CHAPTER-V

Discussion of Results

In the present study an attempt has been made to analyse the relationship of achievement motivation, intrinsic achievement motivation and extrinsic achievement motivation with age, sex, socio-economic status, birth-order and different child rearing practices. The investigation undertaken was carried out at school and college levels.

After having stated the findings of the present piece of research in quantitative, graphic and qualitative terms, the present chapter deals with the interpretation and the discussion of the results.

5-1 Results of Means

In this part an attempt has been made to discuss the findings of present study with respect to growth of achievement motivation, intrinsic achievement motivation and extrinsic achievement motivation. As the child interacts with his/her environment, the undifferentiated need structure begins to differentiate into specific motives. Differentiation is a continuous process.
Available evidence suggests that differentiation continues to some extent into one's adult life so that the strength for particular motive, while reasonably stable, does change over-time. This theoretical position has been variously proposed by White (1959). Kagan (1972) has stated that through life experiences of interactions with the environment, specific differentiated motive develops. According to Deci (1975) need for achievement is a specific motive which differentiates out of basic needs for feeling of competence and self-determination. Thus, one might expect that achievement motive will grow with age, provided that the relevant experiences are available.

The present findings regarding the effects of age levels on achievement (general) orientation, achievement (intrinsic) orientation, and achievement (extrinsic) orientation are as under:

Overall achievement motivation increases over a period of time in both sexes. The same was found for extrinsic achievement orientation. But intrinsic achievement orientation increases as age increases only in male subjects and remains stable over a period of time in early and late female adolescents.

These results revealed a clear developmental trend
showing consistent increase in mean scores with age level. These findings establishes that the growth of n-Ach. is shaped by individual's experiential background. These findings are in the line with the findings of Feld et al. (1979); Hecker et al. (1979); Machr and Kleiber (1981); and Tiwari (1984).

5-2 Results of Correlational Analysis

Coefficients of Pearson correlation were also computed to find out the relationship of achievement general orientation, achievement intrinsic orientation and extrinsic orientations with age, sex, socio-economic status, birth-order, independence training (Father), independence training (Mother), achievement training (Father), and achievement training (Mother).

A coefficient of correlation is a single number that tells us to what extent two things are related, to what extent variations in the one go with the variation in the other. Without the knowledge of how one thing varies with another, it would be impossible to make predictions. In different situations it can vary from a value of +1.00 to -1.00. Any coefficient of correlation that is not zero and is also statistically significant denotes some degree of relationship between two variables.
The present results regarding the coefficient of correlation of achievement motivation with the intrinsic and extrinsic achievement motivations were positively significant. This indicates that the variation in achievement motivation will vary the scores in achievement intrinsic and achievement extrinsic orientations as well. All the above three were found related with each other.

It also showed the positive and significant relationship between achievement motivation and age. This indicates that when age increases, achievement motivation scores also change in a positive direction.

Socio-economic status was also found to be positively and significantly related with achievement motivation. In other words, as the socio-economic status grows up, achievement motivation will also show higher scores.

Sex, independence training, and achievement training given by both parents were found to be positively and significantly related to achievement motivation.

Only one variable, i.e., birth-order did not have any significant correlation with achievement motivation. This indicates that achievement motivation has no concern over first born or later born (See Table 4.9).
Socio-economic status was found to be highly correlated with intrinsic achievement motivation. From this it may be said that family status is an important antecedent of intrinsic achievement orientation.

Very high positive and significant correlation was found between intrinsic achievement motivation and independence training given by parents. With the help of these correlational results, it may be concluded that independence training given by parents is the key factor which is responsible for the growth of intrinsic achievement orientation.

Achievement training given by parents and sex have been found to be positively and significantly correlated with intrinsic achievement motivation.

The variables of age and birth-order have no correlation with intrinsic achievement motivation. This indicates that intrinsic achievement orientation neither grow with the increasing age nor have any influence on birth-order.

Positive and significant correlation has been found between extrinsic achievement motivation and achievement training given by parents. From these results, it may
be said that it is the main and important factor for the development of extrinsic achievement motivation.

The positive significant correlations were found between extrinsic achievement motivation and age, sex and independence training by mother only. No other significant correlations were found.

5-3 \textit{Step-Wise Multiple Regression Analysis}

After computing the correlations, stepwise regression was carried out. It is a powerful variation of multiple regression which provides the means of choosing independent variables which will provide the best prediction possible with the fewest independent variables (Mitchell, 1970). For the purpose of identifying the crucial variables were arranged in order of magnitude of their correlations with the dependent variable and stepwise regression analysis was performed which computes the sum of squares in the criterion variables with each independent variable entering at a particular step accounts for after adjusting for the effects of other independent variables in the prediction. In this way, independent variables are ranked according to their ability to reduce the variation in the dependent variable at each step. This method constructs
a prediction equation in incorporating one independent variable at a time and second independent variable to be added to regression equation is that which provides the best prediction in conjunction with the first variable. One them, proceeds in this recursive fashion adding variables stepwise until no other variable will make a significant contribution to the prediction equation. The total effect of independent variables is determined by the coefficient of multiple correlation.

