from four pay points in Ibadan. The results showed that health, finance
children., religion, leisure and social support as a block, contributed
positively and significantly to the prediction of life satisfaction
among the subjects. Chadha and Gregory (2004) attempted to
understand the motives underlying participation in physical activity by
older adults and describe its relationship to intergenerational issues.
The study involved 123 older Asian Indian adults (76 males and 47
females) who were taking part in regular physical activity or exercise
at least once a week. Participants completed the Participation
motivation Questionnaire for older Adults to assess the motives for
their participation in physical activity. Nine motives were identified
which contained loadings on the family and social (outdoor) front. The
results showed that the motives for physical activity could be used as
intervention strategies to strengthen intergenerational relationships.
Chapter-3

Research Methods and Procedures
In the present chapter, the sample, the design, methods and procedures of the study have been discussed with regard to the following heads -

a. Sample
b. Design and variables involved
c. The tools used
d. The collection of data
e. The statistical technique used

a) Sample

In the present study 300 elders (age 51-60 years) and 300 senior elders (age 61-70 years) of ORAI city selected in the sample. The 300 male and 300 female elders selected through stratified random sampling technique. Elders in the range of middle low socio-economic status class were included in the sample. A schematic breakup of the sample is shown below-

600 Total Elders

300 Male elders (51-60 years)   300 Female Edlers (61-70 years)

150 Male elders   150 Female elders   150 Senior Male elders   150 Senior Female elders
b. **Design and Variables Involved**

The present study is an exploratory nature in which the independent variables have already occured and research starts with the observations of dependent variables. The independent variables are studied in respect of their possible relation that effect on dependent variable. An ex-post-facto research design was considered suitable for the present study.

There are two types of variables in the present study-

I) **Independent Variable**-

Gender (Male & Female)

Types of Elders (Elders & Senior Elders)

Adjustment (Good, Average & Poor)

Stress as different psychological states

(High, Average & low)

Coping Strategies (Good, Average & Poor)

II) **Dependent Variable**

Attitude Towards Ageing

It was desirable that other critically relevant variables would be adequately controlled. In this context family size and its composition, socio-economic status and health status are some crucial variables.
c. The Tools used

The following tools were used in the present study

i) Shamshad-Jasbir Old Age Adjustment Inventory

   By Shamshad Hussain & Jasbir Kaur

ii) Eight State Questionnaire

   By Curran & Cattel and Others

(iii) Attitude Towards Ageing Scale

   By Dr. Taresh Bhatia & Dr. Prabhaker Rai

(iv) Coping Styles Scale

   By Dr. Taresh Bhatia & Dhiraj Gupta

The detailed description of the tools used in the present study has been given below-

i) Shamshad-Jasbir Old Age Adjustment Inventory

   The old age adjustment Inventory was developed on a sample of old-aged male and female population of Bihar of 50-65 years of age belonging to different categories: those on the verge of retirement, already retired and those who are in active service. The method of sampling was purposive-cum-stratified. The size of the sample, however, differed from one step to another during standardization procedure. The sampling scheme was as follows:
Item Analysis    Reliability    Validity    Norm construction
N=375            N=100           N=100           N=100

Firstly, the main problem areas of adjustment of old age people were identified by consulting literatures, experts and also by interviewing the old age people. The main source of information was interview. Persons of varying age group between 50 and 65 years were interviewed by the researchers in order to locate their adjustment problems. For this purpose the group was divided into different categories. This step was taken because it is well recognised that even amidst old age people the problems of adjustment may not be the same. They may differ in terms of their direction and intensity both.

