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1. Introduction

1.1 Background

Reduced fertility and mortality rates have changed the composition of the world's population. In 2005 the population 60 years and above comprised 10.3 percent of the more than 6.5 billion population of the world. By 2050, this proportion will rise to almost 22 percent (UN, 2006). Those countries which encountered the demographic transition early are now facing the problem of ageing societies. In developing countries, demographic transition started late, and they have not yet encountered the problem of a large proportion of elderly in the population. However, in the coming years with the high proportion of elderly, these countries will also have to face the problems with their poor economic situation and burden of diseases. Therefore it will be a difficult task for developing countries to combat the problem of the large proportion of elderly in the population in the coming years if concrete steps have not been taken at this time.

Pakistan, where demographic transition started in the 90's, has almost six percent (more than nine million) of the population above 60 years of age in the year 2005, and it will rise to 16.5 percent (48 million) in the year 2050. If we look at the ageing index, which is the number of persons 60 years of age or above per hundred persons below 15 years of age, the value was 15.9 in 2005. It will rise to 29 in 2025 and further to 75.5 in the year 2050 due to decline in fertility and steady increase in life expectancy. The old-age dependency ratio has also increased from seven in 2005 to nine in 2025 and will reach 16 in the year 2050 (UN, 2006).

Propelled by declining mortality and increasing life expectancy, the large population in Pakistan will grow older, facing serious health and income security issues (Alam and Karim, 2006). In Pakistan, it is still presumed that families will take care of the parents, and for this reason no policies have been formulated. But in the coming years, informal family-based old-age support will be a difficult proposition (Alam and Karim, 2006). In Pakistan, one third of the population is living under the poverty line, and a high proportion of elderly in the population will multiply this problem in the coming years.

Akram and Khan (2007) concluded that in Pakistan the health care system is inadequate, inefficient, and expensive. The proportion of the health budget to gross domestic product (GDP) is 3.9 percent, whereas the per capita total expenditure on health is 85 international $ and per capita government expenditure on health is 21 international $ (WHO 2004 cited in WHO 2006). In addition to that, for elderly people there is no formal plan to address the increasing need of health care facilities, especially for the older old (80 years and above), although their proportion is expected to be much higher in the coming years. General hospitals do not provide special services to the elderly nor is geriatrics a common medical specialty.

Another important aspect of the life of the elderly is mental health, as mental disorders accounted for 13 percent of the world's burden of disease in 2005, and this figure is expected to increase to 15 percent in the year 2020 (WHO, 2002). Due to loneliness in the older ages, the elderly population is more vulnerable to acquire any

mental disorder. For example, Buber and Engelhardt (2006) have reported higher levels of depression among the childless elderly. Mental health problems will be, in the coming years, the disease group with the second heaviest toll globally (EC 2004a, cited by Buber and Engelhardt, 2006). For this reason, mental health problems are a public health priority, as the social and economic costs of these problems are of huge importance. In addition, depressive illness and dementia are the two major mental diseases in later life (Copeland et al. 1999 cited by Buber and Engelhardt, 2006). Furthermore, in Pakistan there are no studies on the prevailing mental health of the elderly at the national level.

From the above discussion it is clear that elderly people are vulnerable in the satisfaction of their basic needs: economic situation, health status and mental condition, although situation of these variables in the other segments of the population in Pakistan is also not so encouraging. Therefore it is important to determine the level of well-being among the elderly population in Pakistan based on these variables.

1.2 Research Objective

The objective of this study is to explore the subjective well-being of the elderly in Pakistan and to gain insight into the determinants of the subjective well-being.

1.3 Research questions

This study is designed to examine the life of elderly in Pakistan while studying their SWB. For this purpose following research questions are formulated:

1. What is the role of main determinants in the SWB of the elderly in Pakistan?

2. What is the prevailing situation of the main determinants of the subjective well-being of the elderly, with different socio demographic variables, in Pakistan?

3. What is the role of different socio demographic variables in determining the overall subjective well-being of elderly in Pakistan at different phases of age?

1.4 Organization of the study

Chapter 2 presents different studies on SWB using different approaches. Furthermore, theory and conceptual framework of this study is also presented in this chapter.

