

C H A P T E R - I I I

D E S I G N O F T H E S T U D Y

3.1 HYPOTHESES

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The aim of the present investigation is to see the effect of cooperation and competition upon inter personal relationship, anxiety and work satisfaction. This study consists of cooperation and competition as independent variables and interpersonal relationship, anxiety and work satisfaction as dependent variables.

HYPOTHESIS :

This research is designed to test the following hypotheses :-

- 1) Inter personal relationship will tend towards positive valence among the members of cooperative group whereas in competitive group the inter personal relationship will tend towards negative valence.

According to this hypothesis, in cooperative group the members of the group will get more friendly with each other while in competitive group, the members will become less friendly with each other.

- 2) There will be greater work satisfaction among

members of cooperative group as contrasted with members of competitive group.

- 3) . There will be more anxiety in competitive group than in cooperative group.

VARIABLE :

GRAPHICAL PRESENTATION OF THE HYPOTHESES :

INDEPENDENT VARIABLE :	DEPENDENT VARIABLE
1) COOPERATION :	§ + INTERPERSONAL RELATIONSHIP
	§
	§
	§ + WORK SATISFACTION
	§
	§
	§ - ANXIETY
2) COMPETITION :	§ + INTER PERSONAL RELATIONSHIP
	§
	§
	§ + WORK SATISFACTION
	§
	§
	§ - ANXIETY

WHY THE HYPOTHESES HAVE BEEN FORMED ?

Studies have been done in this light that there will be healthy inter personal relationship in

cooperative group whereas it is not so in the competitive group. Efforts have been made to test the same hypotheses in this investigation also. But some other methods have been used in this. Also efforts have been made to evaluate if the interpersonal relationship changes after the sense of competition or cooperation is developed. To test the above phenomena the presociometric test is called for. Then the interpersonal relationship of the subjects is observed. After working cooperatively or competitively for four days the subjects are given a post sociometric test. Then the difference between the pre-rating and the post-rating is evaluated and the change in the interpersonal relationship between the subjects is studied.

The second and third hypotheses are based on work satisfaction and anxiety. In our day to day life of cooperative working, we feel more satisfied and mentally happy, because the responsibility lies on the group and not on an individual. While in competitive group every individual has to show his worth separately so the spirit of work satisfaction is not much. Also, the amount of anxiety in the competitive group is more since every individual has to

produce the result which is to be evaluated separately.

SAMPLE :

The sample of 200 students was taken for this study. The subjects were students of class VI to VIII (Age group 11 to 13 years) of Kendriya Vidyalaya, Harni Road, Baroda and Basant School, Karelilbaug, Baroda. All were male subjects.

PROCEDURE :

At first all the 200 students were given a sociometric test (Appendix 1). Forty groups were formed with 5 members in each group. Of these, 20 groups were assigned to cooperative work and 20 for competitive work. These groups were formed on the basis of sociometric test.

Among the -20- Cooperative groups, the members of the -10- groups were friendly or most friendly with each other. And members of other -10- groups were less friendly or in different with each other. In the same way competitive groups were also formed.

In cooperative group the subjects were told to work together or cooperatively, they could help each other. In competitive group, the subjects were told to work individually, they could not help each other. In this way each subject was given an experience of working in cooperative or competitive conditions for four hours, spread over four days.

Each group was given -4- tasks, one at a time for one hour, to keep all the subjects engaged. The tasks were as follows :-

- 1) Geometrical Design
- 2) Solving Puzzles
- 3) Greeting card making
- 4) Arithmetic sums.

I Pre-sociometric to all the students together.	Ist Task Geometrical Design IIInd Task solving puzzles IIIrd Greeting card making. IVth Task Arithmetical sums	4 Tasks had been given To the cooperative and Competitive groups One at a time.	II Post Socio-metric test to all the students together
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Rating scale, semantic differential scale and Sarason's General Anxiety scale for children were administered to measure work satisfaction, interpersonal relationship and anxiety immediately after each task period was over.

Preparation of Tools

Every project work or research work needs certain tools and tests for obtaining data. The present investigation needed the following :-

1. Four tasks to provide subjects an opportunity for cooperative and competitive work.
2. A Rating scale for measuring work satisfaction.
3. A semantic Differential scale for measuring interpersonal relationship.
4. Sarason's General Anxiety Scale for Children (GASC) - Indian Adaptation.
5. Sociometric Test.

I. TASKS :

The following four tasks were given to

the subjects.

1) Geometrical Designs :-

In this task the subjects were shown twenty geometrical designs (Appendix No. 5) for about 5 minutes. Then they had to recall and draw those designs with the help of scale and pencil. After half an hour another set of twenty geometrical designs were shown to students for 5 minutes only. Again they had to recall and draw these designs. The instructions given to the cooperative group was that the group which would draw maximum number of correct designs would get the prize. In competitive group the prize was to be awarded to the individual drawing maximum number of correct designs.