**Item Analysis**

After the problems of old age adjustment were located the steps were taken to prepare a list of questions/statements pertaining to old age problems. Initially 200 items were collected having direct or indirect relevance to old-age adjustment problems. These items were first rated in terms of their structure and content by experts consisting of University Professors of Psychology and Sociology. In the process of initial analysis 66 items were eliminated leaving only 134 items for further scientific analysis. After the items were analyzed and rated in terms of their
relevance for measuring old age adjustment problems, they were administered to a group of old aged persons (N=375). The investigators visited different places where old aged people resided in Patna and its neighbouring localities. After the inventory was administered to the sample (N=375) the items were analyzed scientifically in terms of the meaning they conveyed, the clarity with which they conveyed the meaning and also in terms of their discriminating power. The need for analyzing the difficulty value of the items was not felt because it is generally done in the case of ability test. The present research tool was a personality test and hence, the main purpose was to evaluate it in terms of its discriminating power. This has been well emphasized by many researchers. The Kelly’s method was applied by using the two extreme groups (27% top and 27% bottom). The items were analyzed by adopting chi-square technique. Only those items were retained which significantly differentiated between the high and low adjusted groups, categorized on chi-square value being significant at least at the 0.05 level of confidence, were retained. At this stage the total number of items represented six areas of adjustment: Health, home, social, marital, emotional and financial. The items relating to health, home, social, marital, emotional and financial adjustment have been designated by letters क, ख, ग, घ.
\( \text{र, स, respectively in the Inventory. The area wise distribution of items are as follows:} \)

<table>
<thead>
<tr>
<th>No. of Items</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>26</td>
</tr>
<tr>
<td>Home</td>
<td>25</td>
</tr>
<tr>
<td>Social</td>
<td>21</td>
</tr>
<tr>
<td>Marital</td>
<td>17</td>
</tr>
<tr>
<td>Emotional</td>
<td>21</td>
</tr>
<tr>
<td>Financial</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td>125</td>
</tr>
</tbody>
</table>

The items of different areas of adjustment were also analyzed in terms of inter-correlations, to ascertain whether six areas selected to structure the inventory were unrelated.

**Reliability of the Test**

After the items were analyzed the next step, adopted by the investigators, was to find out their reliability, in absence of which a psychometric tool carries little meaning. The two modes of reliability co-efficients (odd-even and test-retest) were calculated on a sample of 100 cases. In case of test-retest reliability the same test was administered to the same group at the interval of three weeks. The correlation co-efficient was calculated between the two sets of scores. The split-half (odd-even) and test-retest
reliabilities of the test (area-wise and over all adjustment scores) have been presented in Tables 3.01 and 3.02

Table 3.01
Odd-even Co-efficient Correlation of Old-age Adjustment

<table>
<thead>
<tr>
<th>Area of Adjustment</th>
<th>Half-Test Reliability</th>
<th>Full Test Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>0.77</td>
<td>0.81</td>
</tr>
<tr>
<td>Home</td>
<td>0.63</td>
<td>0.77</td>
</tr>
<tr>
<td>Social</td>
<td>0.60</td>
<td>0.75</td>
</tr>
<tr>
<td>Marital</td>
<td>0.69</td>
<td>0.82</td>
</tr>
<tr>
<td>Emotional</td>
<td>0.45</td>
<td>0.62</td>
</tr>
<tr>
<td>Financial</td>
<td>0.46</td>
<td>0.63</td>
</tr>
<tr>
<td>Total</td>
<td>0.83</td>
<td>0.91</td>
</tr>
</tbody>
</table>

Table 3.02
Test-Retest Coefficient Correlation of Old Age Adjustment

<table>
<thead>
<tr>
<th>Area of Adjustment</th>
<th>Coefficient of correlations</th>
<th>Full Test Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>0.96</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Home</td>
<td>0.93</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Social</td>
<td>0.94</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Marital</td>
<td>0.95</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Emotional</td>
<td>0.92</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Financial</td>
<td>0.91</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Total</td>
<td>0.93</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>
Froehlech and Hoyt (1959) recommend that a test is reliable if its reliability-coefficient is around 0.80 or higher.

On the basis of the coefficient of correlation reported in Table 3.01 and 3.02, it can be said that the present instrument reliable.

**Validation Procedure**

After reliability was found out the step was taken up to assess the validity of the test which refers to whether the test measures that aspect for the measurement of which it has been constructed. The present test was validated on a sample of hundred cases by using the construct validation procedure (convergent validation technique). The adjustment inventory was validated against the scores on self-concept, ego-strength and anxiety scale by applying product moment correlation. This step was taken under the presumption that the higher the adjustment the better the self-concept, the higher the ego strength, the lesser the anxiety.

