Chapter 2 - Method

Overview: The present chapter includes research objectives and design. The research was carried out in two Phases. In Phase I (Quantitative design), the hypotheses conjectured based on the past research in the field, and the variables used in the research are depicted. The sample description, tools used to assess psychological and physical health parameters are further explained in detail.

The Phase II (Qualitative design) was carried out in two parts- Semi-structured interview and the Interaction with institutionalised elderly. The sample description, the Probes used in the semi-structured interview and the procedure are elaborated in this chapter. In the context of Pandemic, insights gained through the Interaction with institutionalised elderly are listed.

Thus, the research was conducted with the following objectives:

2.1 Objectives of the Research:

1. To study the relationship between generativity, resilience, mindfulness and physical health and subjective wellbeing among young elderly

2. To examine the effect of generativity, resilience, mindfulness on physical health and subjective wellbeing among young elderly

3. To examine how nutrition will mediate the relationship of generativity, resilience and mindfulness with physical health and subjective wellbeing of the young elderly

4. To find out how exercise will mediate the relationship of generativity, resilience and mindfulness with physical health and subjective wellbeing of the young elderly

5. To understand how engagement in spiritual practices will mediate the relationship of generativity, resilience and mindfulness with physical health and subjective wellbeing of the young elderly

6. To understand physical health and subjective wellbeing among institutionalized and non-institutionalized young elderly

7. To study whether type of family, pursuing hobbies and engagement in social activities affect generativity, mindfulness and resilience, physical health, and subjective wellbeing of the young elderly

8. To investigate whether gender, socio-economic status, educational status and working status will affect physical health and subjective wellbeing among young elderly

9. To understand the perception of physical health and happiness of young elderly

10. To explore the sources of life satisfaction among young elderly

11. To find out strategies used by the young elderly to face challenges in life

12. To understand the contexts in which young elderly help others / young generation

13. To explore the level of present preparedness among young elderly

To attain the objectives, following research design was used in the study.
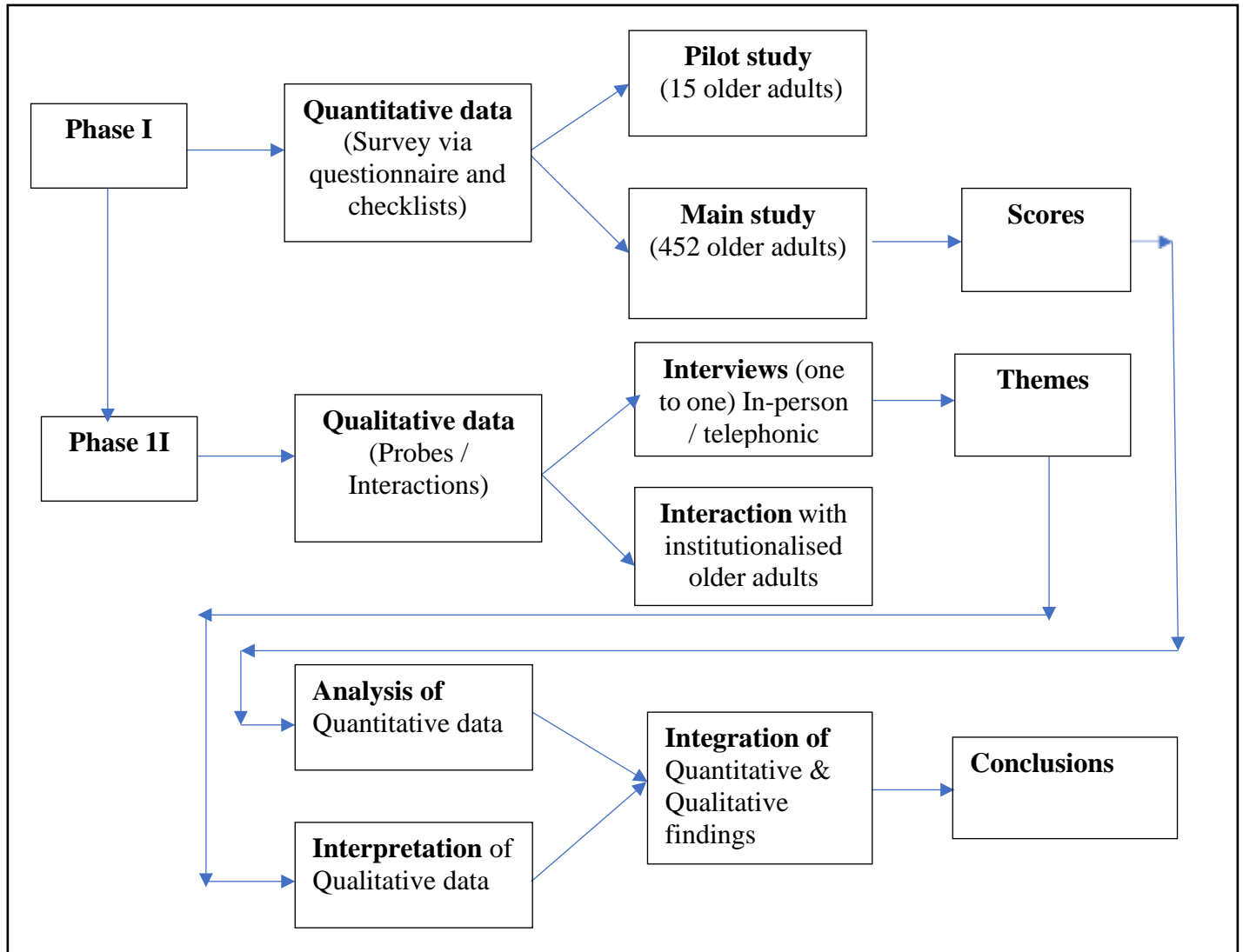
2.2 Research Design

Explanatory Sequential Two-Phased Mixed Methods Design was used in the research. It is a design with fixed mixed method, as the quantitative and qualitative designs were pre-determined and planned in the conception stage of the research. Quantitative and qualitative strands in the research have been independent for the research questions, data collection and data analysis. Both the sequential strands are mixed during interpretation of the findings and drawing conclusion in the research (Creswell &Clarke,2018).

The purpose of using Mixed Methods Design is to get an insight into how personal experiences, beliefs, and perceptions (qualitative data) help to explain the scores obtained on quantitative measures of the variables. It develops a strong understanding of the variables in the research by integrating quantitative results and qualitative data. This design enables to get more complete and corroborated approach towards understanding the research problem.

The following flowchart illustrates the mixed methods design used in the present research.

Figure 10

Flowchart of Explanatory Sequential Mixed Methods Design used in the research

Structure of the Research:

Phase I- Quantitative design

Phase II- Qualitative design

- Semi-structured interviews
- Interaction with the institutionalised elderly

2.3 Phase I – Quantitative Design

The past research in the field has found the relationship between nutrition, exercise and spiritual practices and generativity, resilience, and mindfulness. Similarly, nutrition, exercise and spiritual practices are related to physical health and wellbeing as well. Hence, in Phase I of the research, the mediation effect of nutrition, exercise, and spiritual practices in the relationship of generativity, resilience and mindfulness and physical health and wellbeing was studied.

Based on the review of literature and objectives of the study mentioned in 2.1, the following hypotheses were conjectured.

2.3.1 Hypotheses

H1. There will be a significant positive correlation among generativity, mindfulness, resilience, subjective wellbeing, and physical health parameters i.e., sensory/systemic parameters and lifestyle habits among young elderly

H2. Young elderly high on chronic medical condition, ONR biomarkers and low on physical fitness parameters will significantly differ from elderly who score low on chronic medical condition, WNR biomarkers and high on physical fitness, across-

a. Generativity

b. Mindfulness

c. Resilience

d. Subjective wellbeing

H3. Generativity, mindfulness and resilience will significantly affect physical health parameters i.e., sensory/systemic parameters and lifestyle habits and subjective wellbeing of young elderly.

H4. a. There will be a significant mediating effect of nutrition on the relationship between generativity, mindfulness, resilience, and sensory/systemic parameters of physical health of young elderly

b. There will be a significant mediating effect of nutrition on the relationship between generativity, mindfulness, resilience, and physical health parameters such as lifestyle habits of young elderly

c. There will be a significant mediating effect of nutrition on the relationship between generativity, mindfulness, resilience, and subjective wellbeing of young elderly

H5. a. There will be a significant mediating effect of exercise on the relationship between generativity, mindfulness, resilience, and sensory/systemic parameters of physical health of young elderly

b. There will be a significant mediating effect of exercise on the relationship between generativity, mindfulness, resilience, and physical health parameters such as lifestyle habits of young elderly

c. There will be a significant mediating effect of exercise on the relationship between generativity, mindfulness, resilience, and subjective wellbeing of young elderly

H6.a. There will be a significant mediating effect of spiritual practices on the relationship between generativity, mindfulness, resilience, and sensory/systemic parameters of physical health of young elderly

b. There will be a significant mediating effect of spiritual practices on the relationship between generativity, mindfulness, resilience, and physical health parameters such as lifestyle habits of young elderly

c. There will be a significant mediating effect of spiritual practices on the relationship between generativity, mindfulness, resilience, and subjective wellbeing of young elderly

H 7. There will not be any significant difference between young elderly pursuing hobbies and not pursuing, across -

a. Generativity

b. Mindfulness

c. Resilience

d. Subjective wellbeing

e. Sensory/systemic parameters

f. Lifestyle habits

g. Chronic medical condition

h. Biomarkers

i. Physical fitness

H8. Young elderly engaged in social activities will not significantly differ from their counterparts across-

a. Generativity

b. Mindfulness

c. Resilience

d. Subjective wellbeing

e. Sensory/systemic parameters

f. Lifestyle habits

g. Chronic medical condition

h. Biomarkers

i. Physical fitness

H9. There will be significant difference between institutionalised and non-institutionalised young elderly across-

a. Generativity

b. Mindfulness

c. Resilience

d. Subjective wellbeing

e. Sensory/systemic parameters

f. Lifestyle habits

g. Chronic medical condition

h. Biomarkers

i. Physical fitness

H10. There will not be any significant difference between young elderly males and females across-

a. Generativity

b. Mindfulness

c. Resilience

d. Subjective wellbeing

e. Sensory/systemic parameters

f. Lifestyle habits

g. Chronic medical condition

h. Biomarkers

i. Physical fitness

H11. There will not be any significant difference between young elderly staying in different types of family across-

a. Generativity

b. Mindfulness

c. Resilience

d. Subjective wellbeing

e. Sensory/systemic parameters

f. Lifestyle habits

g. Chronic medical condition

h. Biomarkers

i. Physical fitness

H12. There will not be any significant difference among the groups of elderly with their different educational status across-

a. Generativity

b. Mindfulness

c. Resilience

d. Subjective wellbeing

e. Sensory/systemic parameters

f. Lifestyle habits

H13. There will not be any significant difference among the groups of elderly with their different socio-economic status, across

a. Generativity

b. Mindfulness

c. Resilience

d. Subjective wellbeing

e. Sensory/systemic parameters

f. Lifestyle habits

H14. There will not be any significant difference among the groups of elderly with their different working status, across

a. Generativity

b. Mindfulness

c. Resilience

d. Subjective wellbeing

e. Sensory/systemic parameters

f. Lifestyle habits

2.3.2 Variables Under Study

The variables considered for the study are given in Table 1.

Table 1

List of Variables Considered for the Study

Socio-demographic Variables	Psychological Variables	Physical Health Variables
Age	Generativity	Nutrition
Gender	Resilience	Exercise
Marital status	Mindfulness	Physical health
Educational status	Spiritual Practices	
Socioeconomic status	Subjective Wellbeing	
Working status		
Place of stay		
Type of family (in case of non-institutionalised elderly)		

2.3.3 Operational Definition of Variables

Socio-demographic Variables

- *Young elderly* refers to the non-institutionalized elderly between 60 and 70 years and Institutionalised elderly between 60 and 75 years.
- *Gender* refers to male or female, in the present research
- *Marital status* refers to Unmarried, Married, Widowed, Divorcee
- *Educational status* refers to the level of educational qualification-SSC/HSC, Graduation, Post-Graduation, Any other
- *Socio-economic status* refers to the income INR per month- <10,000, 10,000-20,000, 20,001-50,000, and >50,000
- *Work status* refers to current occupational status-Homemaker, Working in continuation, Retired, Retired and working again, Honorary work
- *Place of stay* refers to the institution or home

- *Type of family* refers to Joint family with spouse, married children, grandchildren or even one's sibling and nuclear family consists of only spouse and unmarried children.
- *Social engagement* refers to the self-generated activities such as volunteering to look after one's grandchildren, involvement in some charitable / social activities, working for some social cause, attending formal / informal meetings, kitty parties / *bhishi* etc.

Psychological Variables

- *Generativity* as a multidimensional construct is a need, concern, task, and a desire to transcend one's knowledge, experience, skills, abilities, and interests to the newer generation, resulting into healthy psychosocial adjustment with each other benefiting the social system (Mc Adam & St Aubin,1992)
- *Mindfulness* refers to nonjudgmental observation of the ongoing stream of internal and external stimuli as they arise (Baer, 2003)
- *Resilience* refers to a dynamic process encompassing an ability to thrive and positive adaptation within the face of significant adversity (Connor-Davidson, 2003)
- *Spiritual Practices* is a set of various behavioural patterns used by an individual to 'search for the sacred' and surrender to the transcendent. It could be chanting, prayer, meditation, fasting, visiting places of worship, attending spiritual discourse such as satsang, bhajan, kirtan
- *Subjective wellbeing* refers to cognitive and affective evaluation of one's life, irrespective of the objective facts which includes experiencing pleasant emotions, low level of negative emotions and high life satisfaction making the life rewarding for the individual (Diener,2000).