2) Solving Puzzles :-

Some Cross-word puzzles were given and the students had to solve with the help of the clues given. (Appendix No. 6)

Jig Saw Puzzles

Two Jig saw puzzles were given to the subjects for solving. In these puzzles, two different types

of pictures were shown to the students. They had been given two hundred multicoloured pieces of the pictures. With the help of multicoloured pieces, subjects had to prepare the picture. Each picture was to be prepared with 100 multicoloured pieces.

The instruction given to cooperative group was that the group which would solve the puzzle first would get the prize provided all the answers are correct. In the competitive group the prize was to be awarded to the individual solving the puzzle first with correct answers.

3) Greeting Card Making :-

In this task the subjects were given the materials like paper, pencils, colours, crayons, butter paper, scissors and old greeting cards, with the help of these materials they had to prepare new greeting cards. In cooperative group, the subjects were given instructions that the group which would prepare more greeting cards in one hour would be awarded a prize. Each student should make atleast -2- greeting cards. Thus there should be atleast -10- greeting cards in each group. Reward will be given

upon neatness and uniqueness of the card. In the competitive group, the students were told that the individual preparing maximum number of neat and beautiful greeting cards would get the prize.

4) Arithmetic Sums (Appendix 7) :-

The fourth task involved adding three given sets of numbers. The subjects were required to multiply each digit of the total of these sets of numbers with the successive digit beginning from left. After this subjects were given few sums wherein they were required to find out the missing numbers etc. The subjects were told that they would be eligible for the prize only when all the answers are correct.

The cooperative group consisting of 5 members was to complete the task in one hour. The competitive group was required to do as much as each member could do in 60 minutes. The condition for the prize was that each sum should be correct. (The Winners were given a story book as reward).

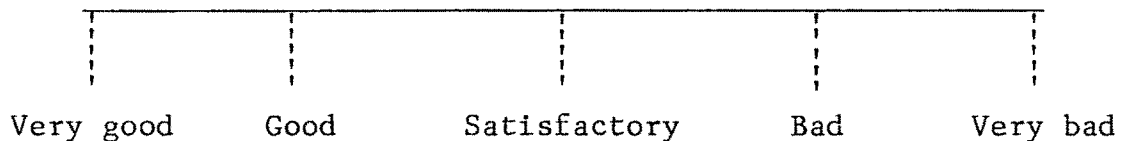
OTHER TESTS

One sociometric test was prepared to know the extent

of friendliness amongst the class which helped in forming the groups. On the left side of the page names of the 200 students were written and against each name five response - categories were indicated i.e. most friendly, friendly, just friendly, less friendly and indifferent. Each student was required to rate every other student under these categories.

II. For measuring work satisfaction a -5- point rating scale was prepared.

"How did you like the work ?", rate on these points.



In five point rating scale, if the person rates on very good, he would be given 5 marks, if he rates on good he would be given 4 marks, if satisfactory then 3 marks, and for bad and very bad he would be 2 and 1 mark respectively.

III. For measuring interpersonal relationship 'Semantic

Differential Test' was used. Only three scales were used i.e. :-

Good	-	-	-	-	Bad
Intelligent	-	-	-	-	Foolish
Active	-	-	-	-	Dull

In the semantic differential test also the scoring is very simple. There are 7 points between two statements. If the subject rates on the first point beginning from the left, he would be given 7 marks. If he rates on the second point he would be given 6 marks. In the same way, if he rates on third, fourth, fifth, sixth or seventh point, he would get 5, 4, 3, 2 and 1 mark respectively.

IV. Anxiety was measured by Sarason's General Anxiety scale for children (GASC). It has total 45 items related

Sarason's General Anxiety Scale for Children (GASC) is a widely used and standardized scale developed by Sarason and his associates for their project on 'Anxiety in School Children'. Sarason's General Anxiety scale for children has been adopted for use in Indian Culture and conditions. The scale is helpful to locate the anxiety level of children upto an age of 17 or 18 years.

to varied life situations. Questionnaire was divided into 4 equal parts by systematic random sampling. The various situations with which the items are generally related are as follows :

- a) Health, Physical appearance and injury.
- b) Success or failure in his work.
- c) Afraid from animals and strange things.
- d) Social relations and social approvals.
- e) Worries regarding family members and other relatives.
- f) Worries regarding the future happenings.
- g) Afraid in loneliness.

The test, rating scale and questionnaire were given immediately after completion of each task.

In this test a number of questions are asked and the subject has to answer in 'Yes' or 'No'. If the subject answers 'Yes' for any question, he will be given 1 mark and if 'No' then 0, will be given. In the end all the marks will be added and total score will be obtained - Higher the score, more anxious the subject.