Two of these assumptions have been supported in the present findings. For measuring the three variables the tests used were: Mohsin’s self-concept scale, Hasan’s Ego strength scale and Sinha anxiety scale. The overall adjustment scores were taken for the purpose of validation. The findings have been
presented in Table 3.03

<table>
<thead>
<tr>
<th>Adjustment</th>
<th>Self-Concept</th>
<th>Ego Strength</th>
<th>Anxiety Scores</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>0.64</td>
<td>0.32</td>
<td>0.51</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Home</td>
<td>0.70</td>
<td>0.64</td>
<td>0.69</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Social</td>
<td>0.70</td>
<td>0.61</td>
<td>0.74</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Marital</td>
<td>0.65</td>
<td>0.67</td>
<td>0.68</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Emotional</td>
<td>0.54</td>
<td>0.51</td>
<td>0.58</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Financial</td>
<td>0.62</td>
<td>0.58</td>
<td>0.63</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Total Scores</td>
<td>0.85</td>
<td>0.72</td>
<td>0.84</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>

The findings of Table 3.03 are supportive of the fact that on the whole scores on adjustment are positively correlated with the scores on self-concept, Ego-strength and Anxiety. The ‘r’ values are significant at 0.01 level of confidence in all the cases.

The adjustment inventory was also validated against self-concept, Ego strength and Anxiety by comparing the mean scores of the high and low adjusted group (dichotomized on the basis of median) on three variables. The findings are presented in Table 3.04
Table 3.04
Comparison Between Mean Values of High and Low Groups

<table>
<thead>
<tr>
<th>Variables</th>
<th>Group</th>
<th>Mean Value</th>
<th>‘t’ value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Concept</td>
<td>High</td>
<td>38.33</td>
<td>9.34</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>28.53</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Ego- Strength</td>
<td>High</td>
<td>24.82</td>
<td>7.36</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>20.37</td>
<td>&lt;0.1</td>
</tr>
<tr>
<td>Anxiety</td>
<td>High</td>
<td>82.04</td>
<td>9.50</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>41.71</td>
<td>&lt;0.1</td>
</tr>
</tbody>
</table>

The study of the findings of Table 3.04 indicate that the greater the adjustment the better the self-concept, the higher the ego-strength. The findings have thus supported the presumptions for construct validity in general.

However, something contrary is observed in the case of adjustment and anxiety. The high adjusted group has greater anxiety as compared to its low counterpart which is contrary to the assumption. The correlational findings also support this trend. The probable reason is that the individuals having greater anxiety may try to defend the threat by exposing themselves to be better adjusted. Such people do not want to exhibit their anxiety as it would generate anxiety still further. However, this aspect of validation is to be further investigated.
The studies of Khan (1989) and Ali (1975) support the present findings in respect of the whole, it is gathered that the newly developed adjustment inventory has high validity.

Development of Norms

After the test was validated, the percentile norms were developed because of their practicability and ease. Percentile scores represent the percentage of persons on the standardization sample, which fall below on a given raw score and provides a direct statement of individuals' relative position in the standardization sample. The normative sample consisted of 150 male subjects who were service and business and 140 males who were retired form active service 75 female subjects being on service and 100 female subjects being retired from service and also the housewives, were selected as sample for developing norms. In short, the norms were developed separately for male and female subjects of the age group of 50 to 65 years of different categories.

Procedures for Administration and Scoring

Instructions for answering the items measuring adjustment are given on the front cover of the test booklet. Although no time limit is imposed the respondents are instructed to finish the test quickly as they can. The respondents are also asked to fill in
the necessary information relating to their personal background factors before they take up the actual task. They have to open the booklet and start responding only when they are instructed to do so by the test administrator. The test can be administered to an individual or to a small group at a time.

**Scoring Procedure**

The responses given by the testees are to be scored with the help of scoring key. The keyed response is to be assigned one score. The keyed response is somewhere in terms of 'yes' and somewhere in the form of 'No.' Response to the undecided category is not to be given any score. One score is to be given to the response in the direction of adjustment and 0 (Zero) to the response in the direction of maladjustment. Hence the higher score indicates better adjustment. The responses are scored area-wise. The sum of scores in different areas provide measure of overall adjustment.