Physical Health Variables

- *Nutrition* refers to the act of nourishing oneself with proper and adequate dietary measures
- *Exercise* refers to an engagement in physical activity
- *Physical health* which reflects in physical fitness refers to the ability to carry out daily tasks with vigor and alertness, without undue fatigue and with ample energy to enjoy leisure time activities and to meet unforeseen emergencies. The following health parameters were considered in the present research.
    o Sensory / Systemic parameters
    o Lifestyle habits

- o Biomarkers
- o Chronic medical condition
- o Physical fitness- Flexibility, Agility, Balance, Work speed, Aerobic endurance, Muscular endurance

Further details of the variables are given in *2.3.5 Tools used in the Research*.

2.3.4 Sample

*Population-*The population for the study was the urban young elderly between 60 and 70 / 75 years from Mumbai and Pune Metropolitan Regions.

Sample in the research- The sample for the Phase I of the study consisted of 452 male and female elderly from Mumbai and Pune Metropolitan Regions. Out of 35 wards under eight Municipal Corporations in Mumbai Metropolitan Region, 297 male and female elderly from 25 wards under six Municipal Corporations were approached. Similarly, Pune Metropolitan Regions cover 2 Municipal Corporations and 7 Municipal Councils. In all, 155 male and female elderly were approached from both Municipal Corporations and 3 Municipal Councils.

Out of the total sample, 349 were non-institutionalized elderly between 60 and 70 years and 103 institutionalized elderly between 60 and 75 years of age. For the institutionalized elderly, age limit was extended up to 75 years, as in many government and non-government organizations the retirement age is 60-65 years and 60 years is comparatively a young age for being institutionalized. Many people in this age range may still be financially self-sufficient, healthy, and independent to take their own decisions. In India, it is not yet a trend to get oneself institutionalized by own choice if he or she is healthy and independent.

The detailed break-up of the non-institutionalized and institutionalized sample is given in 2.3.5 and 2.3.6, respectively.

Inclusion criteria in the research

Young elderly without any major psychopathological problems and any locomotive disability
*Exclusion criteria in the research*

Young elderly suffering from any acute health problems at the time of data collection

2.3.4.1 Sample Description for Non-institutionalized Elderly. The sample for the present study consisted of 349 male and female from the young elderly cohort between 60 and 70 years. 262 young elderly from Mumbai Metropolitan Region and 87 from Pune Metropolitan Region were willing and consented to participate in the study. As Pune is geographically close to Mumbai, it is a preferred destination for post-retirement settlement.

The demographics of the non-institutionalized elderly sample is given below:

Figure 11

Sample Breakup According to Age Group
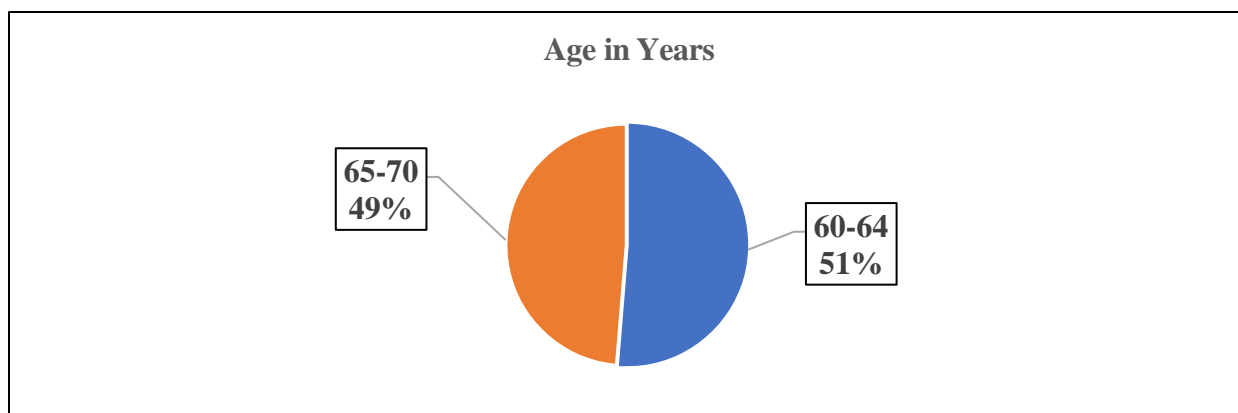
The sample in the research, who stay in the family (non-institutionalised) belong to 60 to 70 years is almost equally distributed between the two age groups. According to the figure, 51% young old's were between 60 and 64 years, and 49% were between 65 and 70 years.

Figure 12

Sample Breakup According to Gender
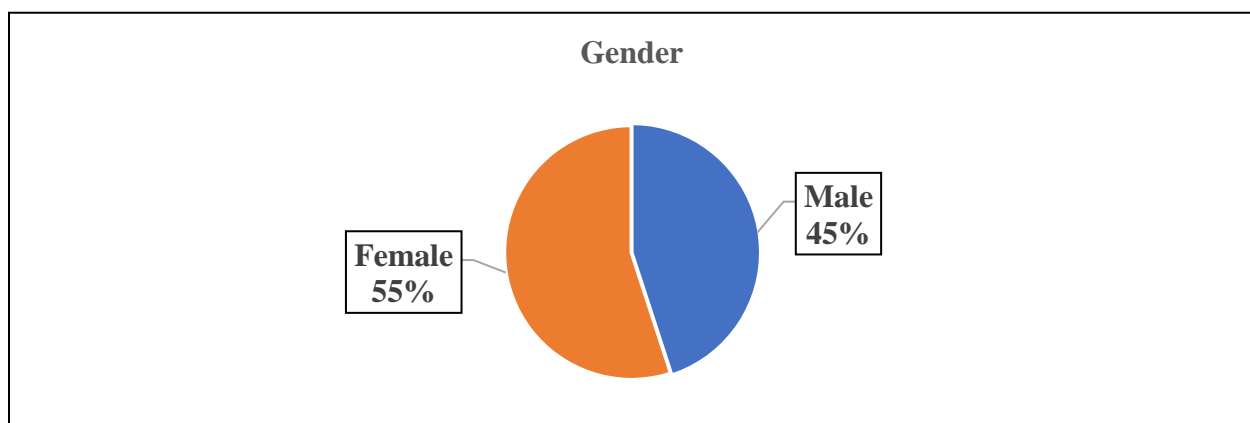
Figure 12 shows that 45% old males and 55% old females participated in the study

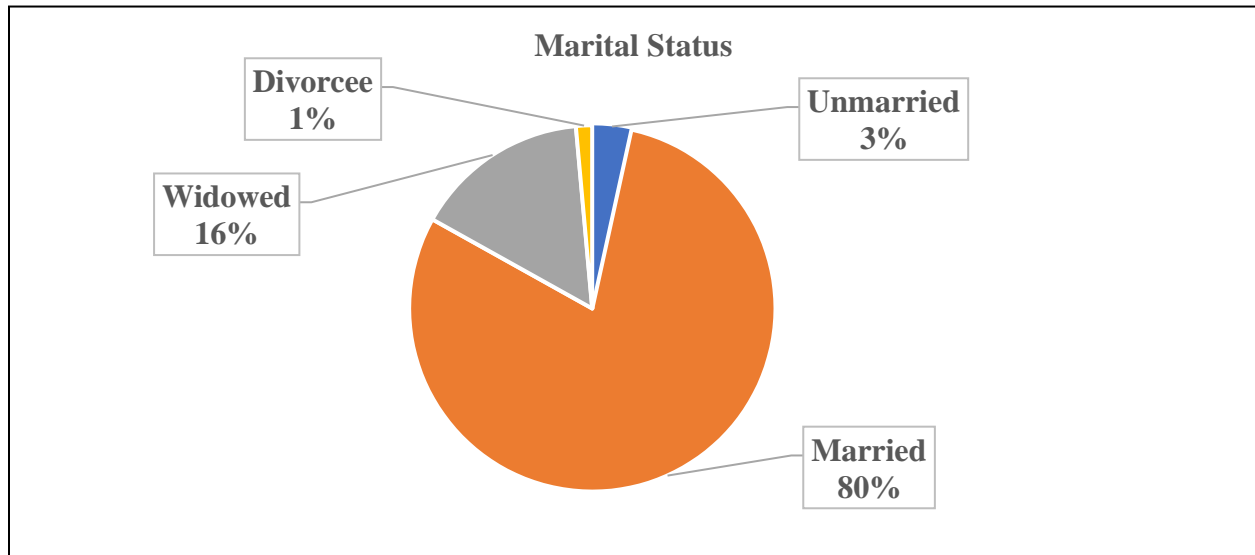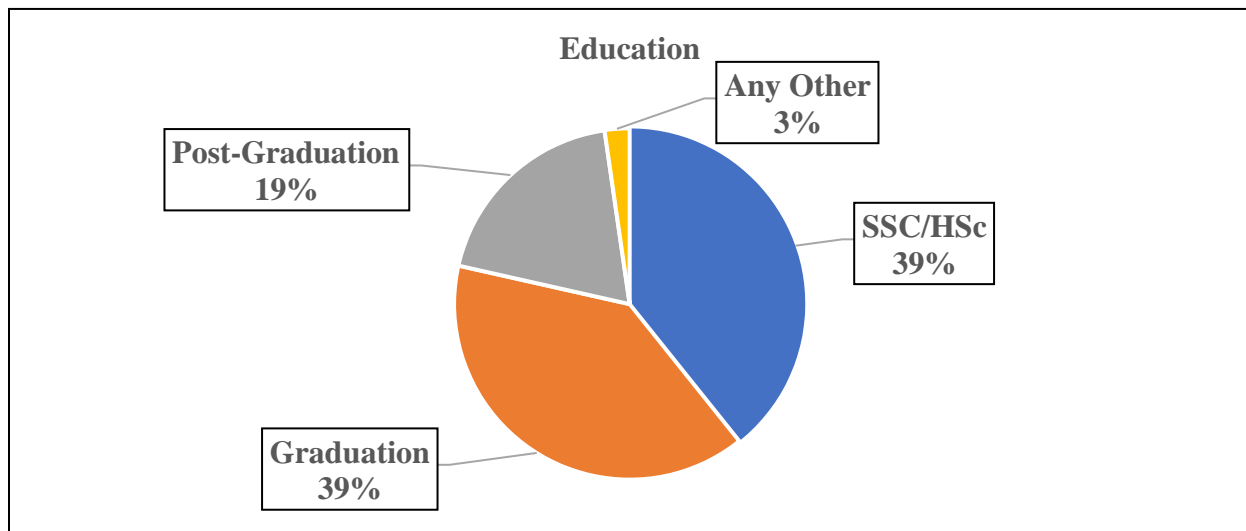**Figure 13**

Sample Breakup According to Marital Status

Figure 13 indicates that maximum number of non-institutionalised elderly i.e., 80% were married, 16% were widowed, 3% were unmarried and 1% were divorcees.
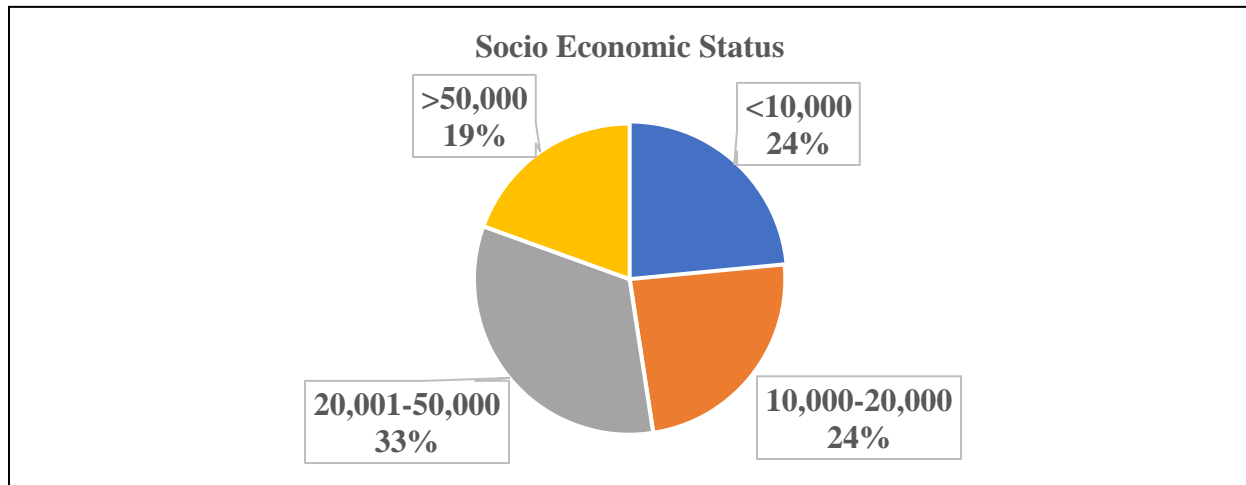
Figure 14

Sample Breakup According to Educational Status

39% of participants in the study were qualified with SSC or HSC level, 39% were Graduates, 19% have completed their Post-Graduation degree and 3% were Diploma or Certificate –holders.