Chapter 3 discusses the research design, including the hypotheses, the operationalisation of the main variables, data and data collection.

Chapter 4 is devoted to results of the analysis.

Chapter 5 summarizes the main findings of the study and discusses the conclusion.

2. Theory and conceptual framework

2.1 Background literature

Well-being has been the focus of many studies during the last few decades, looking at it in two different angles, the social indicators approach and SWB approach (Diener and Suh, 1997). Social indicators are societal measures, which reflect objective circumstances of people in a given culture. In contrast, subjective well-being is concerned with individuals' subjective experience of their lives. The underlying assumption is that well-being can be defined as conscious experiences of people in terms of hedonic feelings and cognitive satisfactions. The field is built on the presumption that to understand the individuals' experiential quality of well-being, it is appropriate to directly examine the feelings of a person about life in the context of his or her own standards (Diener and Suh, 1997). In this study, our focus will be on SWB; therefore studies related to SWB will only be discussed in the following lines.

Subjective well-being/satisfaction with life has been studied by many researchers in the perspective of satisfaction in different domains of life (Cummins, 1996, 1998, 2003; Headey and Wearing, 1992; Headey et al., 1984; Meadow et al., 1992; Rampichini and D'Andrea, 1998; Salvatore and Munoz Sastre, 2001; Saris and Ferligoj, 1996; Sirgy et al., 1995; Veenhoven, 1996 cited by Rojas (2006)). Domains refer to concrete areas of life in which a person functions as a human being (Rojas, 2004). Consequently, a relationship between life satisfaction and satisfaction in domains of life is assumed, but the nature of relationship is debatable (Rojas, 2006).

Cummins (1996) has argued, on the basis of a meta-study of the literature, for seven domains: material well-being, health, productivity, intimacy, safety, community, and emotional well-being. Argyle (2001) has mentioned money, health, work and employment, social relationships, leisure, housing, and education. Day (1987) considers 13 areas, including family life, working activity, social activity, recreation, personal health, consumption, ownership of durable commodities and properties, self, spiritual life, and country's situation. Flanagan (1978) has mentioned 15 components including economic, physical, and health well-being, having and raising children, relations with spouse, with relatives, passive and active recreational activates, personal development activities, and work. Heady and Wearing (1992) include leisure, marriage, work, standard of living, friendships, sex life, and health.

Regarding personal income, it was initially concluded that it exerts little influence over the SWB (Campbell et al., 1996; Diener et al., 1999; Headey and Wearing, 1992; King and Napa, 1998; Ng, 1997 cited by Cummins, 2000). Some studies show that there is a little or no existent relationship between income and well-being/happiness. Consequently poverty based on a person's income would not necessarily imply loss of well-being. However, there is an enormous body of empirical evidence showing that income has substantial impact on subjective well-being. Ali and Kiani (2003) concluded poverty status to be the main determinant of the elderly's quality of life. Cummins (2000) has concluded that money does matter but there is a ceiling beyond which income can no longer influence levels of the SWB. So the influence of economic status is well-established, but there is debate about the level at which it maximized the SWB.

The other important factor in the SWB is health status, and for the elderly it becomes much more important. The study by Wolinsky et. al. (1985) shows that health has a significant effect on the SWB. According to Spreitzer and Snyder (1974), self-assessed health is the main determinant of life satisfaction among the Americans. Coke and Twaite (1995) have analyzed the impact of economic status and heath condition jointly on life satisfaction, and concluded that the impact of economic status and health care are the main determinants of life satisfaction in general among the elderly.

As far as mental condition is concerned, studies show that good mental health contributes to the SWB of the elderly (Meddin and Vaux, 1988; Snow and Crapo, 1982). The psychological perspective of the SWB has been extensively studied (Kahneman et al, 1999; Argyle, 2002). Psycho-social indicators of well-being had more explanatory power than health indicators of well-being in explaining 'will to live' among the elderly (Carmel, 2001). Research shows a clear link between reduced well-being and high Depressive Symptomatology (DS): well-being is a significant predictor of DS and well-being increases as DS decreases (Davey, 2004).

