

## CHAPTER TEN

### SOME INTELLECTUAL TRAITS -

#### - (i) STUDY HABITS

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When we are considering the question of habits whether good or bad, we must remember that the child is not born with either, and that they are acquired or formed as the result of his upbringing and environment. On the other hand, the baby does bring with him into the world certain inherited characteristics and impulses or tendencies and these make our work either easier or more difficult. Some babies, for instance, are inherently placid and amenable; others are alert and inquiring, some are naturally delicate or sensitive; others intelligent or wiry.

In the same way no two children have the same environment to contend with, not even children in the same family, where there is more than one child in a household, the family pattern is constantly changing. The first child, who for some time has been the only one, has to give place to a little newcomer who usurps, or it may seem to him that he does so, the privileges that up till now have been his own solely. Then perhaps a third child is born, and the baby himself suddenly finds he has been dispossessed and he, being middleman, has neither the privileges of being eldest or youngest. Or there is the situation of the only girl in a family of boys, and the only boy in a household of girls, of the plain child amongst beauties, and the backward one among bright and intelligent brothers and sisters. The permutations are endless, but whatever the situation it does mean that each child has an individual environment as well as personality that must be taken into account and to which he has to learn to make adjustments. In learning to make adjustments, perhaps the cultivation of right types of habits and interests makes the task easy, economical and effective. Every parent wishes his/her child to be well-adjusted, to be well-behaved, to form good habits and to develop varied interests to partake in activities that keep him or her to be physically fit and mentally alert. Where there is good harmony in family environment, children can feel perfectly secure and automatically cultivate good habits and enriching interests. Particularly for their adequate intellectual growth, formation of

appropriate study habits and wide reading interests is most desirable and essential. Among the factors affecting efficiency in learning, the study and reading habits of a pupil play an important role. These study and reading habits are in turn affected by a number of influences, amongst which of specific significance in the present investigation are sex of children, their birth order, family size and other family environment.

It is agreed that study habits play an important role in high achievement at examination. Achievement in the examination largely depends upon the intellectual ability, one's aptitude and interests, social-economic conditions, teaching methods, health, medium of instruction, study habits etc. Out of all these, one very important factor viz. "study habits", has been selected for the present study and to find out any differences therein with respect to the main variables viz. sex, birth order and family size studied in the present investigation.

Much has been said and written by psychologists and educationists about study habits. Study habits have been classified by the workers in this field into two broad types. There are good study habits and bad study habits. Good study habits can be termed as 'time saver' in learning, while bad habits lead to low achievement in the examination. Any study habit is an activity that should begin early in school life

and should be continued throughout the school and college career. Every student has a keen desire of being an effective student. To become an effective student the first and most important thing is to acquire the habit of studying systematically. Effective methods of study consist basically in applying those fundamental principles which underlie efficiency.

Students need to establish the system of studying. The main essential is that the student should sit down to work regularly and systematically every day. A schedule that includes definite time and place will prove very helpful. The student should adopt proper attitudes towards work, should put himself in a good physical condition, should remove environmental distractions as far as possible. They should try to find out the main idea of the paragraph, re-read the difficult portion, take notes and outline them. He should review the lesson carefully after studying it. The best preparation for examination is thorough daily preparation and systematic review.

The word 'study' needs elucidation. 'Study' includes not only what we gain from books and the class-room, but it involves also our acquisition through direct observation and through actual performance. To know how to study necessarily means to know how to think, to observe, to concentrate to organise and analyse, to be mentally fit to reproduce economically, quickly and efficiently the relevant part, etc. It is the application of intelligence to the task of under-

standing and controlling the world around us. In learning to study, we are learning to think and to live.

Investigations by educationists have repeatedly demonstrated the possibility of students improving the effectiveness of their study. It is a matter of developing a 'good form' in reading, listening, observing and thinking. Pupils have different habits to prepare their studies. Some pupils read regularly, while there are some who read very irregularly. You may find some students reading loudly in a sitting position, and some silently in a lying position. Different study habits are indulged in by different individuals. As no two individuals are equal with respects to their abilities, skills, motivations, interests, personality and so on, their study habits will also differ. These study habits and consequent achievement have been found to be related to a number of variables including the ones under present investigation. It is worthwhile first to summarise the findings of some relevant studies made earlier.

For example, Elder (1962) reported that the firstborn had higher academic achievement motivation with respect to grades than did the youngest children in the family. Most studies indicate that the firstborn attain a higher level of eminence, fame and intellectual outcome than the laterborn. This adds to the total weight of findings, which suggest that there is a relationship between ordinal position and intelligence, appearing to favour the firstborn, especially if he comes from a small family.