(ii) **Eight State Questionnaire (8SQ)**

The Eight State Questionnaire (8SQ) was designed specifically for measuring eight important emotional states and moods (Cattell, 1972, Barton, Cattell & Conner, 1972; Barton, Cattell & Curran, 1973. The theoretical importance of measuring emotional states lies in the fact that any prediction of how a person will
act or how he will perform depends as much on his usual trait. An alert individual of average intelligence may perform better on an intellectual task than a tired genius. The practical importance of good state measures is evident in such areas as drug research, studies of morale evaluation of classroom conditions, direction course of therapy, etc.

Both forms of the 8SQ contain 96 items, 12 of which measure each. The test may be administered individually or in a group. The test was constructed to be used with adults and adolescents of approximately 16 years of age or educational level, it uses “newspaper” English and demands about an eighth-grade reading comprehension level. It is not designed, as yet, for really low educational levels or sub-groups unassimilated into the American culture. On the other hand a deliberate choice of language has been observed to make the test equally appropriate for various English-speaking groups such as the British and Australians.

Applicability and Scope

The purpose of the 8SQ is to present a multi-state battery of the widest spectrum possible at the present state of research. In many types of situations, it is desirable, first, to explore reaction over a sampling of mood states. Then after this initial “
mapping out,” the test user may wish to concentrate on just one state, for example, the one that proves to be most affected. However, prematurely restricting observation to a single state on the basis of what is expected to be relevant, may hide other important relationships.

The development of the 8SQ, from 1968 to its present form, was coordinated by Curran and Cattell, although many others assisted in the research development. The present forms are based on the results of over ten separate factor-analytic studies (Cattell, Cattell, & Rhymer, 1947; Cattell & Luborsky, 1950; Cattell & Williams, 1953; Cattell & Scheier, 1961; Van Egeren, 1963; Cattell, 1973). A large item pool was generated and numerous item analyses were conducted in order to select maximally valid items. This research continues and refinement of some of the test items would not be unexpected in the course of time.

A brief Description of the Eight Psychological States Contained in the 8SQ

Most human mood states are complex, if there were just two states, scores could be plotted as a single point against x and y coordinates to show just what the mixture is for any individual at any point in time. However coordinated factor
analyses have repeatedly shown that substantially more than two distinct states can be found in questionnaire responses. The 8SQ has been designed to include the best defined eight among them.

<table>
<thead>
<tr>
<th>Scale</th>
<th>Examinee Describes Self As</th>
<th>Behavioral correlates in objective test domain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety</td>
<td>worried, easily rattled, tense, emotionally upset, angered, high strung, easily annoyed</td>
<td>moro common frailities admitted, greater tending to agree, less confident of skill in untried performance, newer questionable reading preferences, higher susceptibility to embarrassment, lower accuracy in checking numbers.</td>
</tr>
<tr>
<td>Stress</td>
<td>feeling a lot of pressure, unable to take time off and relax, constantly on the go, feeling hectic, experiencing great strain, unhappy with own performance, experiencing lots of demands.</td>
<td>low motor perceptual rigidity, better at memorizing meaningless material, high ratio of threatening objects seen in unstructured drawings</td>
</tr>
</tbody>
</table>
Depression

unhappy, disagreeable,
pessimistic, in poor
spirits, disappointed
poorer at memorizing
meaningful material,
low ratio of fluency
regarding self relative
to other topics

Regression

confused, unorganized,
unable to concentrate,
experiencing difficulty
coping, acting impulsively
greater suggestibility,
lower ratio of accuracy to speed, lower
accuracy in spatial
judgment, poorer two
hand coordination,
higher score on neurotic symptom check-
list, lower speed of
Gestalt closure

Fatigue

exhausted, no energy,
sluggish, tired, needing
rest, weary, below
par in performance
greater variability in
accuracy, rapid reversible perspective

