences (t = -2.35) and science and technology (t = -3.32)

2. Faculty of education with faculties of nursing (t = -2.26) and dentistry (t = -2.95)

3. Faculty of medicine with faculty of natural resources (t = 3.13)

4. Faculty of humanities and social sciences with faculties of management sciences (t = -2.09), nursing (t = -2.41) and dentistry (t = -3.01)

5. Faculty of management sciences with faculty of natural resources (t = 3.07)

6. Faculty of pharmacy with faculty of natural resources (t = 3.20)

7. Faculty of nursing with faculties of sciences (t = 2.20) and natural resources (t = 4.23)

8. Faculty of dentistry with faculties of sciences (t = 2.64) and natural resources (t = -4.23)

9. Faculty of natural resources with faculty of science and technology (t = -2.53)

Result vide table 4.32 represent the statistics of variables of academic achievement of the sample in different faculties.

i) the students of the faculty of engineering had lower mean than that of the students of the faculties of education (t = -2.35, $M = 226.78$, $M = 244.34$), medicine (t = -3.80, $M = 226.78$, $M = 263.00$),

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management sciences ($ t = -3.99$, $ M = 266.78$, $ M = 264.21$), pharmacy ($ t = -3.93$, $ M = 226.78$, $ M = 261.09$), nursing ($ t = -4.71$, $ M = 226.78$, $ M = 264.10$),
dentistry ($ t = -5.19$, $ M = 226.78$, $ M = 273.74$),
sciences ($ t = -2.35$, $ M = 226.78$, $ M = 244.68$) and
science and technology ($ t = -3.32$, $ M = 226.78$, $ M = 254.25$)

**ii)** The students of the faculty of education had lower mean than that of the students of the faculties of nursing ($ t = -2.26$, $ M = 244.34$, $ M = 264.10$), and dentistry ($ t = -2.95$, $ M = 244.34$, $ M = 273.74$)

**iii)** The students of the faculty of medicine had higher mean than that of the students of the faculty of natural resources ($ t = 3.13$, $ M = 263.00$, $ M = 229.27$)

**iv)** The students of the faculty of humanities and social sciences had lower mean than that of the students of the faculties of management sciences ($ t = -2.09$, $ M = 241.41$, $ M = 264.21$), nursing ($ t = -2.41$, $ M = 241.41$, $ M = 264.10$) and dentistry ($ t = -3.01$, $ M = 241.41$, $ M = 273.74$)

**v)** The students of the faculty of management sciences had higher mean than that of the students of the faculty of natural resources ($ t = 3.07$, $ M = 264.21$, $ M = 229.27$)
vi) The students of the faculty of pharmacy had higher mean than that of the students of the faculty of natural resources \( (t = 3.20, M = 261.09, \bar{M} = 229.27) \)

vii) The students of the faculties of nursing had higher mean than that of the students of sciences \( (t = 2.20, M = 264.10, \bar{M} = 244.68) \) and natural resources \( (t = 4.23, \bar{M} = 273.74, M = 229.27) \)

viii) The students of the faculty of dentistry had higher mean than that of the students of the faculties of sciences \( (t = 2.60, M = 273.74, \bar{M} = 244.68) \), and natural resources \( (t = 4.23, \bar{M} = 273.74, M = 229.27) \)

ix) The students of the faculty of natural resources had lower mean than that of the students of the faculty of science and technology \( (t = -2.53, \bar{M} = 229.27, M = 254.25) \).

As far as the results of this study are concerned there is no related literature to support the results.

5.3 Discussion of the Data Based on the Intercorrelation Matrix

The analysis of the data was done with the help of the product movement coefficient of correlation with the aim of seeing if any differences existed in relationships from among 5 variables viz., personality traits, achievement-motivation, interests, intelligence and academic achievement under study.
5 x 5 intercorrelation matrix for the athlete group (N = 59).

The results vide Table 4.33 regarding 5 x 5 intercorrelation matrix showed that the coefficient of correlation was significant between intelligence and academic achievement (r = .402) in case of the athlete group.

The result of "the coefficient of correlations" obtained for intelligence and academic achievement was .402 which is statistically significant at .01 level of confidence. It shows that a higher positive and significant relationship exists between intelligence and academic achievement.

5 x 5 intercorrelation matrix for the non-athlete group (N = 305).

Significant differences were found between academic achievement and interests (r = .211) and intelligence and academic achievement (r = .253) in the case of non-athlete group (vide Table 4.34).

The results of the coefficient of correlations obtained for personality traits with interests .135 achievement-motivation with interests are .211 and intelligence with academic achievement are .253 which are statistically significant at .05, and .01 level of confidence. They show that low positive and significant relationship exists between personality traits with
interests and high positive and significant relationship exist between achievement-motivation with interests and intelligence with academic achievement.

5 x 5 intercorrelation matrix for the total sample (N = 364).

The results of intercorrelation matrix vide Table 3.35 with regard to the total sample show a significant and positive relationship between personality traits with interests (r = .133), between achievement-motivation with interests (r = .240) and between intelligence with academic achievement (r = .280). The results of the coefficient of correlations obtained for personality-traits with interests and .133, achievement-motivation with interests and .240 and intelligence with academic achievement are .280 which are statistically significant at .01 level of confidence. They show that low positive and significant relationship exists between personality traits with interests, achievement-motivation with interests and intelligence with academic achievement.

As far as existing studies are concerned, these findings have no support. Further investigation is required.

5.3.1 Faculty-wise 5 x 5 Intercorrelation Matrix for the Athlete Students

5 x 5 intercorrelation matrix for the athlete students of faculty of medicine (N = 7).