The firstborn receives initially a greater amount of parental attention and verbal stimulation which might also lead to a higher intellectual development. It might well be expected that the kind of "schoolbookish" intelligence that most tests measure would favour the firstborn, whereas the secondborn might be favoured in the more creative intellectual pursuits.

Two separate studies have indicated that the sex of his sibling is an important determinant of an individual's intelligence. Koch (1954) found that those with a male sibling scored higher on the verbal test than those with a female sibling. This agreed with Schoonover (1959), who stated that siblings with brothers had higher scores than siblings with sisters in all mental and achievement measures. These observations do not support some of the findings in this present work. As would be seen later from results with respect to comparison of firstborn boys with firstborn girls and also of firstborn of mixed sex with firstborn of same sex as well as of only born with other firstborn, there were found no significant differences between the groups.

Guilford and Worcester (1930) suggested that the only child was superior in occupational status and in marks in school. An other study by Busemann, indicated that children with siblings ranked higher in school performance than only children.

To these earlier studies, we may add the more recent findings. Schachter (1963) cited the Cattell and Brimhall work of 1921, which found that more men of science were firstborn than one would expect. Schachter continued by citing his own data which indicated that (a) more students taking introductory psychology were firstborn, than one would expect; (b) more graduate students in psychology and education were firstborn; (c) more medical students were firstborn; (d) there was the same percentage of firstborn in high school as in the general population; (e) the firstborn had a higher high school grade point average than the laterborn. All of these data point to the predominance of the first ordinal position in higher education and in seeking advanced degrees.

Chen and Cobb's review (1960) reported that a higher proportion of the firstborn were of recognized intellectual attainment. Pierce (1959) reported that high-achieving high school students were first born or only children. Pierce (1959) also found that more small families than large families produced high-achieving children. West (1960) suggested that the bigger the family, the less probable that it would produce a research scientist. Finally, Elder (1962) reported that the firstborn had higher academic achievement than the youngest children.

In view of these supporting studies as well as some findings on the firstborn in the present study also, it appears

rather consistent that the firstborn child is more likely to achieve social and intellectual eminence. The firstborn indeed may not only be holding the expectations of his parents to achieve social status and success, but also may have been subjected to other conditions which are beneficial in motivating a person to reach high : e.g. (1) the absence of a sibling for a period of time with the consequent orientation towards the adult world; (2) the accelerated verbal and intellectual training; (3) the early demands for responsibility; (4) the early period of complete attention and then its sudden withdrawal, setting the person on his own to strive to win the high level of approval and affection he once held; (5) the inconsistency in training which on the beneficial side may increase the first child's ability to tolerate novelty, variation, and ambiguity, while at the same time he seeks its elimination - a condition possibly requisite to a scientific approach.

It is assumed that any such intellectual or academic achievement follows mostly from the enriching types of study habits and reading interests that the individuals have developed, besides the main contribution of intelligence to high achievement. Both study habits and reading interests have been examined in the present investigation also. In this chapter the study habits as related to sex and birth order have been discussed, and the next chapter is devoted to the discussion of types of reading interests of the subjects belonging to different sex and different birth order levels.



In order to investigate the types of study habits of subjects under study, Dr. A.S. Patel's inventory on "Study Habits" prepared in Gujarati was administered to the sample under study. The inventory consisted of fifty items pertaining to varied aspects of study habits. (Refer to Appendix No. ) The frequency of responses on each of the fifty items was separately scored as per procedure, and for purpose of comparison these scores were transformed into percentage scores. These scores were then subjected to adequate statistical technique ( t-test , for percentage in this case) in order to study differences between percentage scores on each aspect of study habits of the two categories of subjects in each fourteen groups under study and thereby to find out sex differences and also birth order differences if any, by comparing scores of one sex with those of the other or of one birth order with those of other birth order in each of the fourteen groups of comparison, as studied also in the earlier chapters with help of finer statistical techniques, viz. analysis of variance and L.S.D. test. In the present chapter and the next one, unlike in the earlier chapters, highly refined statistical techniques to analyse and interpret the results have not been used in view of the types of scores available in this case. Yet the attempt is made to draw reliable inferences warranted by possible appropriate descriptive as well as inferential statistics as far as possible

applied to data of the fourteen groups of pair comparison that would enable the investigator to study sex differences as well as birth order differences. The critical ratio (C.R.) based on t-test applied to study differences between percentages were computed and their significance was found out.

(Refer to Appendix \_\_\_\_\_ for a sample computation).