Guilt

regretful, concerned
about own misdeeds,
experiencing difficulties
sleeping, unkind,
dissatisfied with self

**Extroversion**
sociable, outgoing, adventurous, talkative, enthusiastic
greater number of objects perceived in unstructured drawings, less tendency to agree, less authority submission, more confident assumption of skill untried performance

**Arousal**
alert, keyed up, excited, stimulated, keen and sharp senses

**DESCRIPTION OF THE STATES MEASURED BY THE 8SQ**

**Directions for Administration**

The 8SQ can be administered to an individual or to a group. The simple and clear instructions printed on the cover page of the test booklet make the 8SQ virtually self-administering. After the examinee has read the instructions, the administrator should answer any questions that may arise. The administrators should also reinforce the state quality of the test by the comment, “Remember you are being asked to make the answer that tells best how you feel now, at this moment”.

(137)
Answer should be marked on the separate answer sheet and not in the reusable test booklet, except when an examinee is confused by the answer sheet. The examiner should make certain that the examinee fills in necessary identification information and understands how to use the answer sheet.

If the examiner occasionally considers it desirable to read the instructions aloud with the examinee and discuss certain points in order to be sure the examinee understands what is required, this practice is permissible. In each situation the examiner must be the judge of the best way to get the instructions across to the examinee.

Although there is no time limit, it is convenient to have certain expectations. The average time for completion is 20-25 minutes for one form. About 20% of the examinees can finish in less than 20 minutes, while about 20% of the examinees will take more than 25 minutes. The examiner may encourage those who appear to be working too slowly to increase their pace.

**Scoring and use of norm tables**

Each question on the 8SQ has four options and is scored either 0, 1, 2 or 3. The score of each item contributes to only one factor total. Since there are 12 items per state on each form, the highest possible raw score per form is 36 (for the two forms,
72). Answer sheets can be either hand scored with a stencil key or machine scored.

Hand scoring is accomplished easily and rapidly with a key. The same key is used with both forms of the test. The answers appear as pencil marks in the boxes on the given answer sheet. Simply fit the key over the answer sheet and count the marks visible through the holes for each factor, allowing either a 3, 2, or 1 as indicated by the number printed above the hole. Add these scores and enter the total in the space indicated at the bottom of the sheet.

Reliability

The reliability in terms of a stability coefficient, i.e., after a lapse of a considerable time period, on the other hand, should not be so high as for a trait measure. Indeed, if the test measures pure state, and if research should show that people do not differ in their mean state levels, this “reliability” should be zero. Table 3.05 shows the results from retesting a group of undergraduates after a week. It is evident that there is some probability that everyone does not start from the same mean position in their swings of mood, at least on such states as extroversion, guilt depression, and regression. That is to say, there are slight constant and stable differences among people on their mean state
level. This creates a special problem for standardization.

Table 3.05

Stability Coefficients for the 8SQ : Retest After One Week

<table>
<thead>
<tr>
<th></th>
<th>Form A</th>
<th>Form B</th>
<th>Form A+B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety</td>
<td>0.31</td>
<td>0.29</td>
<td>0.59</td>
</tr>
<tr>
<td>Stress</td>
<td>0.32</td>
<td>0.29</td>
<td>0.56</td>
</tr>
<tr>
<td>Depression</td>
<td>0.48</td>
<td>0.22</td>
<td>0.60</td>
</tr>
<tr>
<td>Regression</td>
<td>0.44</td>
<td>0.34</td>
<td>0.62</td>
</tr>
<tr>
<td>Fatigue</td>
<td>0.26</td>
<td>0.18</td>
<td>0.55</td>
</tr>
<tr>
<td>Guilt</td>
<td>0.36</td>
<td>0.32</td>
<td>0.59</td>
</tr>
<tr>
<td>Extroversion</td>
<td>0.42</td>
<td>0.38</td>
<td>0.62</td>
</tr>
<tr>
<td>Arousal</td>
<td>0.31</td>
<td>0.19</td>
<td>0.53</td>
</tr>
</tbody>
</table>

N= 129 male and (Female undergraduates)

Validity

Validity in the case of a state scale has its most precise meaning as concept validity. This means the correlation of the scale score with the pure factor constituting the concept (e.g., anxiety, arousal, etc.) the scale was intended to measure.