T-test of regression coefficient if significant, indicates that the regression weights differ significantly from zero, which means that the variable with which it is associated contributes significantly to the regression, the other independent variables being taken into account. Beta weights (\( \beta \)), on the other hand, indicate the relative importance of independent variables in the prediction of dependent variable. The F-ratios' show the significance of \( R^2 \) (or \( R^2\)-change) in the step-wise multiple regression analysis.

In the total sample irrespective of sex, t-value was significant for achievement training (Father) and independence training (Father) at .01 and .05 level respectively. It was also significant for age and
socio-economic status, both at .01 level of significance.

For intrinsic achievement motivation t-value was significant for independence training (Father), independence training (Mother), achievement training (Mother), socio-economic status and achievement training (Father), at .01 level. For extrinsic achievement motivation, t-value was significant for achievement training (Father), achievement training (Mother) and age at .01 level.

The results of the present study may be discussed as under:

5.3.1 Age and Achievement motivation: intrinsic achievement motivation and extrinsic achievement motivation

Age was a significant predictor of achievement motivation and extrinsic achievement motivation. This has been very clearly brought out through the regression analysis. But for intrinsic achievement motivation, the variable of age just missed the significance level in this analysis. In this step-wise regression, the addition by the variable of age for achievement motivation and extrinsic achievement motivation led to the significant $R^2$-change as revealed by significant 'F-ratios'. On the basis of these results the hypotheses that (1) the strength
of need for achievement should be greater in the higher age groups as compared to its strength in the lower age groups, and (ii) the strength of extrinsic motivation should be greater in the lower age groups with the increasing age extrinsic motivation will change into intrinsic motivation, were accepted.

From these results we may also infer that the strength of achievement motivation increases as the age increases. There is also a positive change in extrinsic achievement motivation with the increasing age. This indicates that with increasing age, extrinsic achievement motivation changes into intrinsic achievement motivation. Above all, results show that there is a significant difference between the scores of different age levels.

In consonance with the results of the present study, earlier investigations also have reported the same kind of results (Feld et al. 1979; Hecker et al. 1979; Maehr and Kleiber, 1981 and Tiwari, 1984).

5-3.2 Sex and Achievement motivation, Intrinsic achievement motivation and Extrinsic achievement motivation

Sex has emerged as an important variable in
predicting achievement motivation and intrinsic achievement motivation. But extrinsic achievement motivation missed the significance level. $R^2$-change for achievement motivation and intrinsic achievement motivation is also significant as revealed by significant F-ratios.

In this piece of research, females are having greater need for achievement than males. Thus the hypothesis that males will register significantly higher achievement motivation than females was rejected as the trend of results indicate opposite results.

These findings are in the line with the findings of Gokulnathan (1971) and Gokhulnathan and Kehta (1972).

Panda and Panda (1978) also studied the relationship between intellectual achievement responsibility and sex. They observed that females had a stronger feeling of internal responsibility than males.

Chandler et al. (1979) reported that there were significant sex-differences in the aspect of need achievement. Differences favoured females in achievement behaviour. Lao (1980) revealed the same findings. Agrawal and Upadhyay (1983) concluded that females showed higher scores on indices related to need whereas
adolescents males showed higher scores on instrumental activity.

As the variable of sex is positively related to intrinsic achievement motivation and not related to extrinsic achievement, the hypothesis that males and females will differ in intrinsic achievement motivation was retained and the hypothesis that males and females will differ in extrinsic achievement motivation was rejected as no correlation was found between sex and extrinsic achievement.

These findings are similar to the findings of van Hecke and Tracy (1983). They found that females are motivated to succeed in order to obtain social approval, whereas males are motivated because of achievement features, intrinsic to the task.

5-3.3 Birth-order and Achievement motivation. Intrinsic achievement motivation and Extrinsic achievement motivation.

According to present study, birth-order was not significant predictor of achievement motivation, intrinsic achievement motivation and extrinsic achievement motivation.
This has been very clearly brought out through correlational as well regression analysis. Neither t-value nor F-ratio showed the significance even at .05 level of confidence.

From these results, the hypotheses that the (i) achievement motivation will be higher in first born children than in later borns, and (ii) intrinsic motivation will be higher in later borns and extrinsic motivation in first borns, were rejected.

The reason for it is that parents give equal importance and same training to their children irrespective of their first or later borns.

5-3.4 Socio-economic status and Achievement motivation, Intrinsic achievement motivation and Extrinsic achievement motivation

Socio-economic status was a significant and positive predictor of achievement motivation and intrinsic achievement motivation. This has been very clearly brought out through regression analysis. The t-values and F-ratios also showed significant values at .01 level of confidence.