All these results have been summarized in respective tables numbered SH-1 to SH-14 for each of the fourteen groups under study as earlier, and have been discussed, in the paragraphs that follow. Table SH-1 gives data on total sex differences; tables: SH-2 to SH-10 give data on birth order comparisons and finally tables: SH-11 to SH-14 present data to show sex differences at each birth order i.e. splitting up data in table SH-1 into four birth orders.

## DISCUSSION

Study Habits of Group I :  
All Boys vs. All Girls:

It would be seen from results in table No.SH-1 that on most of the statements pertaining to varied aspects of study habits, boys and girls on the whole did not differ in their study habits, excepting in a few, viz. those expressed in statements No. 4, 13 and 35.

No. 4: Thus, 49.88% boys and 54.83% of girls preferred to study late at night rather than would get up early in the morning to study. Girls had significantly (.05 level) to a greater extent this late reading habit than boys.

No. 13: As seen from figures on statement No. 13, it would be inferred that there were also significant differences in habit of extra reading; 50.12% of boys and 45.10% of girls liked extra reading and this difference was significant at .05 level.

No. 35: Again, there were significant sex differences in theirs being nervous at the time of examination. Thus, 41.64% of boys and 58.31% of girls under study used to get nervour and this was significant at .01 level.

Study Habits of Group II :  
First-born vs. Later Born:

The results on study habits of the firstborn as compared with those of the other later born, are shown in table SH-2. It would be seen from this table that again the firstborn on the whole did differ from the later born in most of their study habits, viz. those expressed in 31 statements numbered 1,3,5,6,7,8,9,10,11,12,13,15,16,19,22,23,27,28,29,30,33,34, 35,36,42,43,44,45,46,47 and 49. To describe briefly in words, the firstborn to a significantly greater extent had the habits of using dictionary, studying at fixed places rather than anywhere, referring to guides rather than text-books, reading silently, extra reading, note-taking during reading, preparing lessons in advance and discussing with the teacher. Similarly, the later-born to a significantly greater extent owed habits of remembering if read loudly, feeling slow in learning, radio-listening while doing home-work, studying alone rather than in company of others, not partaking in activities other than study, reading or revising upto the last minute before the start of examination, lack of remembering of materials read, irregular and unplanned study, not referring to corrected answer-books or home-work notes postponing home-work or lessons upto last mement, reading only at examination time, preparing only selected questions for examination, depending more on suggestions in examination questions, falling short of time

during writing for the examination, (not adjusting time), feeling nervous during examination, lack of concentration in reading, lack of accommodation or conveniences for reading at home, feeling much fatigued and restless and sleepy, lagging in writing due to difficulty in expression, day-dreaming, feeling disgusted and side-tracked in thoughts instead of listening to teachers, lack of having books or equipments and lack of interest in study.

In other respects of study habits as mentioned in the inventory, the two groups showed no significant differences.

Study Habits of Group III :

Only Born vz. Other First-born:

The first-born group was further divided into four sub-groups, viz. (i) only born vz. other first-born; (ii) only born boys vs. other first-born boys; (iii) only born girls vs. other first born girls; and (iv) first born of mixed sex vz. first-born of same sex. The results on all these four groups have been separately shown in table Nos. SH-3, SH-4, SH.5 and SH-6 and are summarized below.

Table No. SH-3 shows the summary of results on study habits of the only born children vs. other first-born. It would be seen that both these groups had almost the same study habits and showed no difference except in a few, viz. those in statements No. 19, 26, 32.

Thus, more of the other first-born (89.19%) had the habit of note-taking during reading than the only born (77.00%).

A significantly greater number of the other first-born (85.10%) had the habit of keeping note books carefully and systematically in comparison to the only born (75.10%).

Finally, the other first-born had to a greater extent the habit of writing examination answers in some systematic order.

There were no other differences.

#### Study Habits of Group IV :

##### Only Born Boys vs. Other Firstborn Boys:

The data of the only born vs. other first-born group are separately divided into those for boys and girls, as noted above and the study habits of these boys and girls separately are summarized in this and the next sections, for comparison with the results on combined data given above.

Thus, table No.SH-4 shows the results of only born boys vs. first-born boys. In contrast to significant differences on statements No. 19, 26 and 32 for the combined data of boys and girls, the analysis of the separate data for boys shows the significant differences on statements No.1,2,3,4,5,8,9, 12,23 and 24 i.e. in none of the above ones for combined data.

Thus, other first-born boys had in comparison to only born boys to a greater extent the habits of remembering if read aloud, reading in lying position, using dictionary, studying late at night, studying at fixed places, studying alone, reading silently (seems strange along with No.1 above), discussing with the teacher and dislike of a few teachers and school subjects, while the only born boys showed to a greater extent the habit of not participating in extra-curricular activities perceived as hindering study.