Figure 15

Sample Breakup According to Socioeconomic Status

Socio Economic Status

- >50,000 19%
- <10,000 24%
- 20,001-50,000 33%
- 10,000-20,000 24%

The sample belonged to a wide range of socio-economic status from less than Rs.10,000 to more than Rs.50,000 per month. Figure 15 shows 33% of elderly have income between Rs.20,001 and 50,000, 24% have income less than Rs.10,000 and equal percentage of elderly have income between Rs.10,000 and 20,000 and 19% belong to Rs.50,000 and above income level.

Figure 16

Sample Breakup According to Working Status

Working status

- Honorary Work 6%
- Working again 12%
- Retired 34%
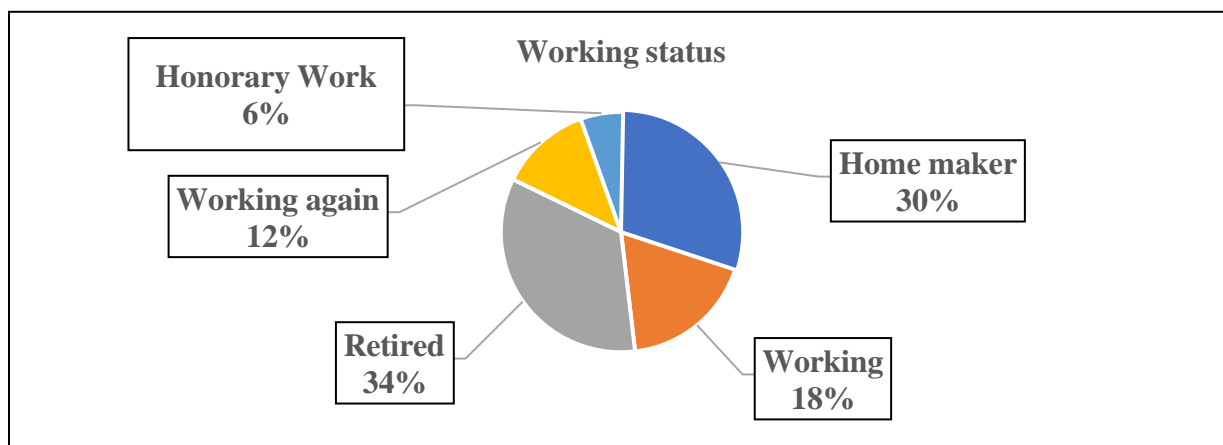- Home maker 30%
- Working 18%

Figure 16 shows that 34% of the sample were retired while 30% are the homemakers. 18% of them have continued working in their respective professions such as doctors, advocates, chartered accountants or having own business. 12% of the elderly have taken a new job after their retirement, while 6% were occupied but not in any gainful employment.
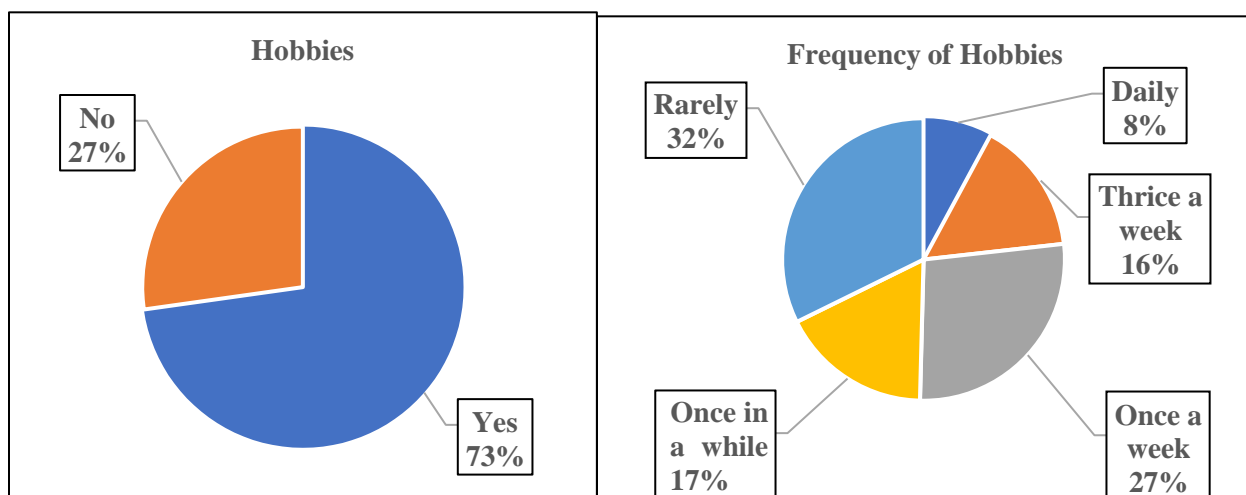
Figure 17

Need for Digital Technology Training
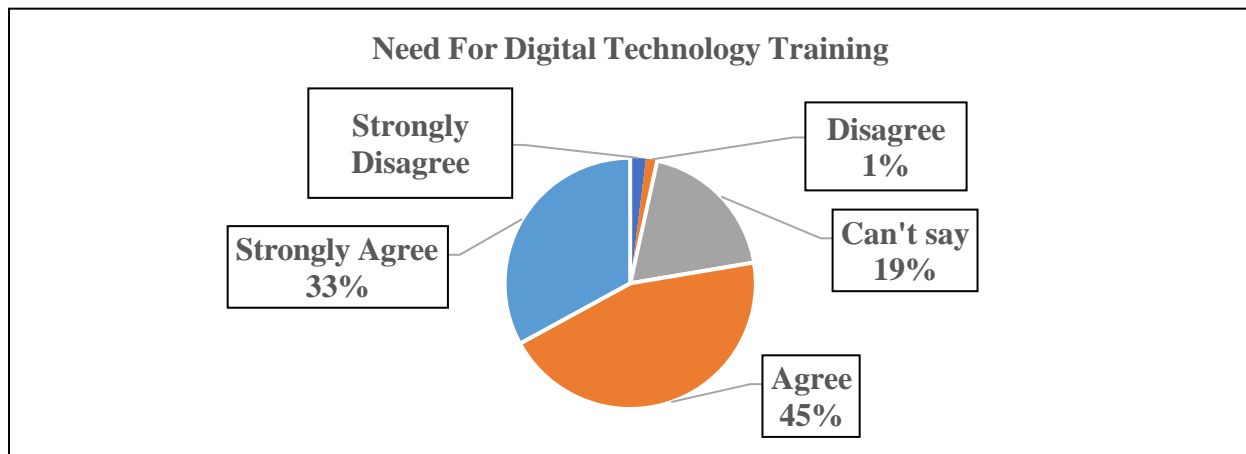
More than 75% non-institutionalised young elderly agreed to the need of training in digital technology, while 19% were not able to give any opinion and the rest 3% did not feel the need for the training.

Figure 18 (A & B)

Sample Breakup According to Pursuing Hobbies (A), With Frequency (B)

Considering large proportion of the young elderly i.e., 73% who pursue some hobby such as gardening, music, painting, trekking, cookery, learning a new language etc., the frequency of their pursuance was also found out. The findings revealed that approximately 51% elderly pursued hobbies at least once or more than once a week and remaining 49% pursued less than the same.

Figure 19 (A & B)

Sample Breakup According to Involvement in Leisure Activity (A), With Frequency (B)
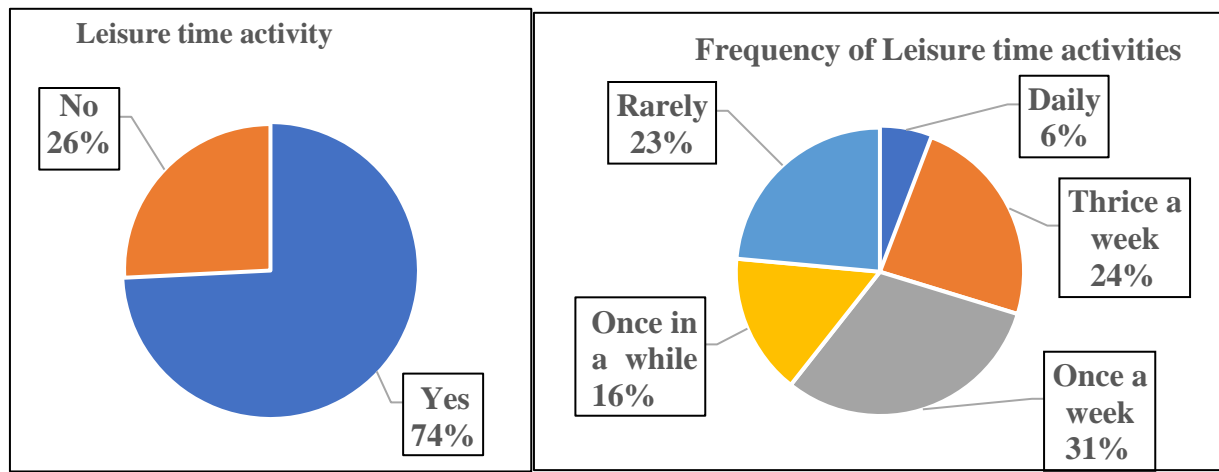
Although 74% non-institutionalised young elderly in the study were involved in leisure activity such as playing cards, watching web-series, solving puzzles, listening to music etc., only 6% were involved daily, 50% were involved once or more than once a week and approximately 40% elderly were involved once in a while or rarely involved in some specific activity in leisure time.

Figure 20 (A & B)

Sample Breakup According to Social Engagement (A), With Frequency (B)

88
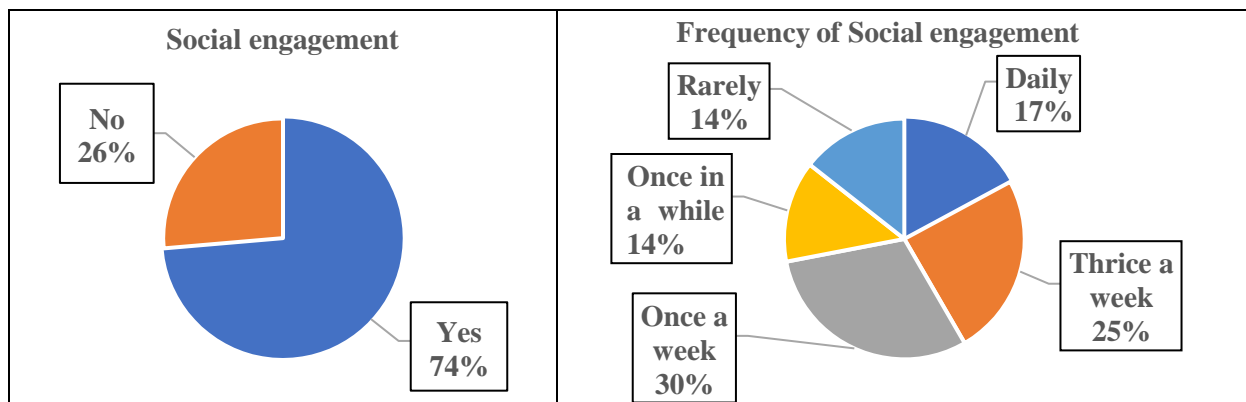
Out of 74% of the young elderly who were socially engaged in the form of attending some community meetings, kitty party/ *bhishi,* week-end groups or film- groups etc., almost 70 % were found to be socially active on daily or more than once a week and remaining 30% were rarely involved in social activity.

Figure 21
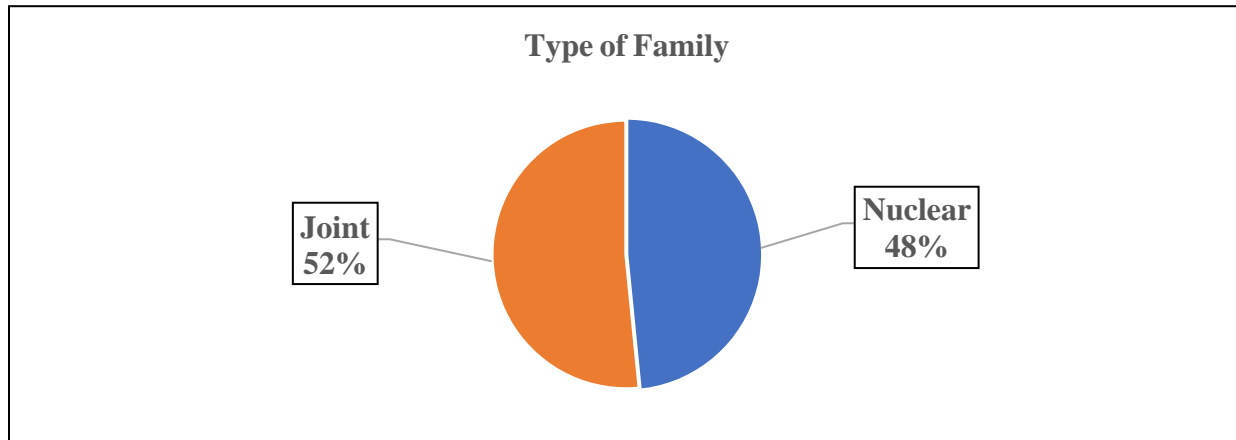
Sample Breakup According to Type of Family

Figure 21 shows 52% non-institutionalised elderly lived in a joint family and 48% lived in a nuclear family.