The coefficient of correlation were found to be significant and positive relationship between interests with
academic achievement \( (r = .828) \) vide Table 4.38 in case of faculty of medicine.

The results of correlations reported in Table 4.38 reveal that the relationship between interests and academic achievement of athletes \( (r = .828) \) is positively significant at .05 level.

5 x 5 intercorrelation matrix for the athlete students of faculty of humanities and social sciences \((N=4)\).

The results vide Table 4.39 show that the significant relationship existed between intelligence with personality traits \( (r = .987) \) and positively with regard to faculty of humanities and social sciences.

In case of intelligence with personality traits \( (r = .987) \) is low and positively significant relationship at traits.

5 x 5 intercorrelation matrix for the athlete students of faculty of nursing \( (N = 3) \).

Again, the only significant relationship is also observed between academic achievement with interests \( (r = -.993) \) vide Table 4.42 in case of faculty of nursing.

The results of correlation reported in Table 4.42 reveal that the relationship between academic achievement with interests \( (N = -.993) \) is high and negatively significant at .01 level relationship exists between academic achievement and interests.
No significant relationship is found in the faculties of engineering, education management sciences, pharmacy, dentistry, sciences natural resources and of science and technology, vide Tables 4.36, 4.37, 4.40, 4.41, 4.43, 4.44, 4.45 and 4.46.

5.3.2 Faculty-wise 5 x 5 Intercorrelation Matrix for the Non-athlete Students

5 x 5 intercorrelation matrix for the non-athlete students, faculty of education (N = 32).

The coefficient of correlation is observed to be negatively significant between the variables of intelligence with personality traits (r = -.4.04) in case of faculty of education vide Table 4.48.

The results of correlation reported in Table 4.48, reveal that the relationship between intelligence with personality traits (r = -.404) is low and negatively significant at .05 level, relationship exists between intelligence and personality traits.

5 x 5 intercorrelation matrix for the non-athlete students, faculty of management sciences (N = 14), vide Table 4.51.

The results show that the only significant and positive relation is found between personality traits with academic achievement (r = .565) in case of the faculty of management sciences.
The results of correlation reported in Table 4.51 reveal that the relationship between personality traits with academic achievement ($r = .565$) is low and positive significant at .05 level, relationship exists between personality traits and academic achievement.

This finding is reported by the result of Cerra (1985) who also found significant differences between athletes and non-athletes in their personality traits and academic achievement. Other studies which support athletes' superiority include those of Singer (1987) and Patterson (1988).

5 x 5 intercorrelation matrix for the non-athlete students, faculty of nursing.

Results vide Table 4.53 reveal that a significant and positive relationship between interests with personality traits ($r = .375$) in the case of faculty of nursing.

The results of correlation reported in Table 4.53 reveal that the relationship between interests with personality traits ($r = .375$) is low and positively significant at .05 level, relationship exists between interests and personality traits.

5 x 5 intercorrelation matrix for the non-athlete students, faculty of natural resources ($N = 30$).

The only significant relationship is found between interests with academic achievement ($r = -.518$) vide Table 4.56 in case of faculty of natural resources.
The results of correlation reported in Table 4.56 reveal that the relationship between interests with academic achievement \((r = -0.518)\) is high and negatively significant at .01 level, relationship exists between interests and academic achievement.

On the other hand, there is not significant relationship on any variables under study in the case of faculties of engineering, medicine, humanities and social sciences, pharmacy, dentistry, sciences and science technology, vide Table 4.47, 4.50, 4.52, 4.54, 4.55 and 4.57.

5.3.3 5x5 Intercorrelation Matrix for Different of the Total Data in the Faculty-Wise

Results of the intercorrelation matrix vide Table 4.58 through Table 4.68 reveal a significant relationship between the variable of interests with achievement-motivation in case of the faculties of engineering \((r = 0.445)\), education \((r = 0.415)\), medicine \((r = 0.420)\), humanities and social sciences \((r = 0.434)\), pharmacy \((r = 0.467)\), nursing \((r = 0.437)\), dentistry \((r = 0.438)\), sciences \((r = 0.506)\), natural resources \((r = 0.376)\) and science and technology \((r = 0.390)\).

The finding of the study reported in Table 4.58 through Table 4.68 reveals a high positive and significant relationship between the variables of interests with achievement-motivation in case of the faculties of
engineering (r = .445 significant at .01 level), education (r = .415, significant at .01 level), medicine (r = .420, significant at .01 level), humanities and social sciences (r = .434 significant at .01 level), pharmacy (r = .467, significant at .01 level), nursing (r = .437, significant at .01 level), dentistry (r = .438, significant at .05 level), sciences (r = .506, significant at .05 level), natural resources (r = .376, significant at .05 level) and science and technology (r = .390, significant at .05 level).

The relationship between achievement-motivation with personality traits is also observed in case of the faculties of humanities and social sciences (r = -.557), management sciences (r = -.626), sciences (r = -.605) and science and technology (r = -.505).

The results of relationship between achievement-motivation with personality traits are also observed in case of the faculty of humanities and social sciences (r = -.557) in high and negative significant at .01 level, faculty of management sciences (r = -.626) is high and negative significant at .01 level faculty of sciences (r = -.605) is high and negative significant at .01 level and faculty of science and technology (r = -.505) is high and negative significant at .01 level).

As far as the result of this analysis involving the coefficient of correlations are concerned, this present investigation is an exploratory study in this field and thus there is no literature to support our findings.