CHAPTER TWO

METHODOLOGY
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The research design of any study is usually related to the nature of the problem being investigated and its purpose, besides other factors. Since the purpose of the present study was to test the relationship or association between satisfaction of human needs, and the gratification derived from work, a descriptive survey research was considered suitable. Another factor that influenced the selection of the research design was the meagre number of studies which have utilised a similar conceptual framework to explain the phenomenon of job satisfaction. To the best of the knowledge of the investigator, available research evidence shows that only two studies have utilised a similar conceptual framework, to explain occupational satisfaction.¹

Once again, as far as is known to the investigator, no study has been conducted in India on need satisfaction and the satisfaction derived from work. The absence of


research evidence in India utilising the above conceptual framework, also influenced the decision of the investigator to employ a descriptive survey method of research for carrying out the present study.

Considering the nature and purpose of the present study, it was felt that a correlational analysis of the data would achieve the objectives of the study and was preferred to an experimental study. An experimental design usually introduces a change in one variable deliberately, to observe the effect of such a change on the dependent variable. A correlational study, however, stresses the relationship between two variables, without altering either of them.

The major disadvantage of a correlational study is its inadequacy to establish a causal relationship between two variables, yet it can establish whether the two variables tend to be related at a fixed point in time. From the point of view of the present study, if a close relationship could be established between the satisfaction of human needs, and the satisfaction derived from work, it would validate to a certain extent the assumptions that have been made in the present study and vice-versa.

Furthermore, the objective of the present study was not to establish a causal relationship between two variables
but to find out the extent to which satisfaction of human needs and work satisfaction were associated. Should a close association be found to exist between the two variables, it may suggest areas where experimental studies could be carried on profitably. A correlational analysis would achieve this objective as well.

Another reason for sticking to the correlational analysis was the fact that experimental researches require a high degree of cooperation from the organisations (where the studies have to be conducted) in order to produce changes in variables, and to control extraneous variables. Typically this kind of cooperation is very difficult to secure in business organisations.

Furthermore, the limitations of time, money and capacities of the sole researcher made it impossible to conduct the study according to an experimental design. Besides this, it was felt that the correlational approach makes it possible to look at a number of attitude variables in relation to satisfaction derived from work, and the format of correlation best fits the data intended to be obtained.

Another reason for selecting the descriptive method of research was the fact that it helps in generalisation to a greater extent, than the experimental
research design. Commenting upon this, Hyman² states that though the descriptive research design proves inadequate in establishing causal relations between two variables, its heterogeneity allows greater generality, whereas in the experimental situation accuracy is achieved at the cost of generality.

The next problem that had to be faced was the selection of the tool which could measure the need satisfaction of the individuals and their job satisfaction as well.

Man has several needs to satisfy and usually he makes efforts to satisfy these needs. His efforts to satisfy his needs may be successful to various extents (that is, in certain cases he may be able to satisfy his needs to a very large extent, to a large extent, to an average extent, to some extent or be completely unsuccessful in doing so). The present study was not concerned with the efforts put forward by the individual to satisfy his needs, but the resultant, that is the extent to which his needs were satisfied, in certain situations, both at work and outside it, as perceived by the individual.

Considering the nature and scope of the study under

consideration, it was felt that either a questionnaire or a schedule could be utilised for the purpose of collecting the data. The use of schedule was preferred to that of the questionnaire in the present study for the following reasons:

(i) Firstly a large number of the respondents in the sample were illiterate or with very little education. Sending a questionnaire to them would have served no purpose.

(ii) Secondly, past experience had shown that the responses to mailed questionnaire were not very encouraging.

(iii) Lastly, time was another factor which influenced the selection of the schedule in preference to the questionnaire. Past experience had shown that the replies to the questionnaire were received after a very long time. It was not possible to work under this sort of uncertainty.

Under these circumstances, the use of the schedule was preferred to that of the questionnaire, inspite of the fact, that, it was known that lack of anonymity may prevent certain respondents to express their attitudes to certain situations frankly. Barring this shortcoming, it was felt that the schedule would be the most appropriate tool for the collection of the data for the present study.

The second major problem was the determination of the
criteria for selection of the human needs. The criteria for selecting these needs were more or less the same as proposed by Schaffer in his study. These were as follows:

(1) Needs should be relatively permanent and stable and the satisfaction of which was being constantly sought by the individual.

(2) Need categories should be such, that they may be present in most persons or even that they are universally present.

(3) As far as possible the characteristics of the needs are such that they are present both in the job situation as well as outside it.

(4) The needs selected are such that they can be defined in an operational manner.

The next problem faced, was the categorisation of the human "needs". The list of needs proposed by social scientists varies in number. Maslow proposes a list of five human needs, in a broad sense and there seems to be

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a great deal of agreement among social scientists to stick to such a classification. Broadly speaking human needs have been classified into five categories. They are as follows:

1. Physical needs.*
2. Security needs.
3. Social needs.
4. Ego needs.
5. Self Actualisation needs.

In the present study, a decision was taken to follow the broad categorisation of needs as mentioned above, and an attempt was made to measure the extent of physical, security, social and ego need satisfaction of the individual.