The concept validities, which come from the basic factor-analytic research and constitute the real proof that the scales are measuring underlying factorial dimensions, are shown in table 3.06. These values are taken from the factor structure matrix

(140)
which gives the direct correlation between the scale and the factor.

Table 3.06

Concept Validities of the 8SQ Scales

<table>
<thead>
<tr>
<th></th>
<th>Form A</th>
<th>Form B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety</td>
<td>0.62</td>
<td>0.58</td>
</tr>
<tr>
<td>Stress</td>
<td>0.86</td>
<td>0.47</td>
</tr>
<tr>
<td>Depression</td>
<td>0.58</td>
<td>0.90</td>
</tr>
<tr>
<td>Regression</td>
<td>0.55</td>
<td>0.96</td>
</tr>
<tr>
<td>Fatigue</td>
<td>0.90</td>
<td>0.84</td>
</tr>
<tr>
<td>Guilt</td>
<td>0.48</td>
<td>0.40</td>
</tr>
<tr>
<td>Extraversion</td>
<td>0.92</td>
<td>0.67</td>
</tr>
<tr>
<td>Arousal</td>
<td>0.84</td>
<td>0.72</td>
</tr>
</tbody>
</table>

N= 235 Air Force Enlisted Men

Scoring Pattern for the Eight State Questionnaire, Form A and B

Each item is scored 3, 2, 1, or 0. The high scoring direction is indicated by the letter a or d. If the letter is a, the a response is scored 3, the b response is scored 2, and the c response is scored 1. If the letter is a d, the d response is scored 3, the c response is scored 2, and the b response is scored 1.
<table>
<thead>
<tr>
<th>Scale</th>
<th>Form A or Form B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety</td>
<td>1d; 9a; 17d; 25d; 33a; 41d; 49a; 57a; 65d; 73d; 81a; 89a;</td>
</tr>
<tr>
<td>Stress</td>
<td>2a; 10d; 18a; 26a; 34d; 42d; 50a; 58d; 66a; 74a; 82d; 90d;</td>
</tr>
<tr>
<td>Depression</td>
<td>3d; 11a; 19a; 27d; 35d; 43a; 51a; 59a; 67d; 75d; 83a; 91d</td>
</tr>
<tr>
<td>Regression</td>
<td>4d; 12d; 20d; 28a; 36d; 44a; 52d; 60a; 68a; 76a; 84d; 92a</td>
</tr>
<tr>
<td>Fatigue</td>
<td>5a; 13d; 21a; 29d; 37d; 45a; 53a; 61d; 69d; 77a; 85d; 93a</td>
</tr>
<tr>
<td>Guilt</td>
<td>6a; 14d; 22a; 30a; 38d; 46a; 54a; 62d; 70a; 78d; 86d; 94d;</td>
</tr>
<tr>
<td>Extroversion</td>
<td>7d; 15a; 23a; 31a; 39a; 47d; 55d; 63d; 71d; 79d; 87a; 95a</td>
</tr>
<tr>
<td>Arousal</td>
<td>8a; 16a; 24d; 32d; 40d; 48a; 56a; 64a; 72d; 80d; 88a; 96d</td>
</tr>
</tbody>
</table>

iii) **Attitude Towards Ageing Scale**

The present scale is developed by Dr. Taresh Bhatia and Dr. Prabhaker Rai. The present scale has been developed to measure attitude towards ageing. It was decided to write 65 items for the scale. The material of the items were collected by books, tests
and other relevant literature. Then, for the purpose of item-analysis, the scale was administered to the subjects of different age groups both male & female. The top 27 percent and lower 27 percent were selected for item analysis. The Critical ratio was applied to find out the discriminative value of each item. All the items were then arranged in descending order according to their critical ratio values. The first 35 items with largest discriminative values were selected and others were rejected. Thus the final scale of 35 items is named as attitude towards ageing scale.