Collection of Data

For data collection, at first, the sociometric test was administered to 200 students. These 200 students were divided into 40 groups. In each group there were 5 students, -20- groups were for cooperative work and the remaining 20, for competitive work. First one cooperative group was called and following instructions were given.

"The group which would make the maximum designs would get the prize. So you should work operatively. You can help each other. You will be shown -20- geometrical designs for 5 minutes and will be required to reproduce those designs within 30 minutes. Another set of 20 designs would be shown and same procedure would be followed. If you want, you can divide the tasks among yourselves".

However they preferred to work together. As soon as they started drawing designs, the stop watch was started. While subjects were performing, some observations were being noted such as how they were talking with each other, how they were responding to each other, whether

they were friendly with each other or not and so on. When test time was over, they were asked to stop their work. The number of designs made by the group also noted. Then they were given the rating scale for measuring work satisfaction. The instructions given to the subjects were :-

"At first you write your name on the top of the paper, then rate on this five point scale, as to how you liked the task".

This was followed by Sarason's General Anxiety Scale for children and Semantic differential scale.

While administering these scales and questionnaires, they were seated at some distance and were asked not to consult each other. In this way the first work session of one group was concluded.

Next day same group was again called. They were given the second task which was solving puzzles. They were given all the material required for solving puzzles with proper instructions. After the task was over, similar data as in the first session were collected from the subjects.

The same procedure was repeated for next two days with remaining tasks.

In the competitive group the instructions were different. At first one competitive group was called and the following instructions were given :-

"Now I am going to give you some interesting problems to solve. All of you have to solve each problem individually as quickly as possible. The time limit is one hour. Within these 60 minutes you will have to solve as many problems as you can. The one who will correctly solve the largest number of problems will be awarded a prize".

Excepting change in instructions, the same procedure was followed with competitive groups as with cooperative groups. - It took approximately 6 months to collect the entire data.

According to the group productivity the members of the cooperative groups were given prizes and according to the individual productivity the members of the competitive groups had been awarded the prizes (story books). In all 60 individuals got the prize.

Observations :-

During the data collection, some observations were also made. Each member of the group whether cooperative group or competitive was kept under close observation while busy in performing the assigned task. Their behaviour towards each other, their attitude and conversation was also taken note of.

Observation for Cooperative Group :-

On the first day the subjects were seen to be filled with curiosity as to what they would be required to do. When they were told the nature of the task to be done, they were also posed this question - "would you like to work together on this task or individually ?" All of them, however, expressed preference for working collectively. All the -5- members of a group sat very close to each other, discussing their plan of action. Suggestions were made to each other and help offered. All of them had a keen desire to commence their operation.

In the greeting card making task, the members of the groups had divided the work among themselves.

Some folded the papers, some did the cutting and some did the painting work. Each prodded the other to be quick. They were all keenly interested in the assignment and were full of enthusiasm. While working they talked to each other continuously.

In the task involving sums, each of the -5- members of the group divided the sums amongst themselves and started doing them. As they worked on sums, they asked each other to get the sums right and not to commit a mistake. If a particular group completed the task earlier than -60 minutes, the ~~men~~ members constituting the group checked the correctness of each other

Thus it was seen that the members of the cooperative group displayed a sense of unity. In order to gain the prize for the group each member wanted to contribute to the maximum. They took interest in the work and were eager to know the score of the other groups. Their keenness was sustained and interest unfagging. They appeared to be determined to do better in succeeding test in order to improve their overall score.

Out of -20- cooperative groups -10- had such members as were friendly to one another and -10- were such whose members were indifferent to one another. The members belonging to the second type of group rarely talked to each other on the first day but from the second day onwards got friendly and helped each other.

Competitive group

The interpersonal relationship of the competitive group in the performance of different tasks were also observed. The members (5 in each group) did not talk to each other. Almost unconsciously they sat apart at some distance and as soon a task was allotted they started their work. It was seen that when a particular member failed to make a Geometrical design or to solve puzzle test, he made a sly attempt to note the design of the neighbour. When one succeeded in completing a design quickly, the others felt jealous of this and also felt a sense of humiliation. It was seen that one subject who succeeded in making a Geometrical design early enough shielded it with the note book, lest others should copy his design.

In the greeting card making task also the members of the group worked speedily, and all the five members in each group wanted to make maximum number of cards. As a member worked on this task he was eager to know the progress of the other. The result of the competitive group was declared immediately on the completion of the task. When it was done other members appeared to be depressed.

Among the members of the competitive group the element of anxiety was clearly noticeable. The member getting the prize on completion of the task appeared to be satisfied but the rest evinced a feeling of dissatisfaction.

Thus, it was seen that the competitive group subjects showed nervousness, anxiety and dissatisfaction and their interpersonal relationship was also not satisfactory. This was in clear contrast to the cooperative group where these negative elements of anxiety etc. were missing, and where there was a marked interpersonal relationship of a positive nature. They had better sense of work satisfaction.