In Pakistan there are a few studies related to the issues of the elderly people. Ali and Kiani (2002) attempted to study the relationship of quality of life index with that of living arrangements, gender, urban-rural residence, and poverty status of the elderly in Pakistan using nationally representative data. The results showed that per capita food and non-food consumption were the major determinant of quality of life for the elderly, along with type of residence and sex. In this study, an attempt had been made to construct an overall indicator of the well-being of the elderly, while combining subjective and objective indicators of the well-being. No theoretical justification, however, was given for combining these two types of indicators.

Other studies, most of which are case studies, usually adressed the income-related problem faced by the elderly in Pakistan, with that of some information related to the availability of health facilities. Most of these studies simply reported statistics (see Clark G. et al., 2002).

Summing up, many studies have been under taken to study SWB in relation to all major domains of life. The purpose of this study is to have a glimpse into the life of the elderly in Pakistan through their SWB using it as a tool. For this purpose the SWB of the elderly will be studied in relationship with those domains which can be regarded as basic needs required by any person. More over in this study effort will also be made to find out which basic needs are fulfilled and which have more priority over other in connection with the SWB of the elderly. Maslow's theory of motivation is one of the appropriate theories in order to achieve the objective of this study. This theory is further elaborated in the next section.

2.2 Theory

Maslow's theory of motivation (1970) was proposed to explain human motivation focusing on workplace behavior. In this theory he explained the emergence of basic human needs, how these needs are fulfilled, and what characteristics do these needs

possess. According to Maslow, there are two types of needs: fundamental and every day needs, and for achieving the fundamental needs people from different cultures adopt different every day needs. He classified these fundamental needs as physiological, safety, love, esteem and self-actualization. According to Maslow, these needs are hierarchical in nature, and when some needs are fulfilled others emerge (see figure 1). In other words the low level needs must be satisfied before higher-level needs (Maslow, 1970).

The first set of hierarchical needs is the physiological or basic needs as proposed by Maslow (1970). Basic needs include air, water, food, sleep and sex. These needs are the most prepotent of all needs. These needs can be attained at a low level of income and hence do not depend on increasing income (Hagerty, 1999).

Once the physiological needs are met, next set of needs which emerge is the safety needs which are psychological rather than physiological. The safety needs can be fulfilled by living in a safe area, medical insurance, job security and financial reserves. According to Maslow's hierarchy, if a person does not feel safe, higher needs will not receive much attention (Maslow, 1970).

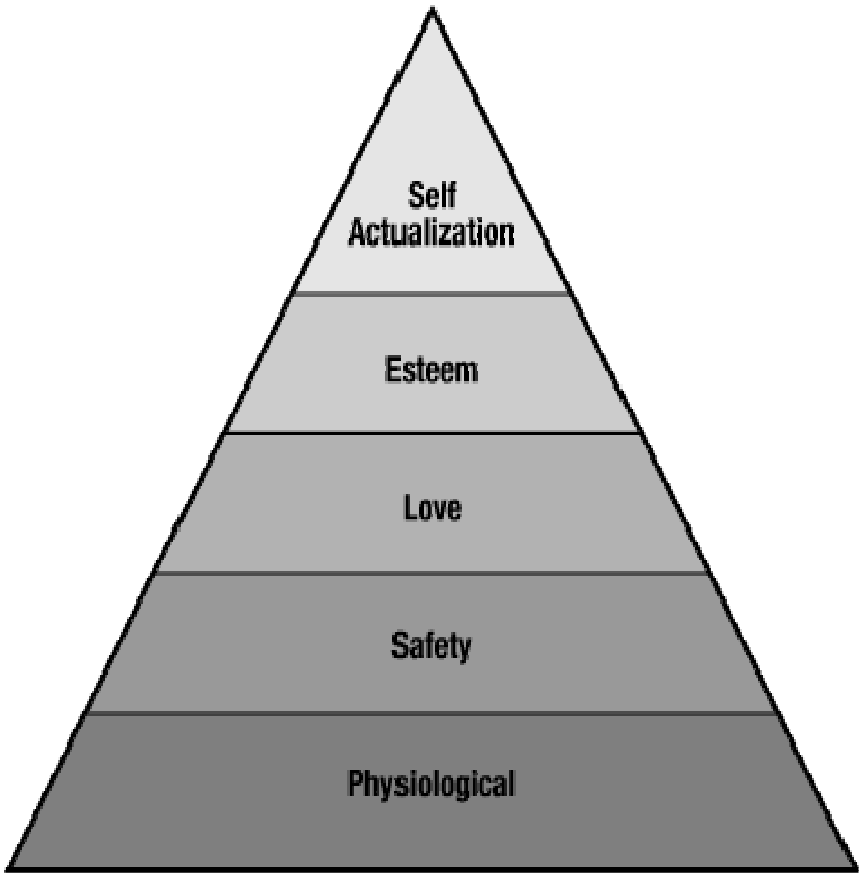
After meeting the lower level of needs; physiological and safety needs, higher level needs become important. The first of which is the belongingness or love needs. These are related to interaction with other people and may comprise of need of belonging and love and include both giving as well as receiving love (Maslow, 1970).