2.3.4.2 Sample Description for Institutionalized Elderly. The sample in Phase I of the research also included the institutionalised young elderly in the age group of 60 to 75 years. In all, 103 elderly; 35 from Mumbai and 68 from Pune Metropolitan Regions willingly and enthusiastically participated in the research. The institutions which were identified covered 3 Municipal Corporations in Mumbai and 2 Municipal Corporations and 3 Municipal Councils from Pune Metropolitan Regions.

In case of the institutionalised elderly, an organizational permission was obtained. It was followed by the individual participant's consent, to respond to the questionnaire and perform the physical tasks required in the research. The ethical code of conduct given in 2.3.8 was adhered during the entire process, including giving right to the participants to withdraw from the research at any given time.

Details of the institutions and the number of elderly participated from each institution -

1. Vanaprasthashram, Vatsalya, Home for senior citizens, Sanpada, Navi Mumbai (09)

2. Vanaprasthi, Bhiwandi, Anagaon, Dist. Thane (12)

3. Ramkrishna Niketan Vruddhashram, Nere, Panvel, Mumbai (14)

4. Mira Ghar, Home for senior citizens, Kamshet, Dist. Pune (09)

5. Sneha, Rajgurunagar, Dist. Pune (11)

6. Aadharwad Vruddhashram, Bhor, Dist. Pune (12)

7. Niwara Vruddhashram, Pune (32)

8. Rainbow Daycare Centre, Pune (04)

The details of the demographics of the institutionalised elderly are given in the following figures
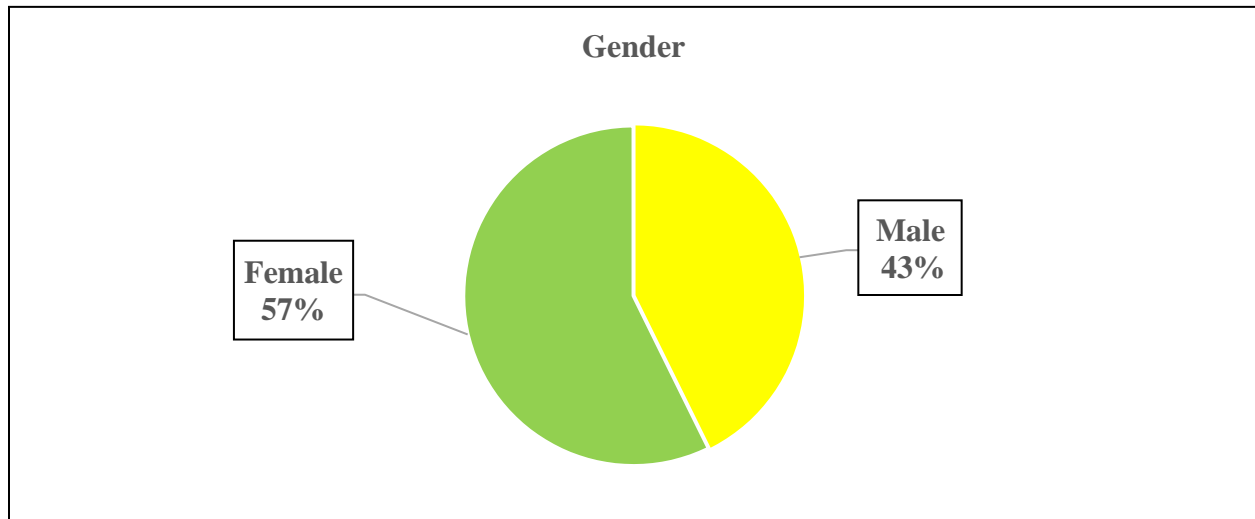
Figure 22

Sample Breakup According to Age Group
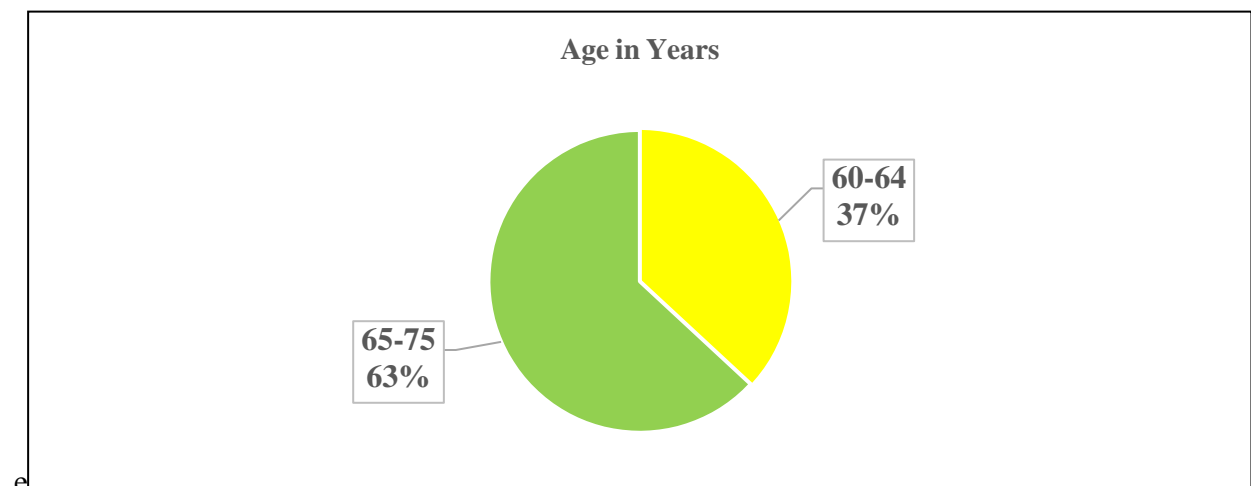
According to Figure 22, 37% young, institutionalised elderly were between 60 and 64 years and 63% were between 65 and 75 years.

Figure 23

Sample Breakup According to Gender

The Figure number 23 shows that 43% male elderly and 57% female elderly from the institution participated in research

Figure 24

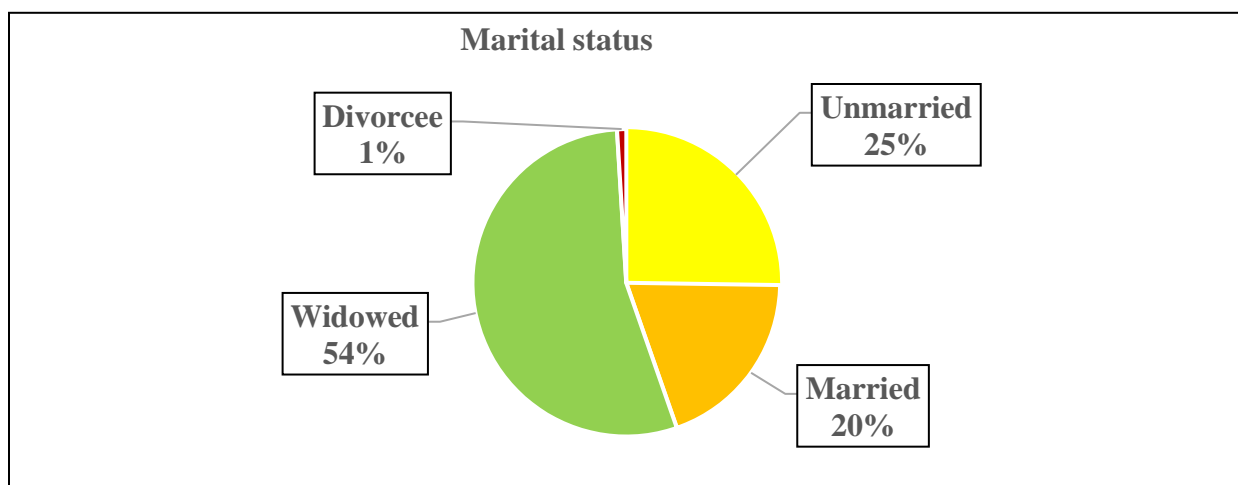*Sample Breakup According to Marital Status*

Figure 24 shows 54% of the institutionalised elderly were widowed, 25% were unmarried, 20% were married but staying in the institution and 1% of them are the divorced elderly.

Figure 25

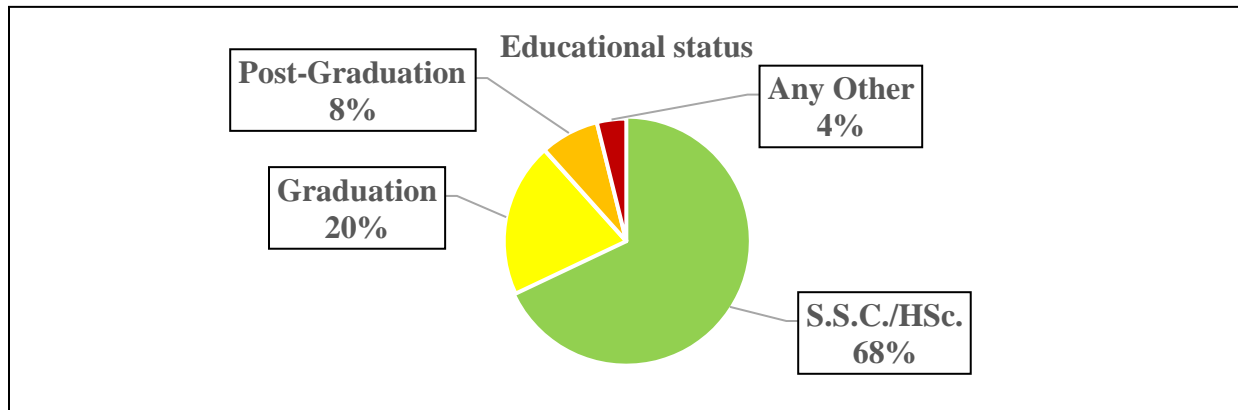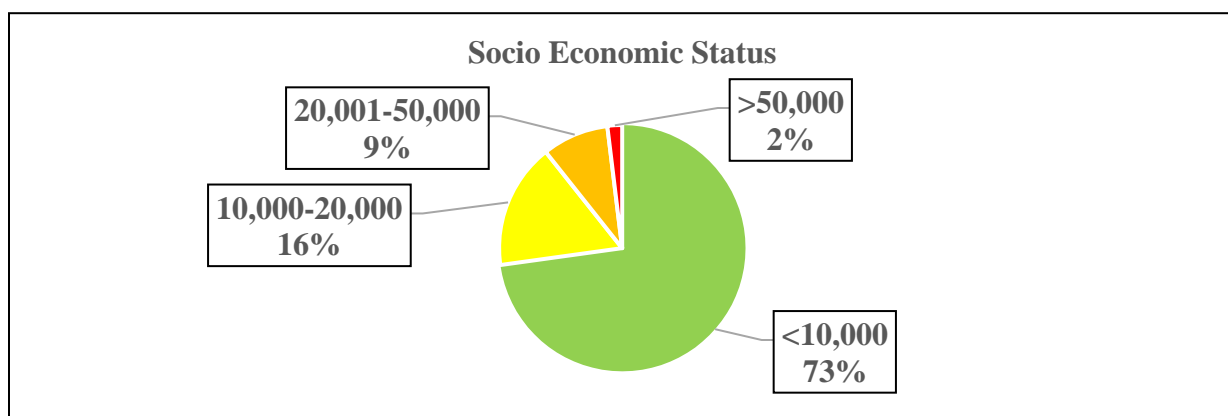*Sample Breakup According to Educational Status*

Figure 25 depicts the division of sample based on their educational qualification. The majority i.e. 68% were SSC/HSC qualified, 20% were Graduates, 8% had a Post-Graduation degree and 4% had done Diploma or certificate course.

Figure 26

*Sample Breakup According to Socioeconomic Status*

Although 30% of the total institutionalised elderly were residing in the institution run by the Government of Maharashtra and was free of cost. Figure 26 shows that 73% young elderly belonged to a category less than Rs.10,000 income per month. From the rest, 16% had income between Rs.10,000 and Rs.20,000 from pension or investments made in the past; 9% had income between Rs.20,001 and Rs.50,000 and 2% belonged to a category more than Rs.50,000 per month.