The reasons for including only four needs (and in the manner in which they have been included in the present study) may be mentioned here. Firstly, these needs seem to be universally present in human beings. The investigator agrees with Maslow's classification of human needs to that extent. Secondly, the investigator

* A.H. Maslow and others have used the term physiological needs. The term physical need has been used in the present study and largely connotates meaning similar to that of physiological needs of Maslow. The respondents understood the word physical needs much better than physiological needs and hence the same has been used in the present study.

believed that in some way or the other, most individuals are seeking gratifications of these needs. The satisfaction of these needs is rather important, and seems to be intimately connected with satisfaction with life. Since the satisfaction of these needs is so important for the individual, it was logical to include these needs in the present study. Besides this, the evidence is strong indeed, that satisfaction or nonsatisfaction of these needs seems to affect the individual considerably, as such it was natural to include them and see their association with job satisfaction, if any.6

Another factor taken into consideration, for following the broad categorisation of needs was that many of the needs mentioned by various authors in the long list of needs could be clubbed together under these four broad categories of physical, security, social and ego needs.

It may be stated, that the present study has not included the need for "self actualisation" in its inventory. The reasons for so doing were as follows. Firstly, it was difficult to operationally define it. Secondly, it was difficult to understand its meaning. After discussion with several persons working at different levels in different organisations, it became clear that people had difficulty in understanding the meaning of self actualisation. Different people attributed different meaning to the term.

Majority of them disagreed with Maslow's definition of self-actualisation. Lastly, it was felt (a hunch by the investigator) that it may not be universally present. In fact the evidence for this phenomenon was found during the pretesting of the schedule, where the respondents (especially those working at the lower level) remarked that they could not care much for the satisfaction of their self-actualisation need. In view of this, it was decided to exclude the need for self-actualisation from the list of needs to be investigated in the present study.

It was felt necessary to operationally define these needs. A brief reference to the operational definitions of these needs has been made in the earlier chapter. However, it may not be out of place to mention them once again.

Needs were defined as something that the individual lacks and which create a state of dissonance or tension in the individual. Since dissonance is not a pleasant feeling, an individual usually takes some action to eliminate or reduce it. Needs thus, become the driving force for human actions. \(^8\) Krech, Crutchfield and Ballachy define needs as "the initiating and sustaining force of behaviour."

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Physical needs were defined as those needs the satisfaction of which was necessary for maintaining the individual's existence in this world. This need included the necessity for providing, not only, the basic amenities of life for an individual and his family, but included the need to maintain himself and his family above the sustenance and survival level; the need to add some lustre to life. In general, physical needs included all those needs of human life which are dependent to a great extent on the financial resources of an individual.

Security needs were defined as the need for providing a steady source of income and also providing socio-psychological security for the individual and his family in future as well. In general, security needs were considered as those needs of the individual which are concerned with making adequate provision for the individual and his family for the present and the future. This need could be considered as the need for ensuring the present and securing the future of the individual and his family.

Social needs were defined as the need for belongingness; to be a member of a group, to have friends and be friendly with others; to have cordial relations with one's primary and secondary groups at work and outside it. In general, these needs were considered as those that were concerned with the need for belongingness of an individual to a group and
his interpersonal relationship with other members of the group.

Ego needs were defined as needs which were concerned with the individual's "self respect or esteem", that may be generated because of a feeling of achievement in life and at work. This need is concerned with the prestige an individual commands at his work-place, in his family, neighbourhood, friends and community. The definition of ego needs for the purpose of the present study included all these elements.

Keeping in view the purpose of the study an operational definition of job satisfaction was also necessary. Job satisfaction was defined as the attitudes people hold towards their jobs, positive attitudes towards the job connote satisfaction with it, and negative attitudes towards it connote dissatisfaction with it.

The Units of Study

The investigations in this study were confined to manufacturing units situated in the industrial area of Chandigarh and not anywhere else in the city. The decision to confine the study to industrial area of Chandigarh was based on the characteristics of the city of Chandigarh. Chandigarh has been described as a planned city, with a planned city, with a

clearly demarcated industrial area as compared to other cities in India. The industrial area of Chandigarh is the centre of major industrial activities in the city. All sorts of manufacturing and service units are concentrated there. Most of the industrial units of Chandigarh thus, had a chance of being represented.

The starting point for the selection of industrial manufacturing units for the study was the information that had already been collected in a survey of industrial units situated in and around Chandigarh by the Department of Commerce and Business Management, Panjab University, Chandigarh. The survey was carried out during the period July, 1969 to June, 1971. 10

According to the study mentioned above there were 174 units located in the industrial area of Chandigarh. These units were engaged in diverse activities ranging from manufacturing to service units. The size of these units varied (in terms of the number of people employed as well as the capital structure and technology employed.) and the number of persons employed varied from as little as 4 persons to more than 700.

According to the same survey there were only eleven industrial units employing more than 100 personnel.

10 Department of Commerce and Business Management, Panjab University, Chandigarh, Survey of Industrial Units in and Around Chandigarh. (As yet unpublished).
In selecting the units of investigation for the purpose of this study, a decision was taken that only those units would be studied which employed more than 150 persons. This decision was based on the premise that units employing less than 150 persons are not likely to have a clearly demarcated managerial and supervisory structure. They would not only lack a core of professional managerial cadre but also, are least likely to have organised labour.