The esteem needs arise when one feels a sense of belonging. Esteem needs are those related to self esteem, social status and recognition. These needs can be identified as self respect, achievement, attention, recognition and reputation. These needs can be classified into two sets. These are, first, the need for strength, achievement, adequacy, mastery and competence, confidence in the face of the world, and for independence and freedom. Other set comprise the need for reputation, status, fame and glory. Satisfaction of these needs leads to feelings of self-confidence and thwarting of these needs produces feelings of inferiority (Maslow, 1970).

Maslow proposed that when all above-mentioned needs are satisfied, new needs emerge: the self-actualization needs. These newly emerged needs will not be satisfied unless the individual is doing what he is fitted for. The self-actualization needs are the highest of the Maslow's hierarchy of needs. The specific form of these needs will vary greatly from person to person (Maslow, 1974)

As we go from lower to higher needs, individual differences become more diversified. The physiological needs are fixed for all individuals whereas the self-actualization needs are more diversified. In one individual it may take the form of the desire to be an ideal mother, in another it may be expressed artistically. About the nature of the hierarchy of these needs, Maslow proposed that these needs emerge in a fixed order but with some exceptions. About the emergence of needs in such a fashion that if one need is satisfied, then another emerges, Malsow clarified that it does not mean that a need must be satisfied 100 percent before the next need emerges. He stated that every normal person in any society has partially satisfaction and partially dissatisfaction in all his needs, at the same time (Maslow, 1970).