Approximately, 10% of the elderly were living in institutions run by a private trust where they were being charged substantially every month.
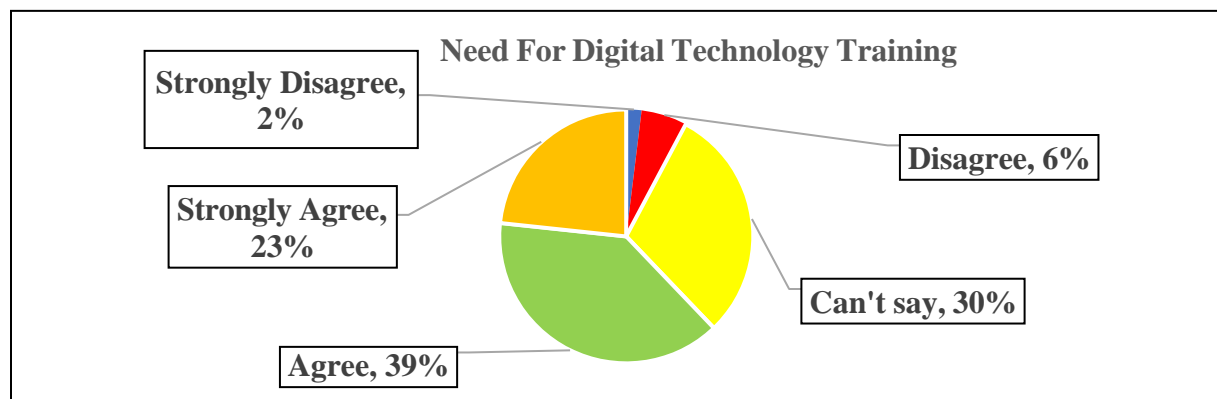
Figure 27

Sample Breakup According to Working Status
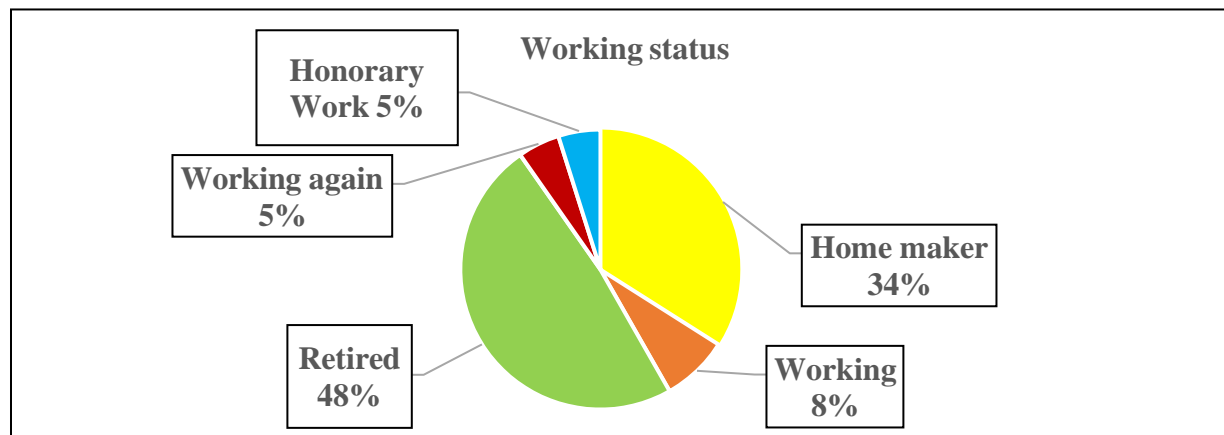
Even amongst the institutionalised elderly, 8% were working in continuation (mostly as the managers of the respective institution), 5% were retired but working again in the form of jewelry-making, *agarbatti / vati-making, envelope-making etc.* to earn a livelihood, while 5% were working on an honorary basis such as helping the administration of the institution. However, 48% were retired from the service and 34% female elderly were the homemakers.

Figure 28

Need for Digital Technology Training

The figure above shows the percentage of institutionalised elderly who realise the need for the training in digital technology. Accordingly, 62% elderly agreed to the need for training, 30% had no firm opinion and 8% disagreed to the need of training for digital technology.

Figure 29 (A & B)

*Sample Breakup According to Pursuing Hobbies (A), With Frequency (B)*
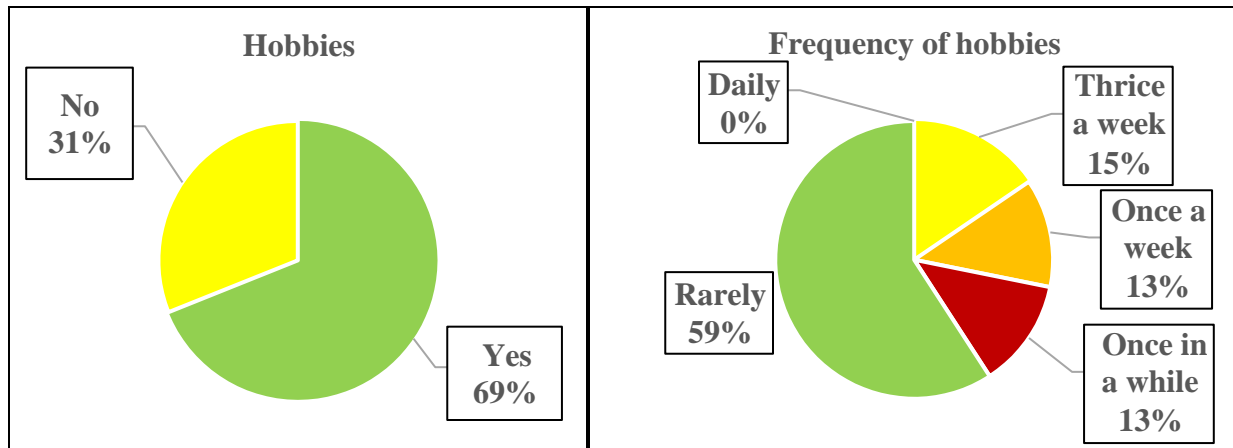
Amongst institutionalised elderly, 69% pursued their hobbies such as gardening, knitting, stitching etc. However, no one was pursuing every day, 15% pursued thrice a week, 13% once a week and 13% at least once in a month and 59% were rarely involved in hobbies.

Figure 30 (A & B)

Sample Breakup According to Leisure Activity (A), With Frequency (B)
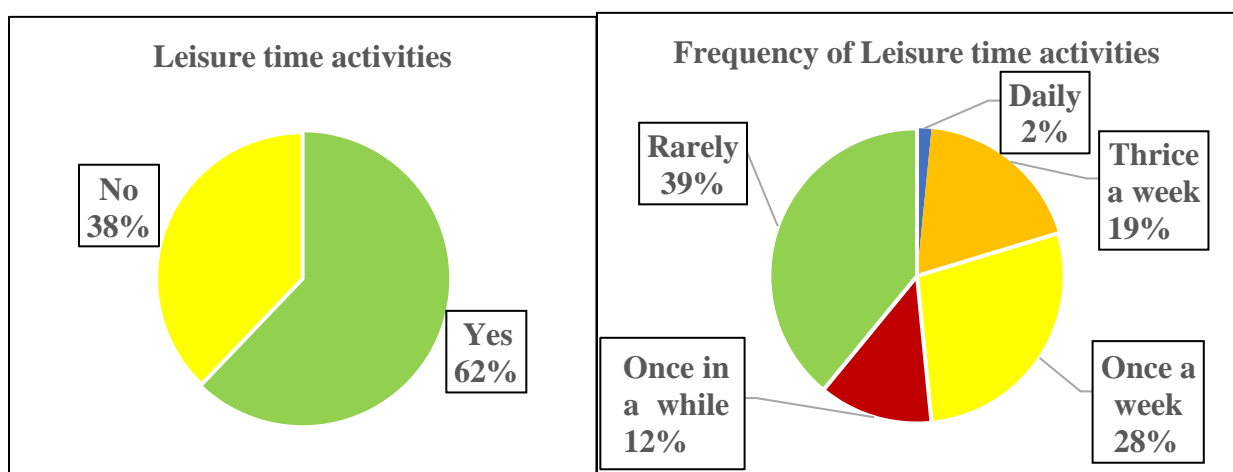
The above figures show 62% of the institutionalised elderly were involved in some leisure time activity such as playing carrom, playing cards, watching television, or helping in the kitchen. Amongst them 39% were rarely involved,19% thrice a week, 28% on a weekly basis, 12% engaged themselves once in a while and only 2% were involved every day.

Figure 31 (A & B)

Sample Breakup According to Social Engagement (A), With Frequency (B)
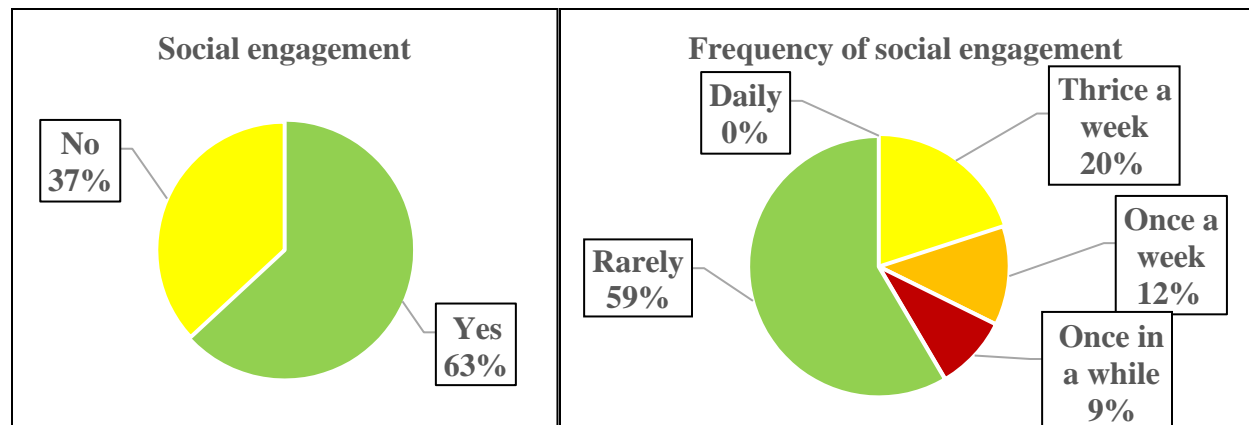
The findings indicate that despite staying in the institution, 63% are socially engaged but not daily. 12% were involved once a week and 20% were involved thrice a week, 9% were involved occasionally and 59% of the institutionalised were rarely engaged in social activity.

2.3.5 Tools Used in the Research

The following tools were used for assessing psychological and physical health parameters such as generativity, resilience, mindfulness, subjective wellbeing, and physical fitness.

a. ***Demographic information*** was obtained such as name, age, gender, marital status, educational status, working status, monthly income, place of stay and type of family (in case of non-institutionalised elderly)

b. Information about frequency of pursuance of hobbies and engagement in leisure activities and social activities was procured on a five-point Likert scale

c. ***Generativity Behaviour Checklist (GBC):*** The GBC is developed by McAdam and St Aubin (1992) based on Mc Adam's model of generativity. It is a measure of 'generative behaviour' with the help of 50 specific behaviour made in the past two months (In the present research, the period of two months is revised to last 6 months). There were 10 'filler' items in the

checklist and scores on these items are not considered in the total score. In the present research, these10 items are not included to make the tool more comprehensive. Each act in the GBC corresponds to one of the behavioural manifestations of generativity—creating, maintaining, or offering. The participant is to mark 0 if not involved in a particular behaviour even once in last 6 months, mark 1 if involved in a particular behaviour once and mark 2 if involved more than once in the last six months. Higher the score shows higher Generativity. The GBC has high convergent validity with Loyola Generativity Scale (r= .59, p< .001) and Generative themes (r=.45, p< .001). The Cronbach alpha reliability score was found to be .74 in the sample of the current research.

d. ***Five Facet Mindfulness Questionnaire-15 (FFMQ-15)***: FFMQ-15 developed by Baer et al. (2008), a short form of the 39-item FFMQ is a self-reported measure of dispositional Mindfulness. It includes the same five facets as the long form: Observing, Describing, Acting with Awareness, Non-Judging of inner experience and Non-Reactivity to inner experience. The test consists of 15 items on five different dimensions developed on a five-point Likert scale ranging from Never or Very rarely true to Always or Very often true (1-5). Each Facet is being measured by 3 items. There is a reverse scoring for 7 items. The factor structure of the FFMQ-15 was consistent with FFMQ-39, internal consistency with alpha coefficients ranges from .75 to .91. There were large correlations between total facet scores of the short and long forms of the scale. Total FFMQ score is obtained along with individual score on each dimension. The Cronbach alpha was found to be .74 for the present sample of the research.

e. ***Connor- Davidson Resilience Scale (CD-RISC)***: CD-RISC is a measure of Resilience developed by Connor and Davidson in 2003 which comprises of 25 items. Each item is rated on a five-point scale (0-4); higher scores indicating greater resilience. CD-RISC demonstrated good psychometric properties. The factor analysis of the scale yielded five factors. Factor 1 reflects the notion of personal competence, high standards and tenacity. Factor2 corresponds with trust in one's instincts, tolerance of negative affect and strengthening effects of stress. Factor 3 relates to the positive aspects of change & secure relationships. Factor 4 relates to control and Factor 5 to spiritual influences. The scale homogeneity with Cronbach alpha for the full scale is .89 and .80, .75, .74 and .69 for the factors 1 through 4 respectively. Test-Retest reliability was found to be .87. The scale has good construct and predictive validity, particularly on Asian population. It also distinguishes between those with greater and lesser

resilience indicating good discriminant validity. The Cronbach alpha for the present sample was found to be .75.

f. *Subjective Wellbeing Inventory (SUBI):* SUBI by Nagpal & Sell (1992) consists of 40 items measuring the feelings of wellbeing/ill-being as perceived by an individual in different aspects of life. The scale measures 11 factorial dimensions of life like General wellbeing positive affect, Expectation- achievement congruence, Confidence in coping, Transcendence, Family group support, Social support, Primary group support, Inadequate mental mastery, Perceived ill-health, Deficiency in social contacts & General wellbeing negative affect. The Participant is expected to choose from Very much (1)/ To some extent (2) / Not so much (3) on every item. Positive items primarily measure individual's stable personality traits, the values are 3, 2 &1; negative items measure the influence of life circumstances and therefore scored as 1, 2 &3. The total score ranges from 40-120. Higher the score shows better subjective wellbeing. The mean score of normal Indian sample is 90.8 with 9.2 SD. The scale is being used in number of unpublished studies carried in India and Sri Lanka. The factor analysis of the scale showed stability in content of factors and stability over time. The scale has 0.79 test-retest reliability along with inter-rater reliability and inter-scorers' reliability and 0.86 validity. The Cronbach alpha was found to be.74 for the present sample of the research.

g. *Senior Fitness Test:* Senior Fitness Test specifically designed for older adults by Rikli and Jones (2001) is a measure of physical fitness parameters such as Flexibility, Agility, Balance, Speed of work, Aerobic endurance, and Muscular endurance. The parameters are measured with the help of various physical tasks such as--

- *Flexibility* is measured by Chair Sit-and-Reach task in which the participant was asked to sit on the chair and try to touch the toes. The task primarily measured upper body flexibility.