In other respects, both were same.

Study Habits of Group V :

Only Born Girls vs. <sup>other</sup> First-born Girls:

Table No. SH-5 shows the comparative results on study habits of these two groups of girls. Again in contrast, to results on combined data with significant differences on statements 19,26 and 32, the separate data of girls showed significant differences on statements No. 7,8,10,11,19,19, 31 and 41, also in contrast to those for boys above.

Thus, other first-born girls in comparison to only born girls had to a greater extent the habits of radio-listening during writing home-work, studying alone, reading or revising upto the last minute of examination, taking down figures etc. during teaching by teachers, note-taking while reading and

noting down points first before answering questions during examination; while the only born girl had to a greater extent the habits of referring to guides rather than text-books and moving with friends during leisure time.

There were no other differences.

Study Habits of Group VI :

First-born of Mixed Sex vs.

First-born of same sex :

The results on these groups are shown in table No.SH-6. It would be seen that there were no differences at all between the first-born of mixed sex and first-born of same sex as far as their study habits were concerned, except in statement No.4 i.e. more of the first-born siblings of same sex (39.10%) had the habit of studying late at night rather than early rising in comparison to first-born of mixed sex (31.10%). In all other respects both groups were almost the same.

Study Habits of Group VII :

Only Born vs. All later born:

Table No. SH-7 gives the comparative data of these two groups. It would be seen that these two groups differed from each other significantly in most of their study habits, expressed in 29 statements numbered as 1,2,5,6,7,8,9,10,11,13,15,16, 19,22,23,27,28,29,30,33,34,35,36,42,43,44,45,46 and 49.



Thus, the later born children in comparison to the only born had to a greater extent habits of remembering if read loudly, reading in lying position, feeling slow in learning, radio-listening while doing home-work, studying alone, not partaking in extra-activities nor in extra reading, revising upto the last minute, understanding but not remembering, irregular and unplanned study, note-taking while reading, not referring to corrected notes, postponing home-work upto the last moment, studying only at the time of examination, preparing only selected questions, relying more on suggestions for examination, falling short of time during writing for examination (not adjusting time), getting nervous, lack of concentration, lack of accommodation for study at home, feeling fatigued and restless and sleepy, lagging in writing due to difficulty in expression, day dreaming, feeling disgusted and distracted in thinking and feeling disinterested in studying; while the only born had to a greater extent the habits of studying at fixed places, referring to guides, extra-reading, preparing in advance and discussing with the teacher.

In other respects there were no differences.

Study Habits of Group VIII :First-born vs. Last Born :

Table No. SH-8 presents the results of these two groups in comparison. Both differed significantly in habits expressed in 16 statements numbered 3,5,7,10,13,18,23,25,30,32,33,39,40, 41,43 and 45.

Thus, it would be seen that the last-born exceeded significantly the first-born in their study habits, such as radio-listening while doing home-work, referring to guides, reading upto the last minute of examination, feeling slow in writing, preparing only selected questions, relying more on suggestions in examination, attending more to extra coaching classes, moving out with friends during leisure time, feeling fatigued etc. and day-dreaming; while the first-born in comparison to the last-born had to a greater extent the habits of using dictionary, studying only at fixed places, extra reading, taking down digures etc. during teaching by the teacher, discussing with teacher, systematic writing for examination, and studying in company of others.

In other respects of study habits, both groups showed no significant differences.

Study Habits of Group IX :Last born vs. Aggregate of  
Second-and-Middle-born :

Table No.SH-9 reveals the results for this comparison. Both groups differed only in study habits expressed in 16 statements numbered as 12,15,16,17,25,27,29,32,35,36, 40,42,43,45,46 and 49. Thus, the joint group of second-and-middle-born in comparison to the last born displayed to a greater extent the habits of understanding but not remembering, irregular and unplanned study, feeling slow in writing, not referring to corrected notes, studying only at examination time, getting nervous, lack of concentration on reading, studying in company of others, lack of accommodation for study, feeling fatigued etc., day dreaming, feeling disgusted and distracted, and feeling disinterested in studying; while more of the last born exhibited habits of reading silently, taking notes in the class when taught and a system in writing for examination. In other respects both groups did not differ.