Reliability

The co-efficient of reliability was determined by test-retest method. The test was administered twice with a time interval of 30 days to a sample of 250 subjects. The test-retest reliability coefficient of the scale was found 0.89.

Validity

The validity of the scale was established with the help of content validity on the basis of internal consistency.

Administration

It is a self administrating scale. There is no time limit for answering it. However most of the groups should finish it in about 10 minutes. It should be emphasized that there is no right or wrong answer to the statement.
Scoring

It is a five point scale, the scoring of which has been objectified by assigning five to one scores respectively for five alternatives of the positive items, rated strongly agree to strongly disagree. For the negative items the score assigned to each of alternative have been reversed. They range from one to five for five alternatives.

The following table shows item distribution

<table>
<thead>
<tr>
<th>Positive Items</th>
<th>Negative Items</th>
<th>Total Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2,3,4,5,7,8,10,11,12,14</td>
<td>6,9,13,17,22,31</td>
<td></td>
</tr>
<tr>
<td>15,16,18,19,20,21,23,24,25,</td>
<td></td>
<td>35</td>
</tr>
<tr>
<td>26,27,28,29,30,32,33,34,35</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Items 29</strong></td>
<td><strong>06</strong></td>
<td><strong>35</strong></td>
</tr>
</tbody>
</table>

iv) Coping Styles Scale

The present scale is developed by Dr. Taresh Bhatia and the researcher Dhiraj Gupta. Mc Grath (1970) has viewed coping as the covert and overt behaviour by which the organism actively prevents, removes or circumvents stress inducing circumstances. Schregardus (1976) proposed two major styles of coping namely repression and sensitization. He also found that patterns of defensive style were related to the perception and experiences of stress and to subsequent patterns of coping and adjustment.
Development of The Scale.

First the initial pool of 38 items were selected for the scale. Then, for the purpose of item-analysis, the scale was administered to the subjects of 200 male & female of different age groups. Item analysis was done with the help of the method between two extreme upper and lower groups. Discriminative values were computed for item selection and applying critical ratio for each items. All the statements were than arranged in descending order of their critical ratio values. Out of 38 items, the first 22 items were selected for the final form of the scale.

Reliability

The test-retest reliability was determined by administrating the test after four weeks and found 0.74 reliability coefficient.

Validity

The validity of the scale was determined with the help of content validity on the basis of internal consistency.

Scoring

It is a five point scale, the scoring has been objectified by assigning five to one scores respectively for five alternatives of the positive items rated strongly agree to strongly disagree as following-
5  4  3  2  1
Strongly Agree  Agree  Uncertain  Disagree  Strongly Disagree

For the negative items the scores assigned to each of the alternatives have been reversed. They range from one to five for five alternatives as following

1  2  3  4  5
Strongly Agree  Agree  Uncertain  Disagree  Strongly Disagree

Item No. 6,7, 8, 11, 13,14, 16, 18 (Total 8 items) are the negative items, rest are positive items.

d. The collection of Data

Administration of psychological tests is a technical process. It needs a clear grasp of the process and its various facts. The respondees need suitable motivation to take up the test in right earnest and express their real feelings in a frank and straightforward manner. The administrator needs to earn the confidence of the respondees and has to satisfy them for the worth utility of the administration to them and to others through them.

The subjects of the present study were selected from prescribed population. The selected elders were administered four tests and requested to answer the questions sincerely and truthfully. They were assured that the responses would be kept confidential.
e) **The Statistical Technique Used**

The first purpose of the present study was to compare the attitude towards ageing between male and female, between elders & senior elders, among good, average & poor adjusted elders, among different psychological states and among good, average & poor coping strategies related elders. The mean and standard deviation of each group were calculated.

The comparison between different groups were made on the basis of critical ratio with 0.05 and 0.01 levels of confidence considered significant. Hypothesis from 1 to 5 were tested by applying critical ratio.

Another purpose of the present study was to find out the effect of gender (male & female), types of elders (eleders & senior elders), adjustment (good, average & poor), coping strategies (good, average & poor) and different psychological states (high, average & poor) on attitude towards ageing, for this purpose analysis of variance was calculated.