As per list of industrial units covered by the study referred to above and conducted by the Department of Commerce and Business Management, Panjab University, Chandigarh there were only nine industrial units employing more than 150 persons. Further investigations by the researcher revealed that two more industrial units, not covered by the said study had more than 150 persons in their employment.

Thus, there were only eleven industrial units in the industrial area of Chandigarh employing more than one hundred and fifty personnel.

Out of these eleven units, two were being managed by the government. One of these units was under the Ministry of Defence (and thus under the control of Central Government) and the second unit was a state Government enterprise. Both these units had to be excluded from investigation as the investigator was not given permission to interview their personnel.
Out of the remaining nine units under private control three units did not permit any investigations, and thus had to be left out. The remaining six units were covered under the present investigation.

These six units formed the universe of the investigation and the respondents were drawn from these six units only. These units were engaged in many diverse manufacturing activities varying from producing complicated machinery to a well known brand of a soft drink.

A brief description of the activities of these units is given in Table 2.1.

Table 2.1*
Description of Certain Characteristics of Different Manufacturing Units Studied.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of the Unit</th>
<th>Manufacturing activity</th>
<th>No. of managers &amp; supervisors</th>
<th>No. of employees**</th>
<th>Total employed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Unit A</td>
<td>Manufacturing an international brand of soft drink, under licence.</td>
<td>23</td>
<td>559</td>
<td>582</td>
</tr>
<tr>
<td>2</td>
<td>Unit B</td>
<td>Woolen tops for the textile industry.</td>
<td>18</td>
<td>406</td>
<td>424</td>
</tr>
<tr>
<td>3</td>
<td>Unit C</td>
<td>Cigarrette making machines.</td>
<td>23</td>
<td>241</td>
<td>264</td>
</tr>
<tr>
<td>4</td>
<td>Unit D</td>
<td>Needles of various sizes for textile industry.</td>
<td>25</td>
<td>345</td>
<td>370</td>
</tr>
<tr>
<td>5</td>
<td>Unit E</td>
<td>Electricity Meters</td>
<td>38</td>
<td>669</td>
<td>707</td>
</tr>
<tr>
<td>6</td>
<td>Unit F</td>
<td>Manufacturing chemicals and pharmaceuticals.</td>
<td>42</td>
<td>156</td>
<td>198</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td>169</td>
<td>2376</td>
<td>2545</td>
</tr>
</tbody>
</table>

* Number of employees is as per figures of the study conducted by the Department of Commerce and Business Management, Panjab University, Chandigarh.
** Total includes clerical as well as blue-collared workers.
It would be appropriate at this place to mention the criteria used for selecting the units of investigation for the present study, which were as follows:

(1) Only those industrial units were to be taken into account that were situated in the Industrial Area of Chandigarh.

(2) The units should have been registered under the Factories Act 1947.

(3) Only manufacturing units that were employing more than 150 employees would form the universe of study. Service and repair units were to be excluded from the universe.

Similarly the criteria for selecting the respondents from these units were as follows:

(1) Employees should be Indian Nationals.

(2) They must be working physically in the plants situated in the industrial area of Chandigarh. All those employees of an industrial unit, who were on the pay rolls of the company, but were working in other sectors of the city were to be excluded from the universe.

(3) Respondents were to be drawn from three levels of the organisational hierarchy, namely Managers, Foremen and workers.
(4) The respondents should be permanently employed.

(5) No distinction was to be made between white-collar and blue-collar workers.

(6) Only male and married employees would form the universe.

The criteria used for categorising employees into Managers, Foremen and workers were as follows. Employees were classified as Managers if they possessed at least three of the following characteristics:

(1) They were officially listed as Managers on the payroll of the units.

(2) They were drawing a salary above Rs. 500 per month.

(3) They had the overall responsibility of the department and at least one supervisor or foreman was reporting to him.

(4) They should not be members of a Trade Union and not covered by Collective Bargaining Agreement.

Some of the problems faced by the investigator in such a classification may be mentioned. In some units only three or four persons were officially listed as Managers. However, a deeper probe revealed that many others were
actually performing the duties of a manager, for example in one of the units under investigation the official designation of the person was "Shift Foreman". If one was to go by the official designation only, the individual would be covered under the category "Foremen" or "Supervisor". A closer look at his duties and job description revealed that he was responsible for the entire shift and a number of shift incharges were reporting to him. The management would hold him responsible for anything and everything that happened during the shift. He was paid highly and considered as a part of management. Thus, it was necessary to develop certain other criteria, rather than simply enlisting those individuals as Managers who were officially listed as managers in the company records. Thus, many more people were classified as managers than those who were officially listed as managers, provided they fulfilled at least 3 of the 4 criteria mentioned earlier. This was necessary, in view of the fact that in many units investigated the word "manager" seemed to mean different things to different units. In another case, it is interesting to note that one of the employees was designated as "Purchase Manager", more by way of decoration than anything else. The purchase manager was in fact a glorified purchase clerk. He had no juniors,

* The term Foremen and Supervisors have been used in an interchangeable manner throughout this report.
had no discretionary power and in fact went from shop to shop collecting samples and was paid a paltry sum of Rs. 250/- per month. All such cases thus had to be dropped from the category of managers.