- *Agility* is measured by 8-Foot Up –and Go task. In this task, the participant was asked to sit on a chair comfortably and after the 'ready' signal given by the researcher, he/she was asked to get up and walk for 8 feet distance. The time taken to react and complete the given task was measured.

- *Physical balance and lower body strength* was measured by 30-second chair-stand exercise in which the participant was asked to sit on a chair comfortably. After the 'ready' signal, he/she was asked to get up without any support, stand and sit down again and repeat

the action for 30 seconds. The number of stands in 30 seconds duration were measured, which indicate the degree of physical balance in the elderly.

- *Speed of work* was inferred by the time taken by the participant in the 8-Foot Up –and Go task using the formula Distance/ Time.

- *Muscular endurance* was measured by the Arm curl task, the number of bicep curls completed in 30 seconds were counted. According to the tool, the participant was expected to perform the task by lifting the weights i.e.,2.5kg and 3kg for females and males respectively. However, the researcher made variation by asking the participant to create resistance in one arm by another hand and perform the task.

- *Aerobic endurance* was measured with the help of 2-minute walk test in which the participant was asked to either climb the stairs or do spot jogging continuously for maximum 2 minutes. Those who found it difficult to perform were allowed to discontinue the task in the interest of their health. The number of full steps completed in 2 minutes were measured in a task.

h.   *Checklists – Diet, Exercise, Spiritual practices, Physical health parameters*

With an objective to study how nutrition, exercise and engagement in spiritual practices will mediate the relationship between generativity, resilience, mindfulness and physical health and subjective wellbeing of young elderly, the checklists for measuring dietary habits, exercise and spiritual practices were prepared by the researcher.

Based on the past research, understanding the important role of nutrients in old age, the checklist containing specific diet which is rich in the respective nutrients such as vitamins, minerals and neurotransmitters was prepared in consultation with two nutritionists in Mumbai city.

The review of past literature suggests an important role of certain physical activities and spiritual practices in maintaining physical health and fitness and wellbeing of older adults. The checklists for exercise and spiritual practices were prepared in consultation with the physicians and senior priests from Mumbai and Pune city.

In the beginning of each checklist, the participant was asked to rate the importance of nutrition/diet, exercise and spiritual practice in his/her health and happiness on a five-point Likert scale (1-5) from Strongly Disagree (1) to Strongly Agree (5). It was followed by the list of specific food item / specific physical activity / specific spiritual practice and the participants were asked to rate the

frequency of consuming or practicing each one of them on a five-point Likert scale (0-4) from Never (0) to every day (4). The list of specific food item / physical activity / spiritual practice is given below.

Figure 32

Checklist for Nutrition, Exercise and Spiritual Practices

DIET	EXERCISE	SPIRITUAL PRACTICE
• Milk • Butter-milk • Yogurt • Cheese • Tofu • Nuts • Seeds • Fresh Fruits • Dry Fruits • Vegetables • Leafy Vegetables • Legumes • Dark Chocolates • Sprouts • Fortified Cereals • Whole Grains • Eggs • Meat • Fish • Poultry • Supplements • - Vitamins • - Minerals	• Walking • Brisk Walking • Jogging • Cycling • Climbing Stairs • Physical exercise at home • Yoga • Swimming • Aquatic Exercises • Workout at Gym • Household Activities • - Cooking • - Cleaning • -Washing • Aerobics/Zumba • Any other sport	• Prayers • Chanting • Meditation • Visiting Places of Worship • Attending Spiritual Discourse • Attending Satsang • Attending Bhajan • Attending Kirtan • Fasting • Journalling • Sacred Services • Any other

Physical health parameters measured the physical health in two parts-

Part A: Checklist for measuring...

a. *Systemic/ sensory parameters-* respiratory problems, bowel movements, and problems related to vision and hearing were measured on a five-point Likert scale from Never (5) to every day (1).

b. *Lifestyle habits -* smoking, sniff, drinking, gutka, supari was noted down on a five-point Likert scale (0-4) from Never (5) to every day (1).

c. *Chronic medical condition-* cardiac problem, hypertension, arthritis, dementia, parkinsonism, stroke paralysis, thrombosis, kidney malfunctioning or any other were measured in the form of Presence(1)/ Absence(2)

d. *Biomarkers -* The deficiency or excess level of lipid profile along with functioning of endocrine glands, blood sugar as the biomarkers were measured in the form of Presence(1)/ Absence(2)

   Higher scores indicate better physical health

Part B: Investigator's assessment

Physical fitness was measured by the Senior Fitness Test

The Table 2 depicts the tools with their number of items, range, skewness, kurtosis, and computed Cronbach alpha.

Table 2

Description of the Tools Used

Tools	No. of items	Range Min-Max score	Mean (SD)	Skewness	Kurtosis	Cronbach α
GBC	40	0-80	30.05 (14.32)	.32	-.30	.74
FFMQ-15	15	1-75	52.85 (9.64)	-.49	.45	.74
CD-RISC	25	0-100	68.83 (19.94)	-.08	1.38	.75
SUBI	40	1-120	91.71 (15.58)	-.62	-.12	.74

Note. GBC = Generativity Behaviour Checklist, FFMQ-15 = 15 Item Five-Facet Mindfulness Questionnaire, CD-RISC = Connor-Davidson Resilience Scale, SUBI = The Subjective Well-Being Inventory.

The figures in the above table show the values of skewness and kurtosis tested in the present research. They indicate that the sample in the study is normally distributed.

The tools were translated in Marathi and Hindi languages considering the possibility of language barrier among the respondents. The conceptual and linguistic equivalence was maintained by doing back & forth translations by the language experts.

2.3.6 Procedure

Code of Ethics was followed by informing the participant about the purpose of the study and importance of their contribution to the same. The consent for providing the information in the questionnaires and participate in a moderate level of physical tasks was duly obtained by the researcher with the participant's signature, date, and place of stay. The participant was assured about confidentiality to be maintained about the findings of the study by the researcher.

The Phase I of the research consisted of

- Pilot study

- Main study

     2.3.6.1 Pilot study. Pilot study was carried out to analyse feasibility of the quantitative measures of generativity, resilience, mindfulness, subjective wellbeing and the self-constructed checklists of nutrition, exercise, engagement in spiritual practices and the physical health parameters. It was conducted on 15 non-institutionalised and 5 institutionalised young elderly from MMR and PMR. The recommendations received from the participants in the Pilot study are summarized in Table 3 and necessary actions were taken by the researcher.

Table 3

Recommendations Received From Participants in Pilot Study

Sr no.	Recommendations	Actions taken
1	Difficult to understand exact meaning of certain items. If they are in Hindi / Marathi, it will be easier to respond	All the tools were translated back and forth in Hindi and Marathi languages by professional translators
2	Some items in the GBC are difficult to relate (10 filler items)	These filler items are not included in the questionnaire in the main study

Note. GBC = Generativity Behaviour Checklist

     2.3.6.2 Main study. In Phase I of the research, Municipal Corporations and Councils within MMR and PMR were identified. In MMR, the sample for the study was obtained from six out of eight Municipal Corporations, spanning from Bhiwandi to Panvel. In PMR, both MunicipalCorporations and outlying areas from Khed to Bhor under 3 Municipal Councils were covered.

Young elderly from identified areas depending on the convenience of the participants and their willingness to participate in the research were approached. The researcher explained entire procedure of the research, including physical tasks and the time required to complete the

procedure. The code of ethics was adhered as mentioned above before and during the process of data collection.

The demographic information with the help of a prepared questionnaire was collected from the participant. Prevalence of any disease was noted down, with its nature, duration, frequency, and intensity. Respecting the comfort level of the participant, psychometric tools such as GBC, FFMQ-15, CD-RISC, SUBI and checklists were administered with intermittent short intervals. The physical health parameters were measured through the checklists and the participants' performance on various tasks of physical fitness.

2.4 Phase II- Qualitative Design

Phase II of the Research was carried out in two parts. In Part I, semi-structured interviews were held with the participants on individual basis.

During the interviews, a need to interact in-depth with the institutionalised elderly was felt by the researcher, particularly in the context of COVID-19 Pandemic. Thus, the Part II interaction with the institutionalised elderly was held to understand their beliefs, observations and experiences about generativity, resilience, present-preparedness, health, and happiness. The details of Part I semi-structured interview are given below

(A) Semi-structured interview

According to the Explanatory Sequential Design used in the research, second phase was to obtain the qualitative data from the participants. This would help to understand the older adults' perception about physical health and wellbeing; in addition to generativity, resilience and mindfulness in their life. The probes were used to direct the conversation, which would shed light on their understanding of health and wellbeing and contributing factors to health and wellbeing.

2.4.1 Sample description

During Phase I of the research 38 participants who were observed by the researcher to be high on subjective well-being were identified and finally 30 participants who were willing to share more experiences from their life were interviewed according to the convenience of the participants. Amongst them, 17 were non-institutionalised elderly and 13 were institutionalised elderly. The demographics of these participants is given below.

Figure 33

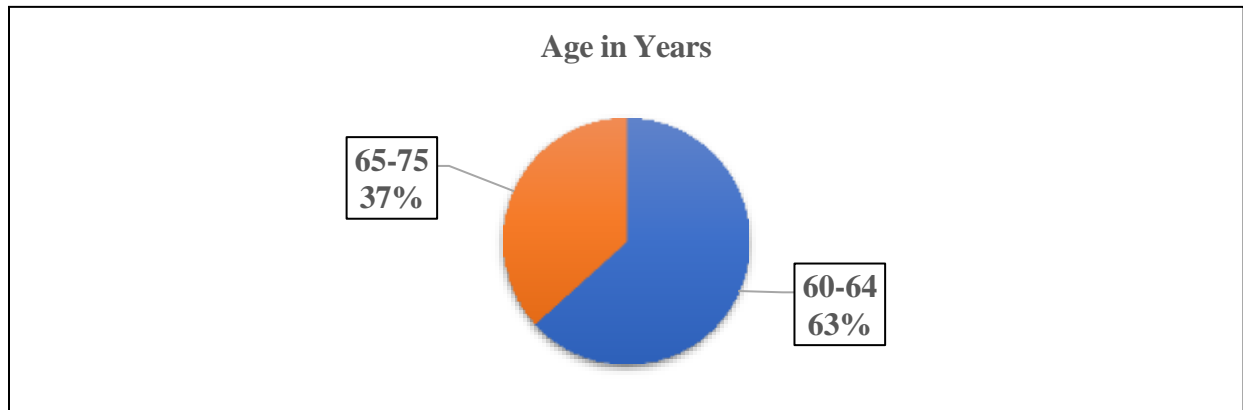*Sample Breakup According to Age Group*

Age in Years

65-75
37%

60-64
63%

Figure 33 shows 63% of the elderly were between 60 and 64 years and 37% were between 65and75 years.

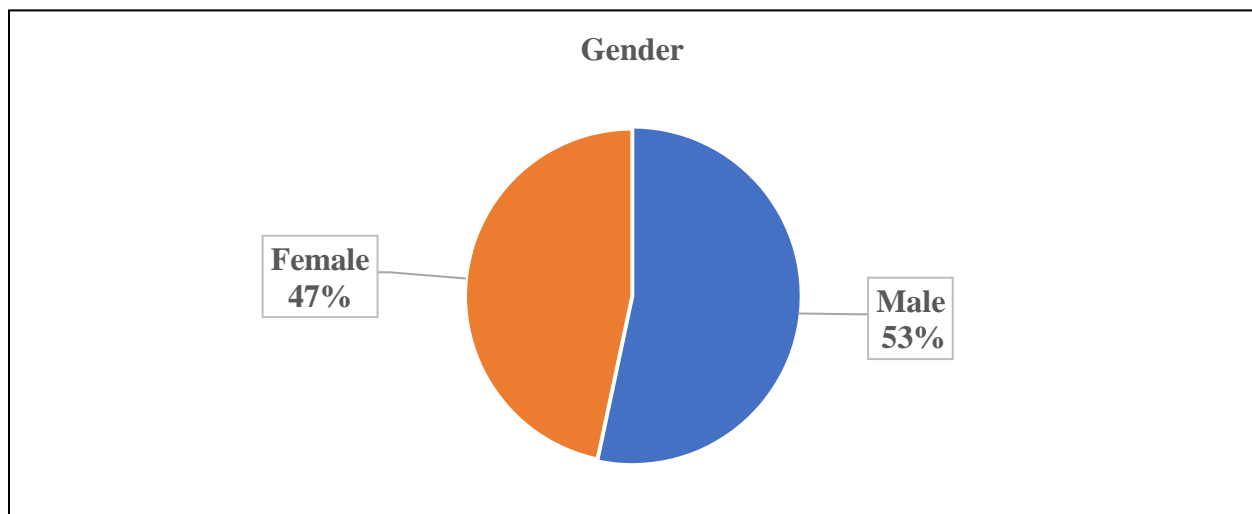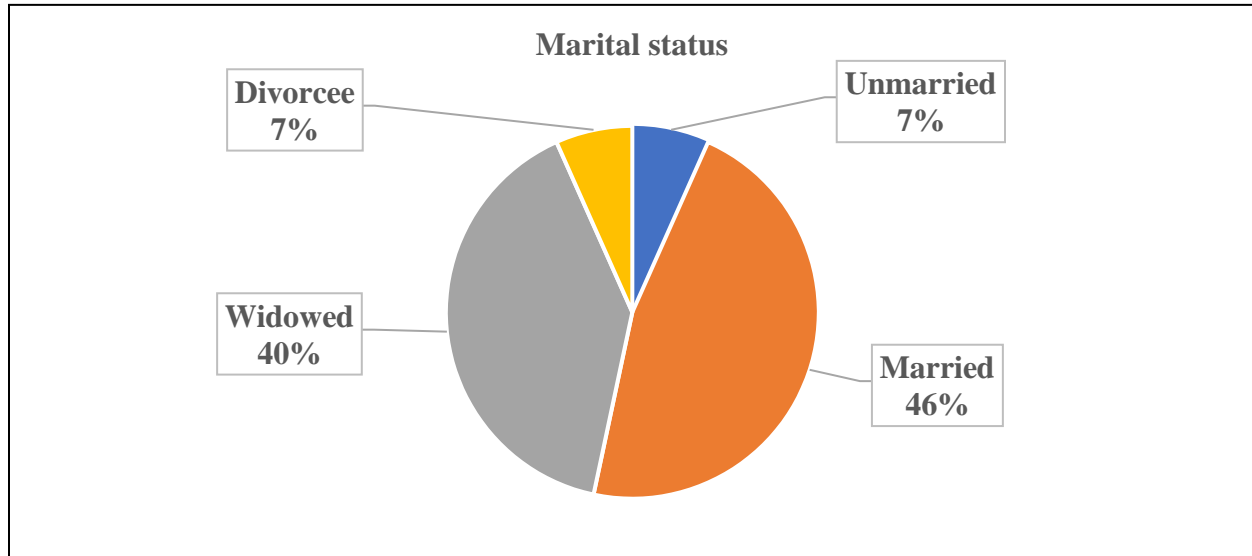**Figure 34**