Study Habits of Group X :Last Born vs. Only Born :

Table No. SH-10 shows the results for this comparison. Thus, both groups showed significant differences only in study habits as described in 18 statements No. 1,2,4,6,7,9,10,11,24, 25,29,30,31,33,35,40,43 and 46. Thus, the only born were to a

greater extent showing habits of noting down first the points before answering fully the examination questions and studying in company of others; in contrast the last born had to greater extent the habits of remembering if read aloud, reading in lying position, studying late at night, feeling slow in learning, radio-listening while doing home-work, not partaking of extra-curricular activities, referring to guides, reading upto the last minute of examination, dislike of some teachers and subjects, feeling slow in writing, studying only at examination time, preparing only selected questions, relying more on suggestions, getting nervour, feeling fatigued etc., and feeling disgusted, and distracted.

In other respects there were no differences.

Study Habits of Group X :

First-born Boys vs. First-born Girls:

Data of Group I for all boys vs. all girls have been broken up into birth order-wise data for boys vs. girls in each of four birth orders, and thus the results of these four birth order groups No. 11, 12, 13 and 14 showing sex differences have been presented in Tables SH-11, SH-12, SH-13 and SH-14 respectively and summarized below. These can be compared with results of combined Group I.

Thus, Table No.SH-11 shows the data of first-born boys vs. first-born girls. It would be seen that first-born boys differed from first-born girls only in a very few study habits described in five statements No. 8, 9, 11, 20 and 22.

Thus, first-born girls in comparison to first-born boys had to a greater extent the habits of studying alone, not partaking in extra-curricular activities or extra-reading thought to be hindering their study, reading upto the last minute before start of examination, regular home-work and preparing lessons in advance. In all other respects boys and girls of first-birth order did not differ.

These separate results of Group XI for first-born boys and girls seem quite different from results of Group I for all boys and girls.

Study Habits of Group XII :

Second born Boys vs. Second born Girls:

Table No.SH-12 shows the results for this comparison of sex differences in study habits among the second born. The second born showed significant sex differences in study habits described in 18 statements No. 1,7,9,11,12,13,15,18, 30,35,38,40,42,43,44,45, 46 and 47.

Thus, second born girls in comparison to second born boys had to a greater extent the habits of remembering if read aloud, not partaking in extra-curricular activities, revising upto the last minute of examination, reading silently (strange in comparison to No. 1 above), understanding but not remembering, taking down figures etc. in the class, getting nervous, studying in company of others, lack of accommodation for study at home, feeling fatigued etc., lagging in writing due to difficulty in expression, day dreaming, feeling disgusted or distracted and lack of having necessary books or equipments for study; while more of the second born boys had habits of radio-listening during home-work, extra reading, preparing only selected questions and studying by discussion of subjects.

In other respects, there were no sex differences in study habits of the second-born.

Study Habits of Group XIII :

Middle Born Boys vs. Middle Born Girls:

Table No. SH-13 gives the data for this comparison. Results show that there were significant sex differences among the middle born in their study habits described only in 24 statements No. 2,6,7,8,9,11,13,14,16,17,18,24,27,28, 29,30,33,41,42,43,44,45, 46 and 47.

Thus, the middle born girls in comparison to middle born boys had to a greater extent the habits of reading in lying position, studying alone, not partaking in extra activities, dislike of some teachers and subjects, relying more on suggestions, lack of accommodation for study at home, feeling fatigued etc. lagging in writing due to difficulty in expression, day dreaming, feeling disgusted and distracted and lack of having necessary books and equipments for study; while more of the middle born boys had habits of feeling slow in learning, radio-listening during home-work, reading upto the last minute, extra reading, reading newspapers regularly, irregular and unplanned reading, taking notes in the class, taking down figures etc. in the class, not referring to corrected answer-books, postponing home-work upto the last moment, studying only at examination time, preparing only selected questions and moving out or chitchating with friends during leisure time. In other respects there were no sex differences.

Study Habits of Group XIV :

Last Born Boys vs. Last Born Girls:

Table No. SH-14 shows the data for these two groups. It is observed that there were significant sex differences in study habits of the last born only as far as the 8 statements No. 1, 2, 3, 6, 10, 11, 13 and 30 were concerned.

Thus, the last born girls in comparison to the last born boys displayed to a greater measure the habits of referring to guides rather than text-books, reading upto the last minute before the start of the examination and preparing only the selected questions for examination; while more of the last born boys showed habits of remembering if read loudly, reading in lying position, using dictionary, feeling slow in learning and extra reading.

In all other respects there were no sex differences in study habits of the last born.

It would be also seen that results on sex differences in Table SH-1 for Group I did not tally much when the data were broken up for each birth order group, excepting only in one common study habit of extra reading, showing that usually boys on the whole as well as separately the second born, middle born and last born boys used to display extra reading to a treater extent than respective girls.

This completes the discussion on study habits of the groups under study - sex differences as well as birth order differences in various types of study habits of children studied.