Managers, generally are not members of a trade union or covered by collective agreements. A rather surprising finding was that 9 individuals one of whom was the Assistant Plant Manager, were all members of the trade Union functioning in the unit and were covered by collective agreements in terms of Bonus, production bonus, and the Grievances Procedure. Management admitted that this was an anomaly but said they were helpless. (As a matter of fact at the same time of the investigation these managers reported as to how they had followed the call of the union to "go slow", when one of their leaders was suspended by the management.)

It may be stated that such cases were also categorised as managers as they fulfilled at least three of the four criteria. It may once more be emphasised that they were performing all the functions of managers. Similarly, the supervisory personnel in different units were called by different labels such as foremen, chargehand, team leader, superintendent, and so on. The criteria thus, used for classifying personnel in the "supervisory" category were:

(1) They should be listed in the official records as supervisors (or by any other name) but must be supervising
the work of at least two or more individuals who should be reporting to him for day to day productive activities.

(2) At least 50 per cent of their time should be spent in supervision rather than performing the job actually.

The definition of a worker again presented certain problems. A worker has been defined under the Indian Factories Act as well as under the Industrial disputes Act, 1947. For the purpose of the present study, a worker was defined as a person who possessed the following characteristics:

(1) He should be listed as a worker in the company register.

(2) He works under supervision of a foreman, who also decides about the place of his work, the nature of his work and the tools and equipment with which he has to work.

(3) He does not supervise the work of any one else and no one else reports to him.

(4) He does not possess the power to evaluate others or his own work. Some one else (usually his supervisor or foreman) invariably evaluates his performance.

The Schedule

The schedule consisted of three parts. The first part of the schedule was designed to gather information
regarding the demographic characteristics of the respondents.

The second part of the schedule was concerned with measuring the extent of need satisfaction of the respondents and was termed as Index of Need Satisfaction. It was designed on the lines of "need satisfaction" questionnaire used by Schaffer in his study to measure the extent to which the physical, security, social and ego needs of the individual were being satisfied.

Similarly, the third part of the schedule designed on the lines of Brayfield's "Index of Job Satisfaction", was intended to measure the extent of job satisfaction of the individual. It was termed as Index of Job Satisfaction.

Pretesting of the Schedule

A pilot study was conducted to pretest the schedule. The schedule for the pilot project contained 14 statements (or items) keyed to the physical need of an individual. Four statements were keyed to the security need, 14 statements were keyed to the social needs and 16 statements were keyed to measure the ego need satisfaction of the respondents.


There were thus, 4 separate indexes which measured the physical, security, social and ego need satisfaction of the individual. All of them put together formed the Index of Need Satisfaction. The respondents were asked to state the extent to which they agreed or disagreed with a particular statement:

A five point scale was used to measure the extent of need satisfaction of the individual. The scale range was from 1 point to 5 point, low scores indicating lower satisfaction and high scores indicating greater satisfaction. The respondents indicated their agreement or disagreement with the statement in terms of:

(a) Strongly agree
(b) Agree
(c) Undecided.
(d) Disagree
(e) Strongly disagree

The scoring procedure was as follows: If the respondent "strongly agreed" with a statement, which was of a positive nature a score of 5 was allotted for it, if he only "agreed" with the statement a score of 4 was given and so on. The scoring system was reversed for similar answers to a statement of a negative nature. Care was taken that each part of the Index of Need Satisfaction contained statements both of a positive and negative nature as well. Similarly statements were included which
measured the need satisfaction of the individual both on the job, and outside it. (See Appendix I).

The Index of Job Satisfaction contained 18 statements. The score for each statement ranged between 1 and 5 points. Higher scores on the Index of Job Satisfaction indicated greater satisfaction with the job and vice versa. (See Appendix II).

The scoring system was as follows. Mean scores of physical, security, social and ego need satisfaction were calculated by totalling up the scores obtained by each group of respondents (managers, supervisors and the workers) on each of these needs, and dividing it by the number of respondents in each group. Similarly the mean score of total need satisfaction of each group of respondents was calculated, by summation of the total scores obtained by each group of respondents on physical, security, social and ego needs and by dividing it with the total number of respondents in each group.

An example may clarify the procedure for scoring. In the pilot study, the number of managers interviewed was thirteen in all. The total number of statements keyed to physical need satisfaction were 14. Thus the minimum score possible on this need was 14 and maximum that one could score was 70. The total score obtained by all the managers (regarding their physical need satisfaction) was 524. The mean score of physical need
satisfaction of managers would thus be 524 divided by 13 which equals to 40.307. Similarly the mean scores of security, social and ego need satisfaction were calculated. The total need satisfaction score for the same group in the pilot study (N=13) was calculated by adding total scores of physical, security, social and ego need satisfaction of all the managers. The relevant scores were as follows:

<table>
<thead>
<tr>
<th>Need Area</th>
<th>Total Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Need</td>
<td>524</td>
</tr>
<tr>
<td>Security Need</td>
<td>214</td>
</tr>
<tr>
<td>Social Need</td>
<td>497</td>
</tr>
<tr>
<td>Ego Need</td>
<td>477</td>
</tr>
<tr>
<td><strong>Total Need Satisfaction</strong></td>
<td><strong>1712</strong></td>
</tr>
</tbody>
</table>

The mean score of total need satisfaction of managers would thus be 1712 divided by 13 which equals to 131.69. The same procedure was adopted for calculating the total need satisfaction of other groups of respondents.