Figure 1 Maslow's hierarchy of basic needs

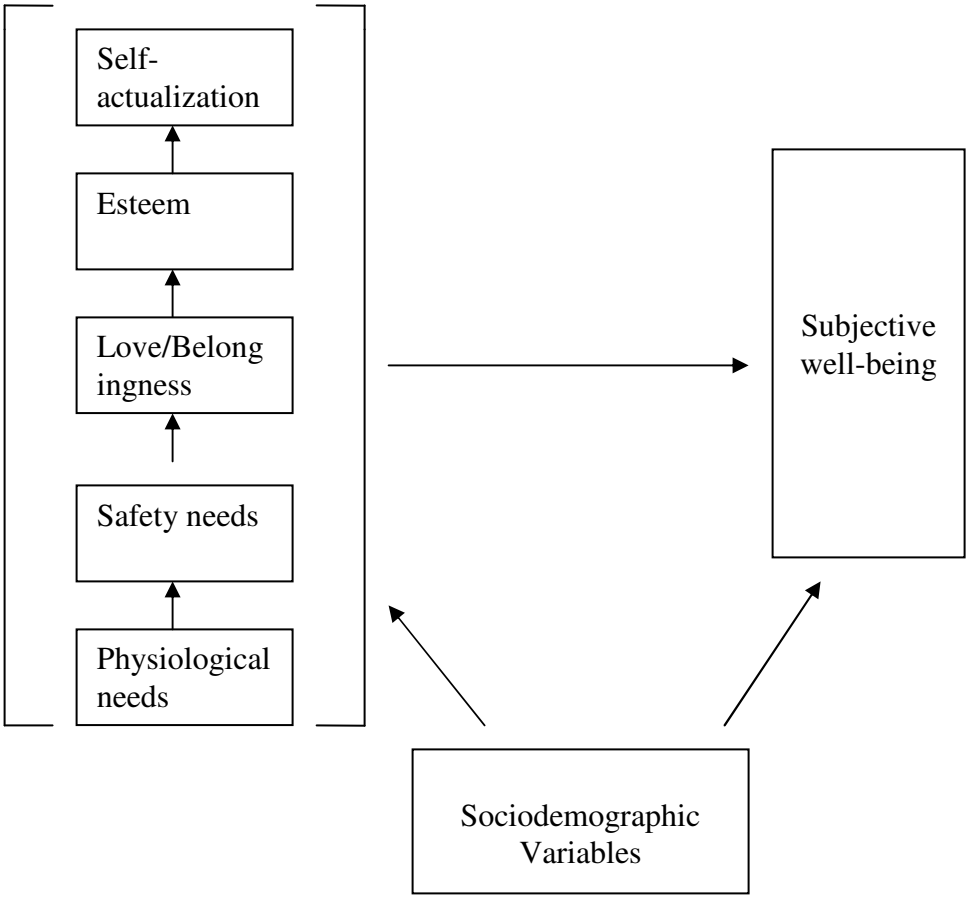


Source: Maslow (1970) cited by
http://www.randsinrepose.com/archives/2006/04/20/10.html

2.3 Conceptual framework

The objective of this study is to find out current level of the SWB of the elderly in Pakistan. The conceptual framework of this study will be based on Maslow's theory of hierarchical needs. This theory has previously been used to measure well-being and quality of life (QOL) of different countries (macro) level (Clarke et al., 2006; Hagerty, 1999). However, in this study it will be used to measure the SWB of the elderly at individual (micro) level. So the conceptual model of this study is given by figure 2.

Figure 2 Conceptual framework



Source: Based on Maslow's theory of hierarchical needs (1970).

2.3.1 Definitions of concepts

The Physiological needs
The physiological needs include air, water, food and sex.

The safety needs
The safety needs include safe place of living, safety from assault, murder and from chaos (Hagerty, 1999). Clarke el al. (2006) have regarded safety needs as psychological needs.

The Love/Belongingness needs
The love/ belongingness needs include belongingness to friends, a family and community and to be loved and acceptance by the others (Hagerty, 1999).

The esteem needs
Esteem includes status of a person where he is valued as a wise decision maker and has a certain status and confidence (Hagerty, 1999).

The self-actualization

The Self-actualization is "to become everything that one is capable of becoming" (Maslow 1970 pp. 46).

Subjective well-being (SWB)

Diener and Suh (1997) defined SWB as people's conscious experience in terms of good feeling and cognitive satisfaction.

3. Study Design

3.1 Introduction

As, in the previous chapter it is discussed that at the moment proportion of elderly in Pakistan is not alarming but given the socio-economic, health and emotional condition of the elderly, it would be a great challenge for the policy makers in the coming years. Further, there are no national level studies focusing on the basic needs of the elderly to examine the prevailing situation of the elderly in those domains of life. This study is aimed at to see what the level of SWB of the elderly is, to see which are the main determinants and what is the prevailing situation of those main determinants of the SWB of the elderly. In this study design of this study is discussed.

The outline of this chapter is as follow. Main hypotheses of this study are formulated in section 3.2. Description of the data is given in section 3.3. Methodology of this study is discussed in section 3.4. Section 3.5 contains the data quality issue. Operationalization of the main concepts is discussed in section 3.6. Ethical issues are discussed in section 3.7. Section 3.8 is dedicated to short comings of this study.

3.2 Hypotheses

The following hypotheses are made for this study to be tested based on the conceptual framework

1. Based on the Maslow's hierarchy of needs, all the needs have a positive effect in the SWB of the elderly in Pakistan with lower needs being more prepotent than the higher ones.

2. Hierarchy among the needs exist in the lives of the elderly in Pakistan.

3. As there is an assumed hierarchy in the needs and lower needs being more prepotent than the higher needs, basic needs would have greater effect on the SWB of the elderly.