From these results, the hypotheses that (i) there will be a positive relationship between socio-economic
status and strength of need for achievement, and (ii) the middle class subjects will manifest higher intrinsic achievement motivation whereas the working class subjects will show higher extrinsic achievement motivation, were accepted.

The obtained results do find support in the review of studies which have been carried out in this area (Leshen, 1952; Douvan, 1956; Rosen, 1959; Mischel, 1960; Fraser, 1961; McClelland, 1961; Mehta, 1966a; Klatskin, Jackson and Witkin, 1956; Livson and Missen, 1957; Bronfenbrenner, 1958; Rosen, 1962; Srivastava and Tiwari, 1967; Morsbach, 1969; Pareek, 1970; Turner, 1970; Ojha and Jha, 1979; and Castenell, 1983).

Lloyd et al. (1984) indicated positive relationship between intrinsic intellectual motivation and socio-economic status.

5-3.5 Child Rearing Practices and Achievement motivation. Independence training and achievement training given by parents were significant predictors of achievement motivation. This has been very clearly brought out through
regression analysis as well as correlational analysis. All t-values and F-ratios were significant at .01 level. This indicates that child rearing practices are the important antecedents of achievement motivation.

With these results, it may be said that these results are consistent with the hypothesis which tells us that there will be positive relationship between achievement motivation and child rearing practices.

Independence training given by parents were positively and significantly related with intrinsic achievement motivation. Both values are significant at .01 level (t = 6.83; 4.83 and F = 52.61; 29.10). Achievement training given by parents were found positive predictor of extrinsic achievement motivation which has also been very clearly brought out through regression analysis. \( R^2 \)-change also contributed significantly. t-value was also found significant at .01 level.

With these results, the hypotheses that the parents of intrinsically motivated subjects will be perceived as providing independence training and encouragement to develop internal standards of excellence and the parents of extrinsically oriented subjects will be perceived as emphasising achievement training, were retained.

This indicates that parents who gave stress upon
independence training will develop intrinsic achievement motivation in their children and parents who stressed upon achievement training develop extrinsic achievement motivation in their children.

These results are in the line with the results of Klatskin, Jackson, and Witkin (1956); and Livson and Missen, (1957).

The obtained results also find support in the review of studies which have been carried out in this area (Heckhausen and Kemmler, 1957; Winterbottom, 1958; Rosen and D'Andrade, 1959; Miller and Swanson, 1960; McClelland, 1961; Rosen, 1962; Moss and Kagan, 1963; Veroff, 1965; Davids and Hainsworth 1966; Zigler and Child, 1969; Epps, 1970; Kayhan, 1976; Manley, 1977; Panday, 1977; Durand, 1983; Vanvaria and Singh, 1983; and Fry and Scher, 1984).

5.4 Psychological Implications and Suggestions for Future Research

The following implications emerge out of the present investigation:

1- We should have some practical training programmes to stimulate further achievement intrinsic motivation
growth during the adolescent period. Particularly, educational institutes have a greater role to play in this direction.

2- For developing achievement motivation of adolescents, the school class-rooms should present open-minded models through teachers, because teachers can provide the environment for further achievements.

3- Further implication is that other programmes should be brought home for children so that their long range involvement with the tasks may increase.

4- The implications of results of achievement motivation, intrinsic achievement motivation, and extrinsic achievement motivation are that the homes and educational institutions should develop democratic styles of bringing up and educating the children.

In the present investigation, quite large sample was taken representing adolescent population of the Government schools and colleges of Himachal Pradesh only and also to the variables of achievement general orientation, intrinsic achievement orientation and extrinsic achievement orientation in relation to age levels, sex, socio-economic
status, birth-order, and different child-rearing practices.

Following suggestions are made for further research:

1- The present study was confined to the adolescents where earlier and later phases of development could not be possibly studied, which may be considered as important areas of investigation. Moreover, Himachal Pradesh adolescent population can be compared to that of the neighbouring States or other places to observe whether similar growth trends could be obtained or not.

2- Another possible investigation to be carried out in this field is to make comparative growth survey of arts and science students; rural and urban students; students of public, private and government school or colleges and a comparison of students of professional, non-professional and technical courses.

3- Different personality patterns through factor analytical studies may be studied for school males and females belonging to different age groups and different socio-economic status.

4- Cross-cultural studies including tribal population of Himachal Pradesh and different racial groups
may be carried out while studying achievement motivation, intrinsic achievement motivation and extrinsic achievement motivation.

5- Development of achievement motivation and its components can best be traced if we come to know how the dimensions of achievement motivation grow.

These are simply suggestions for further exploration and certainly not the final projects, because these can be the areas of investigation like the present one. Although, there are immense possible ways to carry out research with the theoretical and practical implications, it is beyond the scope of this work to suggest design of such studies. But the investigator wishes to emphasise the importance of this domain which will contribute to the advancement of knowledge in the field.