Similar procedure was adopted for calculating the job satisfaction of different groups of respondents. The pilot study was conducted on 48 respondents drawn from three levels of organisational hierarchy, viz. the managers, the supervisors and the workers. The
break up of the forty-eight respondents in the pilot study was as follows:

Number of managers = 13
Number of supervisors = 11
Number of workers = 24

Total = 48

Finally using the mean scores of total need satisfaction and job satisfaction, a product moment correlation was computed for the entire sample, which was found to be highly significant (See Appendix III).

Besides, the correlational analysis, a second type of analysis was also done, to see the association between need satisfaction and job satisfaction of the respondents. According to this, the respondents were divided into three categories in terms of high need satisfaction, medium need satisfaction and low need satisfaction. They were similarly categorised in terms of their job satisfaction, that is those having high job satisfaction, medium job satisfaction and low job satisfaction.

For grouping individuals into classes, the following procedure was adopted. Since the respondents had to be divided into three categories, that is those having
high need satisfaction, medium need satisfaction and low need satisfaction, the total score obtained by the individual in a particular need area (that is the extent of his need satisfaction in that area) was divided by the number of statements in that index. The score so obtained was utilised to place the individual into any of the three categories mentioned above. An example may clarify the procedure better. The total number of statements which measured the extent of physical need satisfaction of an individual was fourteen. Supposing an individual's total score (which was found by adding up the scores for his responses on 14 statements on this index) was 42. Dividing it by 14, his physical need satisfaction score would be 3. So as to place him into any of the three categories mentioned above, the following cut off points were used.

All those respondents who scored below 2.5 were classified as having low need satisfaction, those scoring between 2.5 and 3.4 were classified as having medium need satisfaction and those scoring 3.5 and above as having high need satisfaction. In the example given above the individual (score 3) would be placed in the second category (medium need satisfaction).

The same procedure was followed for classifying respondents into those, having low job satisfaction, medium,
Finalising the Schedule

At a very early stage in the pilot study, it became evident that certain statements were either ambiguous, or the respondents did not understand them properly. Secondly, it became apparent that certain statements in the schedule did not possess any discriminating potential and as such were flat statements.

Besides, the drawback mentioned above, the respondents themselves suggested changes in certain statements. Certain statements which the respondents made were so drastic and revealing that it became necessary to include them in the final schedule.

A second pilot survey was then conducted with a modified schedule.

The modifications in the schedule were done with a view to eliminating some of the drawbacks of the earlier schedule. Statements that were either ambiguous, or difficult to understand were replaced by simple statements (as suggested by some of the respondents) and made as unambiguous as possible. The "flat" statements were dropped completely from the schedule. Lastly, some of the statements suggested by the respondents for being included were incorporated in the modified schedule.
This schedule was then administered to the same respondents, who had been interviewed earlier (with the first schedule). Finally an item analysis of the statements was done and only those statements were included in the final schedule that had a high item to total correlation. (Appendix IV).

Another factor to be taken into account was, whether the Index of Need Satisfaction and the Index of Job Satisfaction were measuring need and job satisfaction respectively or were measuring the same thing. Even a cursory look at the schedule will reveal that the set of statements in the need satisfaction index are concerned with measuring the extent of need satisfaction in four areas - physical, security, social and ego needs, both in and outside the job situation.

The statements in the Index of Job Satisfaction are concerned with the individual's perception of the job in its totality, rather than the satisfaction of needs on the job. In an indirect manner the Index of Job Satisfaction attempts to measure the attitudes of the individuals towards their job as a whole. This indirect approach had to be followed because of the limitations of the schedule method of the collection of data (in the present study). It may be stressed once again that respondents could not be expected to state frankly, how
satisfied or dissatisfied they were with their jobs, in the absence of anonymity.

Another valid objection can be raised against the truthfulness of the responses of the respondents. The researcher was aware of the limitation of the tool being used, and the constraints within which he was working. It may be stated frankly, that guaranteeing the truthfulness of the responses is very difficult indeed. However, efforts were made to ensure that the respondents gave as far as possible their true feelings (or reactions) to the statements put before them. To a great extent "rapport" was established with the respondents intentionally. The two pilot studies conducted earlier were responsible for establishing this rapport. Workers, supervisors and Managers had become familiar with the investigator. The managers showed keen interest in the topic of the study once they were convinced that their replies would be kept strictly confidential. Deliberate efforts were made to establish rapport with the workers through their trade union leaders who were contacted for this purpose. In most of the cases workers were interviewed at their residence, so that they could talk freely. Their union leaders had assured them about the intentions of the investigator, and this definitely inspired confidence in them. While talking to the workers statements were presented to them in their mother tongue so that they understood it. An added
advantage was that the investigator being present on the situation was able to seek clarification and probe further regarding the truthfulness of the responses either directly or indirectly.

The Final Schedule

The number of statements in the final schedule were reduced as a result of item analysis. Only those statements were included in it that had a high item to total correlation (See Appendix V).

Table 2.2 gives the relevant details of the number of statements that were included in the original schedule (of the pilot study) and the final schedule, to measure the need satisfaction of respondents.

Table 2.2
Number of Statements Keyed to Each Need in the Original Schedule and Final Schedule, For Measuring the Need Satisfaction of Respondents.