4. Sociodemographic variables have positive relationship; higher level of education, gender, living in the urban areas and age (60-64), with that of SWB of the elderly.

3.3 Data

The analysis in this study is based on the data of Pakistan Socio-Economic Survey (PSES) Round-2. The survey was carried out in the year 2001 covering almost 96 percent of the population of Pakistan (Ali and Kiani, 2003).

PSES phase II was a continuation of PSES phase I therefore PSES phase II has been carried out in the same households visited two years earlier in the PSES phase I. The total size of the households visited in PSES phase I was 3564. To make phase II of PSES survey representative of 2001 population at national and urban-rural level, another

1170 households were added in the sample as PSES phase I survey was based on the sampling frame of 1981. In this way 4021 households (2577 rural and 1444 urban) were successfully enumerated. In phase II, a total of 1174 elderly were successfully interviewed (Ali and Kiani, 2003).

3.4 Methodology

To explore the unadjusted effect of the basic needs and other sociodemographic variables on the SWB of the elderly, chi square test will be applied with that of cross tabulations. Multinomial logistic regression will be applied to explore the net effect of each variable on the SWB. The model is presented by the following equation.

$$\log\left(\frac{\pi}{1-\pi}\right) = \beta_0 + \beta_1 x_i + \beta_2 x_i + ... + \beta_n x_i$$

where, π is the probability of success.

3.5 Data quality

Regarding the quality of the data of PSES round II, many measures were taken to prevent the occurrence of both sampling and non sampling errors in the data. For that purpose, firstly sample design is used that of Federal Bureau of Statistics (FBS), which is worked out by listing down all sampling units through out the country to ensure that data is fully representative of the population under study. Secondly skilful interviewers were appointed. Field staff was given proper training. To get the full coverage and response form the respondents male and female interviewers were appointed.

3.6 Operationalization of main concepts

The purpose of this study is to find out the prevailing situation of the elderly with respect to basic needs and SWB throughout Pakistan. PSES round II provided some data on elderly. These data are used to answer the research questions of this study. Due to data constraint, as this study is not focused on elderly, effort is being made to operationalize the main concepts as valid as possible. Basic concepts are operationalized in the following manner:

The physiological needs
The physiological needs are assessed by the poverty status in terms of basic needs and calorie intake of the elderly (Hagerty, 1999). In the data, information on the calorie intake and basic needs are available. These two scores are converted in rupees (Pakistani currency). By factor analysis these two variable are combined and a new variable of 'basic needs', which is a continuous variable, is constructed in such a way that higher value of 'basic needs' refer to higher level of basic needs enjoyed by the elderly.

The safety needs
The safety needs are assessed by the health status (Clarke et al. 2006; Hagerty, 1999) and suitable place of residence. It is regarded as psychological needs (Clarke et al., 2006), so thinking about the future life will also be included in safety needs. As suggested by

Clarke et al. and Hagerty, variable of safety needs is constructed by combining these three variables using Factor analysis. Newly constructed variable is a continuous variable in such a way that higher the value of 'safety needs' means higher level of safety needs enjoyed by the elderly.

The love/belongingness needs
Belongingness are assessed by the time given by children to the elderly. There is a question in the survey asking the elderly "Do children or other member of the household share their time with you?" with two options of either 'yes' or 'no' which are coded as '1' and '2' respectively. So those elderly whose children and other members of the household give time to them are regarded as having belongingness and love and vice versa. Measurement scale of this variable is ordinal.

The esteem needs
Role in the decision making are used to find out the level of esteem needs satisfed among the elderly. In the questionnaire there was a question related to the role in the decision making: "What is your role in decision making in the household?". The possible responses in ordinal scale are: "Take most of the decision by myself", "Take most decisions with joint consent", "Children take most of the decisions", and "No role at all in the decision making" and they are coded as '1', '2', '3' and '4', respectively.