Sample Breakup According to Gender

Gender

Female
47%

Male
53%

Figure number 34 shows that 53% old males and 47% old females participated in Phase II of the research.
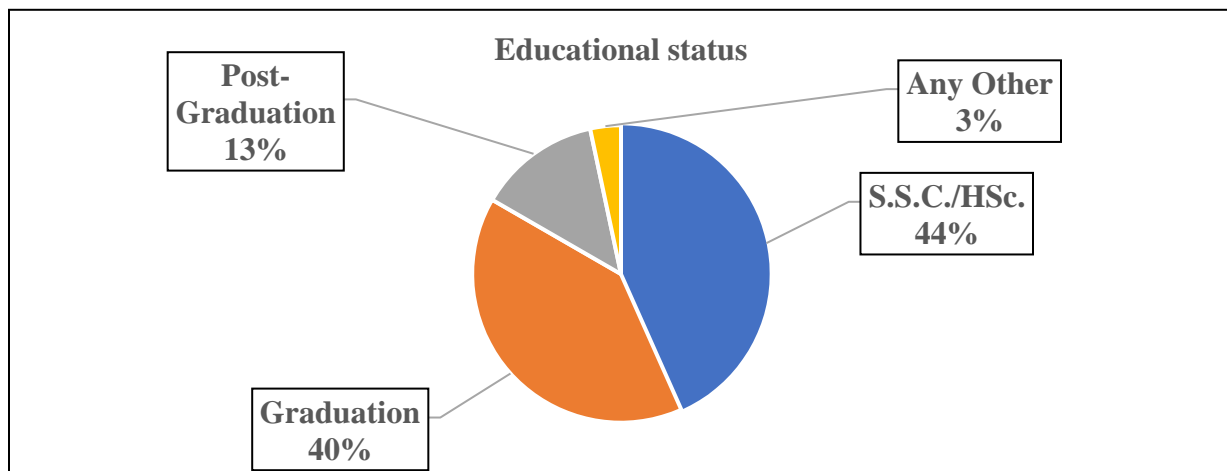
Figure 35

Sample Breakup According to Marital Status

The above figure indicates that maximum number of participants in this phase of the research were married (46%), 40% were widowed, 7% were unmarried and 7% were divorcee.
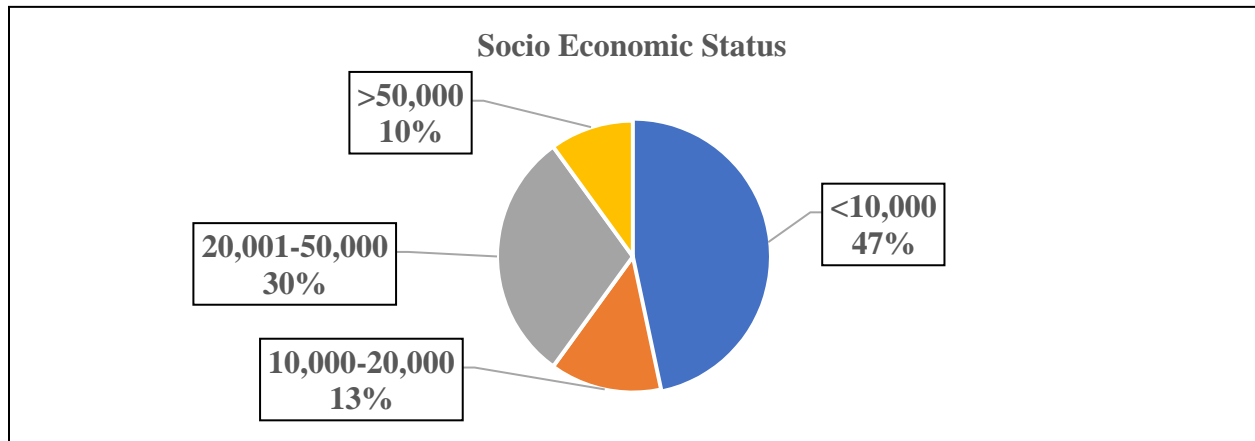
Figure 36

Sample Breakup According to Educational Status

Based on the educational qualification, the figure depicts that 44% are SSC or HSC qualified, 40% were the Graduates, 13% had completed their post-Graduation and 3% had done Diploma or certificate course.

Figure 37

Sample Breakup According to Socioeconomic Status

Regarding the socioeconomic status of the elderly participated in the Phase II of the study, 47% young elderly belonged to a category less than Rs.10,000 income per month. From the rest, 30% had income between 20,001 and 50,000, 13% had income between 10,000 and 20,000; and 10% belonged to a category more than Rs.50,000 per month.

Figure 38

Sample Breakup According to Working Status
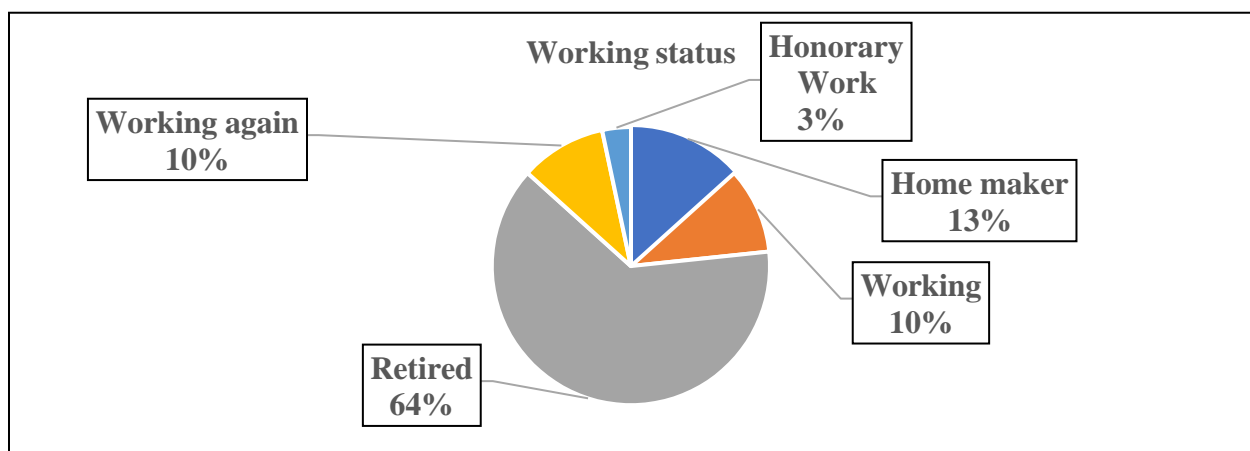
From the sample in the Phase II of the research, 64% were retired from the service, 10% were retired but working and earning again, 10% were working in continuation mostly as self-professionals, while 3% were working on the honorary basis and 13% female elderly were the homemakers.

Figure 39

Sample Breakup According to Need for Digital Technology Training
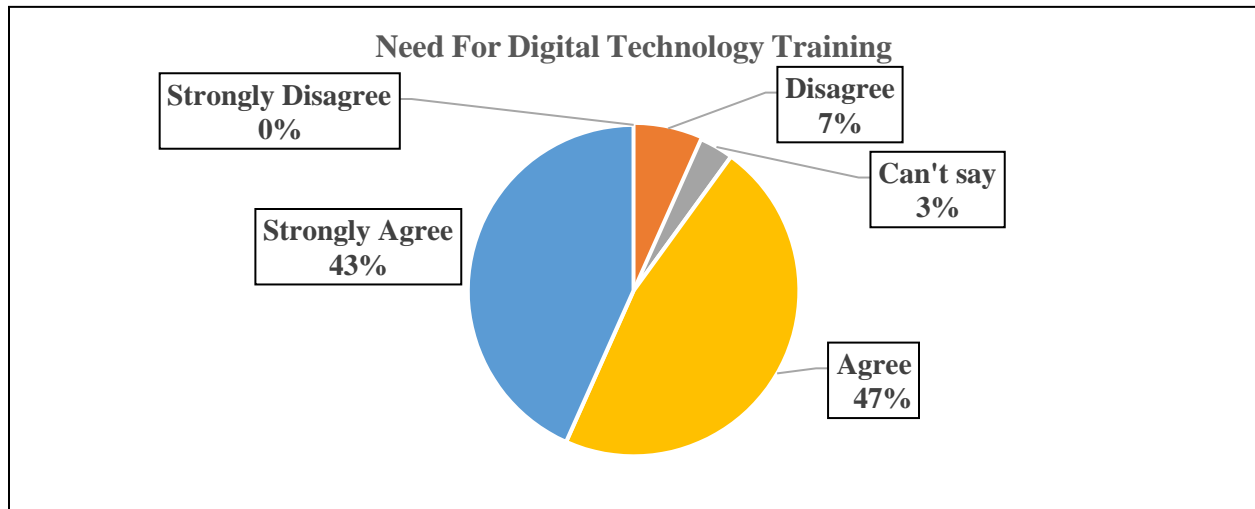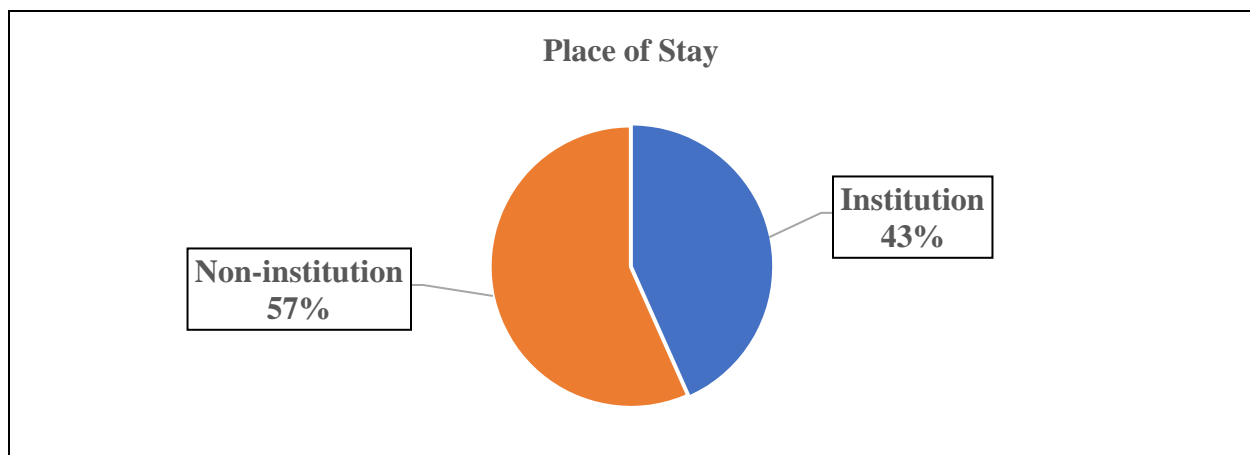

Figure 39 shows 90% of the elderly realized the need of digital technology training, amongst them 43% strongly agreed while 47% agreed to the need, 3% could not express any firm opinion and 7% disagreed to the need of training in digital technology.
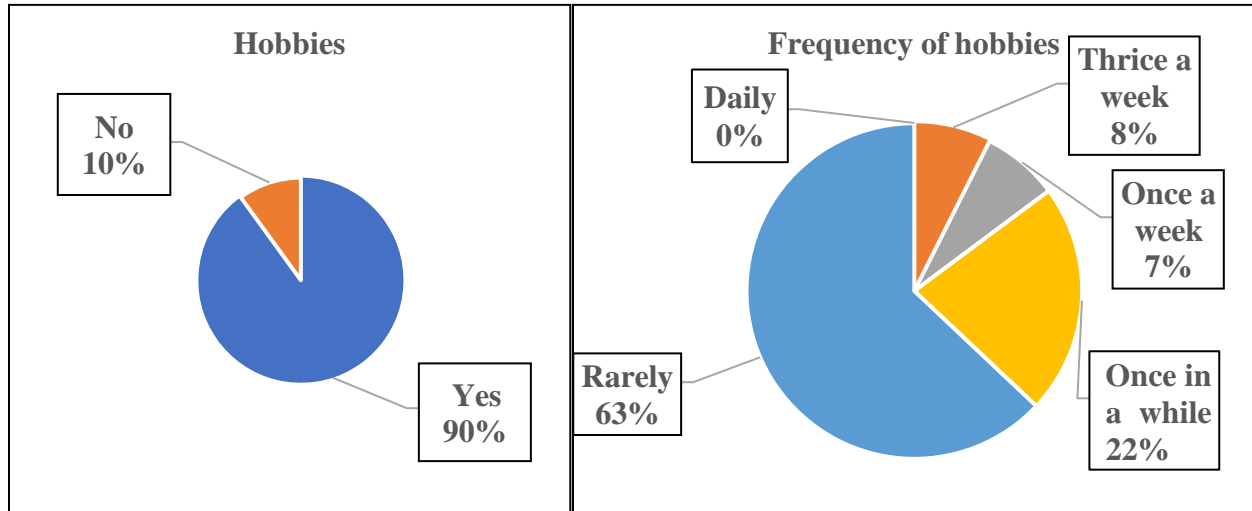
Figure 40

Sample Breakup According to the Place of Stay

In the Phase II of the research, 57% non-institutionalised and 43% institutionalised young elderly willingly participated.