<table>
<thead>
<tr>
<th>Need Area</th>
<th>Number of statements in the original schedule</th>
<th>Number of statements retained in the final schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical</td>
<td>14</td>
<td>9</td>
</tr>
<tr>
<td>Security</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Social</td>
<td>14</td>
<td>9</td>
</tr>
<tr>
<td>Ego</td>
<td>16</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>48</strong></td>
<td><strong>32</strong></td>
</tr>
</tbody>
</table>
Similarly, the Index Of Job Satisfaction had 18 statements in the first schedule, but only 14 statements were retained in the final schedule. The minimum score possible on this index was 14 and the maximum that one could score was 70.

The minimum and maximum scores for the need satisfaction index are being given in table 2.3 below:

Table 2.3
Minimum and Maximum Possible Scores on Each of the Four Need Areas, in the Final Schedule

<table>
<thead>
<tr>
<th>Need Area</th>
<th>Minimum possible score</th>
<th>Maximum possible score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical</td>
<td>9</td>
<td>45</td>
</tr>
<tr>
<td>Security</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>Social</td>
<td>9</td>
<td>45</td>
</tr>
<tr>
<td>Ego</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
<td>160</td>
</tr>
</tbody>
</table>

A word may be stated regarding the characteristics of the Index Of Job Satisfaction used for the purpose of this study.

There are normally two approaches to measuring job satisfaction. These approaches may be termed as the "global" approach and the "summation" approach. The global approach
is concerned with eliciting generalised, undifferentiated evaluations of the job or vocation, whereas the "summated" approach elicits the reactions or attitudes of the individual to specific aspects of the work situation which are then summated to obtain an overall index of liking or disliking.

The present study has adopted the global approach in measuring job satisfaction. This approach was preferred on the following grounds:

(1) It can be logically argued that job satisfaction is simply not the summation of likes and dislikes of specific aspects in the work situation. One may be dissatisfied with many aspects of the work situation and yet be satisfied with the job and vice versa.

(2) The global approach to the measurement of job satisfaction seems to be more rational. It measures the attitudes of the individuals towards their job as a whole. It forces the individual to give his reactions to the job in its totality (i.e. in a way it asks "all said and done, how satisfied are you with your job.") and these reactions are measured in a subtle manner, rather than asking the respondents to state the extent they are satisfied or dissatisfied with their jobs. Such a statement was avoided, as in the absence of anonymity and with the recession prevailing in the country as a whole, many persons might not have given a correct response to such a statement.

The respondents were first administered the Index Of
Need Satisfaction and the Index Of Job Satisfaction was administered later on.

The hypotheses generated for the purpose of the present study suggested that a stratified sample may be drawn from three levels of the organisational hierarchy, namely the managerial, supervisory and the worker level. The methodology followed for obtaining the sample has been discussed earlier under the heading "Units of Study".

At this stage it may be mentioned that the study was confined to male married employees only of six industrial units.* An explanation is perhaps needed for doing so. The selection of only male employees was based on the following considerations:

Firstly, the number of females employed in these manufacturing units was not large.

Secondly, it was difficult to interview females due to certain social and cultural factors. Females are reluctant to talk to a male interviewer alone either in the factory premises or at home. This was an important reason for confining the study to only male employees.

Thirdly, men are the primary bread winners in Indian

* These six units formed the universe of the study. The criteria for selecting them has been discussed earlier.
society. A job means much more to men, than to women. A man's status is governed to a large extent in our social set up, upon his ability to provide for his family. The attitude of the primary bread winners towards their work was considered more important than the secondary bread winners.

The above considerations were responsible for confining the study to only male employees.

The decision to include only male married employees also perhaps needs an explanation. The decision was arbitrary to a certain extent. However, the major consideration in doing so was the feeling that married men have to share greater burdens of life and have to make considerable efforts to satisfy their needs. This was likely to be associated with the satisfaction which they derive from their work. It may be mentioned here, that this is only a hunch of the researcher and may not be an empirical reality. Another reason for doing so was to limit the investigation to manageable limits.

The next step was to obtain a list of all the permanent employees working in these six industrial units, excluding the female employees and the unmarried persons. This list was personally prepared in certain cases from the employment registers maintained by these units. In other cases the management was cooperative to prepare the list and hand over the same to me. The total number of married employees as per the list so obtained was 1264 consisting of
managers, supervisors and workers.

The break up of three categories mentioned above was as shown in Table 2.4 below:

Table 2.4
Total Number of Permanent, Married Male Employees at Three Different Levels of Organisational Hierarchy in 6 Industrial Units.

<table>
<thead>
<tr>
<th>Total No. of</th>
<th>Total No. of</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>managers</td>
<td>supervisors</td>
<td>workers</td>
</tr>
<tr>
<td>62</td>
<td>73</td>
<td>1129</td>
</tr>
</tbody>
</table>

Since the number of managers and supervisory staff was very small, it was decided to include all of them as respondents in the present study. Out of 62 managers, eight could not be interviewed as the respondents did not wish to be interviewed.

A detailed unit-wise break up of Managers, Supervisors and workers is given below in Table 2.5:

Table 2.5
Category-wise Break up of Male Married Employees in Six Industrial Units (N=1264)

<table>
<thead>
<tr>
<th>Units</th>
<th>Number of married male managers</th>
<th>Number of married male supervisors</th>
<th>Number of married male workers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit A</td>
<td>7</td>
<td>5</td>
<td>23</td>
<td>35</td>
</tr>
<tr>
<td>Unit B</td>
<td>8</td>
<td>9</td>
<td>138</td>
<td>155</td>
</tr>
<tr>
<td>Unit C</td>
<td>9</td>
<td>13</td>
<td>151</td>
<td>173</td>
</tr>
<tr>
<td>Unit D</td>
<td>19</td>
<td>18</td>
<td>169</td>
<td>206</td>
</tr>
<tr>
<td>Unit E</td>
<td>13</td>
<td>17</td>
<td>256</td>
<td>286</td>
</tr>
<tr>
<td>Unit F</td>
<td>6</td>
<td>11</td>
<td>392</td>
<td>409</td>
</tr>
<tr>
<td>Total</td>
<td>62*</td>
<td>73</td>
<td>1129</td>
<td>1264</td>
</tr>
</tbody>
</table>

* Eight of these could not be interviewed and hence the total number of managers interviewed was 54.
The number of respondents that were to be interviewed in the present study was 300 representing three different levels of the organisational hierarchy - namely, the managers, the supervisors and the workers.

Since the number of managers and supervisors was rather small (54 and 73 respectively) it was decided to include all of them as respondents. No sampling was done for these categories of employees. A random sample was taken in the case of workers. From the list of Random Tables a list of 173 workers was taken out for the purpose of interviewing, thus taking 300 as the total number of respondents. The detailed break up of the number of workers that fell in each of the six industrial units, on the basis of random selection is given in Table 2.6.

<table>
<thead>
<tr>
<th>Unit</th>
<th>Total number married male workers</th>
<th>Number falling in sample</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit A</td>
<td>23</td>
<td>3</td>
<td>13.04</td>
</tr>
<tr>
<td>Unit B</td>
<td>138</td>
<td>21</td>
<td>15.21</td>
</tr>
<tr>
<td>Unit C</td>
<td>151</td>
<td>32</td>
<td>21.19</td>
</tr>
<tr>
<td>Unit D</td>
<td>169</td>
<td>21</td>
<td>12.42</td>
</tr>
<tr>
<td>Unit E</td>
<td>256</td>
<td>40</td>
<td>15.62</td>
</tr>
<tr>
<td>Unit F</td>
<td>392</td>
<td>56</td>
<td>14.28</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1129</strong></td>
<td><strong>173</strong></td>
<td><strong>15.32</strong></td>
</tr>
</tbody>
</table>
Before proceeding further, certain salient characteristics of the respondents may be mentioned here. The respondents were drawn from three different levels of the organisational hierarchy viz. the Managers, the Supervisors and the workers. They represented a heterogeneous mixture of different caste, education, income and age group and came from different parts of the country. Table 2.7 gives the mean age of respondents:

Table 2.7
Mean Age of the Three Categories of Respondents (in years)

<table>
<thead>
<tr>
<th></th>
<th>Managers (N=54)</th>
<th>Foremen (N=73)</th>
<th>Workers (N=173)</th>
<th>Total (N=300)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>37.11</td>
<td>34.17</td>
<td>32.46</td>
<td>33.71</td>
</tr>
</tbody>
</table>

There were wide variations in the salaries of the respondents, when compared with each other. Table 2.8 gives the relevant details about the salaries of the three groups of respondents.

Table 2.8
Mean Salary of the Respondents

<table>
<thead>
<tr>
<th></th>
<th>Managers (N=54)</th>
<th>Supervisors (N=73)</th>
<th>Workers (N=173)</th>
<th>Total (N=300)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salary</td>
<td>Rs.1442.22</td>
<td>Rs.618.52</td>
<td>Rs.276.50</td>
<td>Rs.569.55</td>
</tr>
</tbody>
</table>
The education of the respondents varied from illiterates to Post-graduates with professional qualifications. To start with 10 educational categories were prepared. They were as follows:

(1) Illiterate
(2) Below Middle
(3) Middle
(4) Middle with vocational training (such as I.T.I.)
(5) Matric
(6) Matric with Vocational Training Course.
(7) Intermediate and Intermediate with Vocational training and graduates.
(8) Graduates with professional training.
(9) Post-graduates.
and (10) Post-graduates with professional training.

Keeping in view the nature of our respondents and for practical reasons these ten educational categories were clubbed into four groups. They were:

(1) Illiterates.
(2) Categories 2, 3 and 4 were clubbed together to form a single group.
(3) Categories 5 and 6 were clubbed together i.e. those who had studied upto Matric and included those who have had some vocational training course as well.
(4) Categories 7, 8, 9 and 10 were clubbed together to form a single group. The criterion being that all of the
above respondents had been exposed to a certain extent to college education.

Table 2.9 below gives a detailed break-up of the education of the respondents according to the clubbed educational categories described above.