Figure 41 (A & B)

Sample Breakup According to Pursuing Hobbies (A), With Frequency (B)

Amongst the elderly participated in the Phase II of the study, 90% pursued their hobbies as mentioned in the Phase I of the research. However, no one pursued every day, 7% of them were involved once a week, 8% pursued three times a week, 22% once in a month or two and 63% rarely pursued their hobbies.

Figure 42 (A & B)

Sample Breakup According to Leisure Activities (A), With Frequency (B)
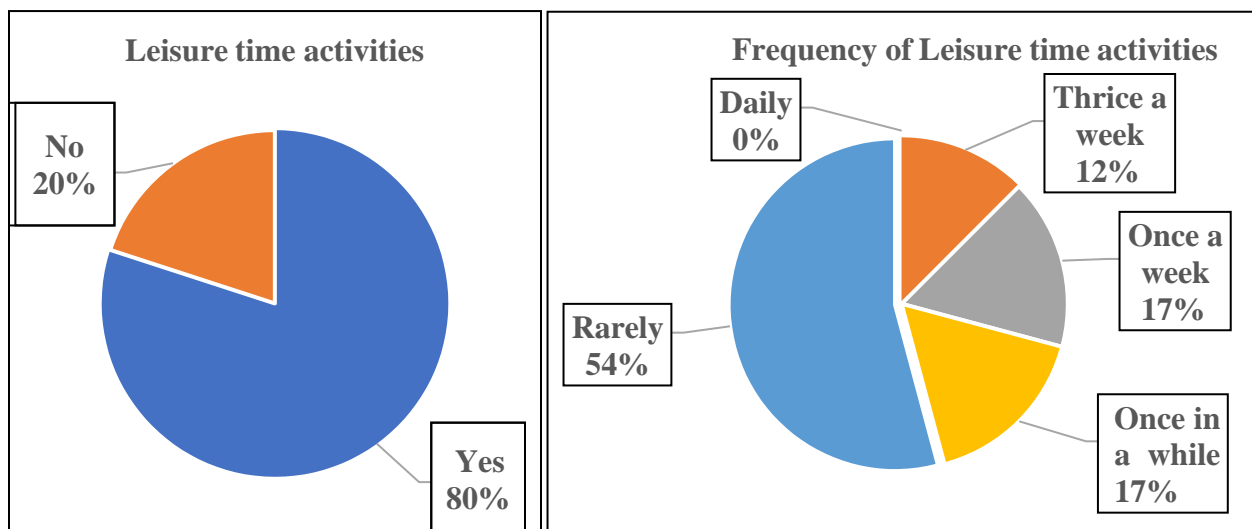
Figures 42 A & B show 80% of the older adults in the study were involved in some leisure time activity of their choice as mentioned in the Phase I of the research. Amongst them 54% were rarely involved, 12% were involved thrice a week, and 17% were involved once a week or 17% were involved occasionally. And no one was involved in any leisure time activity on a regular basis.

Figure 43 (A & B)

Sample Breakup According to Social Engagement (A), With Frequency (B)
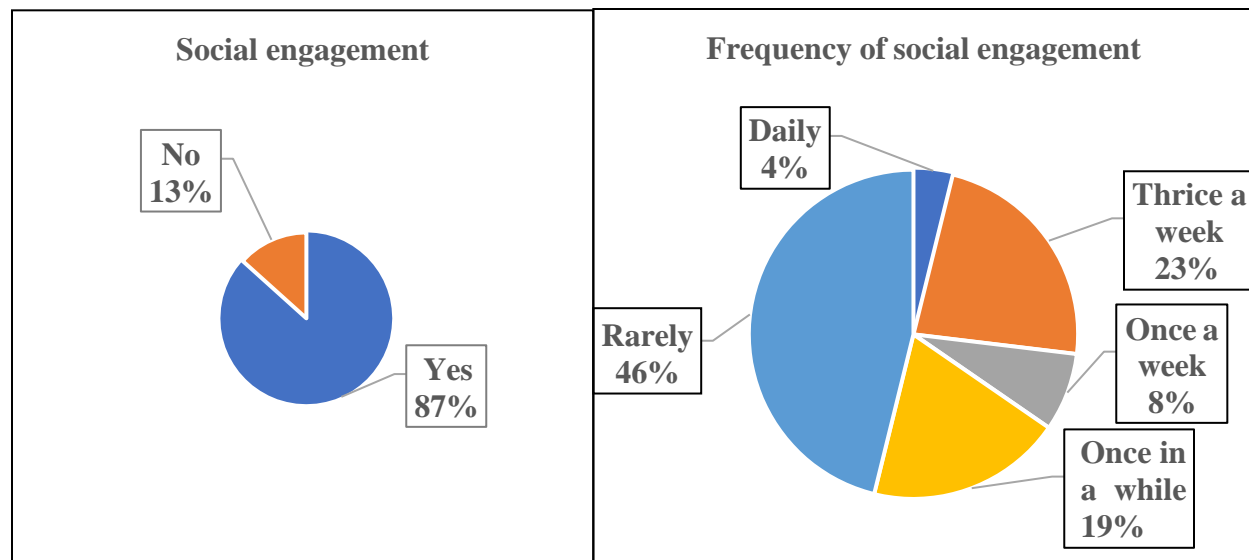
The findings indicate that 87% of the young elderly were engaged into social activity and amongst them 4% were involved daily, 23% were involved thrice a week, 8% were involved once a week and 19% were involved once in a while and 46% were rarely socially involved.

2.4.2 Tool Used

The probes to **understand beliefs and perceptions** were used in Phase II of the research.

1. How do you define good physical health?
2. In your opinion, what is happiness?
3. Can you name some factors, circumstances or experiences which give a feeling of satisfaction in your life?
4. In your opinion, generally when do people help each other?
5. What are the reasons which make 'you' feel help others?
6. Describe the situations which make 'you' help young people or the next generation.

7. How do you feel when you help others, particularly the next generation?

8. How do you engage yourself in the lives of your family members?

9. What are your strategies of addressing challenges or difficulties in your day-to-day life?

10. Looking back in your life, can you identify some qualities, which have helped you in responding to the challenges/difficulties in your life?

11. What do you enjoy most in your idle hours? Do you like to be in your Past, Present or Future? How does it help you in life?

12. What makes you attend to your life experiences as it is, here & now?

2.4.3 Procedure of Semi-structured Interviews

Code of Ethics. In this phase of the research, the consent from each participant for recording the conversation was obtained in addition to the code of ethics mentioned in Phase I of the research. In the content analysis of data of Phase II of the research, the names of the participants mentioned are masked to respect confidentiality of the participants.

The semi-structured interview technique was used to understand the perception of young elderly towards their physical health and wellbeing. They were made to introspect about their life with reference to generativity, resilience, and mindfulness. The interview schedule was prepared, communicated with the respondents in advance and adhered to the best of the researcher. The consent was obtained to record the interview for the purpose of verbatim transcript. The interviews were conducted with the help of twelve probing questions. The duration of each interview ranged from 25 to 40 minutes. However, the probes were customized depending on the responses of participants. The transcripts of responses to each question were prepared by the researcher for the content analysis.

Phase II- Qualitative design

(B) Interaction with the institutionalised elderly

During the interviews with the elderly from the institution, the researcher felt need to make one-to-one communication with them to understand their perceptions of the situation in the current context and their ways and means applied to face successfully and qualify to be happy and healthy.

It was difficult for the institutionalized elderly to cope with the challenges thrown at them due to Covid-19 Pandemic, due to the restrictions introduced by the institutions. Their increasing feelings

of loneliness led to temperamental changes, such as, feelings of insecurity, anxiety, sadness, mood swings and concern for the uncertainty in future. The institution was equally observant of these changes within the elderly and reported reduced appetite and disturbed sleep amongst majority of them.

2.4.4 Procedure

To understand the life of the elderly in the institution and know their coping strategies, online telephonic interaction with each elderly was scheduled. Due to the Pandemic, only nine elderly between 66 to 83 years were available. Consent for the interaction and its recording was obtained from each elderly. Within a span of 3 months, 37 sessions were held for 45 to 50 minutes each. With three elderly, sessions could be held on a video call, which was a rewarding experience for both, the elderly, and the researcher.

2.4.4.1 Difficulties experienced during the interactions. However, the researcher faced certain difficulties during the interactions. Due to Pandemic, in-person interaction was not permitted by the institution. Hence, there was a telephonic interaction with each elderly resident. The researcher and the participants were unfamiliar with each other prior to the interaction and hence, researcher had to put in greater efforts to establish a rapport, particularly with those elderly who had not participated in the semi-structured interview. Anyway, it was difficult to design structured guidelines for these sessions as the researcher wanted more open interactions from the elderly to understand the dynamics of their changing moods and behaviour. Complete confidentiality was assured to the participants to keep the interaction free flowing and unrestricted. However, assuring confidentiality to the elderly through telephonic conversation was a daunting task.

2.4.4.2 Observations of the researcher. Every interaction was an eye-opening experience for the researcher in terms of realizing the importance of extremely minor phenomenon / incident, which could help building resilience and contribute to happiness. Few of them were facing difficulty in accepting the process of ageing and age-related issues within them. Unwillingness to accept changes in one's appearance, capacity to work for longer duration was a source of unhappiness in such elderly.

Those elderly who were brought to the institution by the family members / friends were highly reluctant to accept the old age home as their residence and being permanently away from their

family. Such experience further aggravated by the Pandemic situation, made them perceive loss of control over their life.

Most of the elderly were a storehouse of mythological knowledge and home-based remedies. They were desperate to share with others, including the researcher. Particularly, female elderly were generative enough to share easy tricks in cooking or cure minor physical ailments from household items, considering limitations due to Pandemic. However, inability to use the skill set within the elderly was a source of dissatisfaction with life.

Few elderly were naïve about their potential in terms of varied knowledge, personality traits such as open to other's suggestions, agreeableness, emotional stability, or the skills including effective coping.

During the interactions based on understanding of the past and the current life of the elderly in the institution, the researcher was facilitated to help them to develop positive outlook towards life in general. The researcher made them aware of the importance of health and happiness as pillars of life. A skill of creating opportunities for oneself and be generative was welcome by the elderly to a large extent.

2.4.4.3 Insights for future, from the Pandemic context.

What could be the sources of happiness?

Those who were technologically efficient started using the Public Address System, installed in the institution for spiritual readings. Some of them volunteered to do bhajan / kirtan at a common place, so that others can passively participate in the same.

How one can be generative, in a given situation?

Female elderly would volunteer to help young staff through different activities such as- doing kitchen work, knitting, or stitching for their children, sharing home-remedies for minor illness of their family members

Gratitude expressed by the staff used to promote such behaviour and enhance feelings of happiness, satisfaction among the elderly

What could be the strategies to develop resilience?

With the help of some Probes from the researcher, the older adults were happy to identify their strengths, which was a 'treasure-hunt' experience, resulting into high self-esteem and self-confidence.

'Introspection in the past life helps to adapt in the present' was learnt by the researcher during the interaction.

How can one keep oneself physically fit?

Considering limited outdoor physical mobility in the institution, few elderly learnt and practiced floor exercises on a daily basis to keep them physically fit.

Importance of disciplining one's body, in terms of regular diet and exercise. Controlling or managing healthy dietary habits is a key to remain physically fit was shared by few elderly.

To summarize, the interaction with the elderly highlighted various unique and proactive coping strategies used by them in a restrained Pandemic context. Getting socially connected by the telephonic conversations was quite reinforcing for them.

Based on the explanatory sequential design, the research was carried out and the quantitative data was collected from the 103 institutionalised and 349 non-institutionalised elderly. The findings are presented in the next chapter.

The following Chapter presents the findings of the quantitative research.