<table>
<thead>
<tr>
<th>Educational Category</th>
<th>Managers (N=54)</th>
<th>Foremen (N=73)</th>
<th>Workers (N=173)</th>
<th>Total (N=300)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Illiterates</td>
<td>3</td>
<td>3</td>
<td>37</td>
<td>40</td>
</tr>
<tr>
<td>2. Below Middle + Middle + Middle with Vocational course</td>
<td>3</td>
<td>6</td>
<td>81</td>
<td>90</td>
</tr>
<tr>
<td>3. Matric + Matric with Professional Course</td>
<td>6</td>
<td>48</td>
<td>48</td>
<td>102</td>
</tr>
<tr>
<td>4. Beyond Matric</td>
<td>45</td>
<td>16</td>
<td>7</td>
<td>68</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>54</strong></td>
<td><strong>73</strong></td>
<td><strong>173</strong></td>
<td><strong>300</strong></td>
</tr>
</tbody>
</table>

The respondents in the present study came from different states of India, as is revealed by Table 2.10. For this purpose the country was divided into 4 zones.

Zone 1, comprised of Chandigarh, Himachal Pradesh, Haryana, Punjab, and Jammu and Kashmir.
Zone 2, comprised of West Bengal, Delhi, Rajasthan, Andhra Pradesh, Madhya Pradesh and Uttar Pradesh.

Zone 3, comprised of Tamil Nadu, Kerala and Mysore, and Zone 4 comprised of rest of India.

**Table 2.10**
State of origin of respondents

<table>
<thead>
<tr>
<th>S. No.</th>
<th>State of origin</th>
<th>Managers (N=54)</th>
<th>Foremen (N=73)</th>
<th>Workers (N=173)</th>
<th>Total (N=300)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Chandigarh, Punjab, Haryana, Jammu &amp; Kashmir and Himachal Pradesh.</td>
<td>30</td>
<td>60</td>
<td>122</td>
<td>212</td>
</tr>
<tr>
<td>2.</td>
<td>West Bengal, Uttar Pradesh, Delhi, Rajasthan, Madhya Pradesh and Andhra Pradesh.</td>
<td>11</td>
<td>7</td>
<td>47</td>
<td>65</td>
</tr>
<tr>
<td>3.</td>
<td>Tamil Nadu, Kerala and Mysore.</td>
<td>6</td>
<td>2</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>4.</td>
<td>Rest of States</td>
<td>7</td>
<td>4</td>
<td>-</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>54</strong></td>
<td><strong>73</strong></td>
<td><strong>173</strong></td>
<td><strong>300</strong></td>
</tr>
</tbody>
</table>

A rather difficult problem that was faced by the investigator was that of occupational classification of the respondents' fathers. The number of jobs within an occupation are many, and to make a representative category that would have included most of the jobs that were being performed by the respondents' fathers was a difficult job.
indeed. However, this problem was solved by adopting the procedure followed by D’Souza. His classification of occupations according to the prestige they enjoy is a useful method. The same method has been employed in the present study.

D’Souza had earlier conducted a study of social grading of occupations in 1959. His intention, therefore, was to classify the occupations in Chandigarh into seven prestige categories by comparing them with prestige categories derived from Bombay Study. To make his Chandigarh study more objective, he conducted another smaller investigation and prepared a list of 147 occupations (excluding the 30 occupations already graded in his Bombay Study). This list consisted of most of the important urban occupations in India including occupations in Chandigarh. A purposive sample of judges had then classified each of the occupations in the list in any one of the seven prestige categories of occupations of the Bombay Study. It was found that most of them were in agreement with occupational classification of Bombay Study, as well as in classifying occupations from the new list into the seven prestige categories. D’Souza had thus made seven

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categories of occupations based on their prestige.

Keeping in view the nature of respondents in the present study, the seven occupational categories were further reduced to four. This was done as follows:

Prestige categories I and II of the Chandigarh study were combined to form category I of the present study, as the subtle differences made in the Chandigarh study were not necessary for the purpose of this study.

Similarly prestige category III and IV of the Chandigarh study were combined to form category II of the present study.

Category V of Chandigarh study is maintained more or less in the same manner in the present study and forms category III of the present study.

Lastly, categories VI and VII of D'Souza's study were combined to form Category IV of the present study.

It may be mentioned here that certain occupations which had not figured in Chandigarh study have also been included in the present study based on the nature of work, its social and economic conditions and their social prestige.

The final occupational gradings for the purpose of the

The present study were as follows:

**Occupational Category I:**

Doctors, Engineers, Lawyers, Professors in University and Colleges, Army officers, Government officers, Executives in big firms, Factory Managers, Judges, Editors, Big Businessmen or owners of factories, owners of large-scale mechanised farms or poultries, large contractors.

**Occupational Category II:**

Office Superintendents, Charge hands, Foremen, School and Intermediate college teachers, Hakims, Vaids, Salesmen in big firms, small farms and poultry owners, security supervisors, small contractors, Matron or Nursing supervisors.

**Occupational Category III:**

Machine operators, Skilled workers, Clerks, Guards, Drivers, Firemen, Vegetable vendors, J.B.T. Teachers, Setters, Moulders in factories.

**Occupational Category IV:**

Unskilled workers, Helpers, Peons, Night watchmen, farm workers, Shoe repairers, Bhisti, General maintenance workers, Casual labourers, Sweepers, Porter and Coolie.

In conclusion it may be stated that this chapter was concerned with the following:
(1) Developing a tool of measurement.
(2) Defining terms and concepts used in the present study.
(3) The criteria used for selecting
   (a) Units of investigation
   (b) the respondents.
(4) The nature of statistical analysis of the data that is intended to be done and the rationale for it.
(5) Description of some of the characteristics of the respondents.