The self-actualization needs
Achievement of the aim in the life are used to assess the level of self-actualization needs satisfied among the elderly. Answer to the question "Do you think that you have achieved what you aimed for in the life?" is used as an indicator. Possible options were 'very much', 'To some extent', 'Not so much', and 'Not at all' which are coded in ordinal scale as '1', '2', '3', and '4', respectively.

Sociodemographic status
Sociodemographic status include age, sex, education and place of residence. Age is taken as a continuous variable. Sex and place of residence are measured at nominal scale with 'male' and 'living in urban areas' coded as '1' and 'female' and 'living in rural areas' as '2'. Education, which is measured at ordinal scale, is divided in four categories: '10 grade and above', 'grade 5 to grade 9', 'grade 1 to grade 4', and 'no education'.

Subject well-being
The subjective well-being of the elderly in Pakistan is evaluated by the perception of the elderly about their life satisfaction and for that purpose answer to the following question is used for this purpose: 'Overall how satisfied are you with your present living conditions?' There are three possible answers to this question: 'Very much satisfied', 'moderately satisfied', and 'not satisfied' which are coded as '1', '2', and '3' in ordinal scale of measurement.

3.7 Ethical Issues

In the survey PSES part II some ethical considerations were kept in contact while conducting the interviews. Interviews were conducted with the consent of the respondent with out any harm. All the interviews with the elderly were conducted by female

interviewers as they had easy access in the house of the respondent and most of the elderly were found in the household. Confidentiality of the respondents was ensured and they were told that the information would be used for research purposes only.

3.8 Limitations of the study

In Pakistan, as there is hardly any study focusing on overall life of the elderly, this study is undertaken as a first step in this direction. In this data there are certain limitations which are worth mentioning.

The route, which this study adopted, was not alike as to design a study and then data is collected, keeping in mind all the theoretical and methodological aspects. Rather, in this study data of PSES round II is used, which is basically in connection with Micro impact of macro adjustment polices (MIMAP) project and was a panel study. Therefore, due to shortage of any data at national level on elderly constrained this study to use the PSES round II data which have a separate section on the eldelry's issues. Due to this reason sufficient information regarding the variables included in this study was not available.

The data available were collected through closed ended questions, therefore all the variables were measured quantitatively. Hence in a some cases, questions may arise regarding the validity of the operationalization as it was not an ideal option to operationlize these concepts through closed ended questions whereas the qualitative research would have been an ideal option. Such variables include the variables of SWB, the love needs, the esteem needs, and the self-actualization needs. However, effort has been made to operationalize them as valid as possible.

4. Results

4.1 Introduction

In order to find out the prevailing situation of the SWB and other different variables, hierarchy of the basic needs proposed by Maslow and relationship between the SWB and the basic needs, bivaritate and multivarite analyiss were carried out. In this chapter results of these analysis are presented. The outline of this chapter is given as follows. Section 4.2 discueses the relationship of the SWB and the basic needs with sociodemographic variables. Section 4.3 contains the results of multivariate analysis. In section 4.4 an attempt is made to see if the hierarchy among the basic needs is present in the elderly, as proposed by Maslow.

4.2 Relationship of the SWB and basic needs with sociodemographic variables

In order to find out the relationship of different variable under study, bivarite analysis and binary logistc regression analysis were carried out. In this section prevailing situation of the dependent variable as well as that of basic needs, in addition to their relationship with different sociodemographic variables under study, will be discussed. Cross tabulations suggest about the trend among different categories of a variable whereas chi square tests the significance of the association between two variables. Results with tables are given in the following section.

Relationship of 'level of satisfaction' with love needs, esteem needs, self-actualization and sociodemographic variables

First of all unadjusted effect of all the variables is explored with that of dependent variable 'Subjective well-being'. In the table below it can be observed that male elderly are slightly well off as far as satisfaction with life is concerned as they are six percentage ahead from female elderly in the category of 'very much satisfied' and four percentage points less in the category of 'not satisfied'. Association between the two variables is also highly significant as suggested by chi square test. This result is quite anticipated one as in Pakistani society male are dominant and women are deprived of many basic rights due to cultural norms.

To find out what is the age-wise level of satisfaction with life among the elderly, they are divided in three groups according to their age; 60-64, 65-74 and 75 or above. Table below suggests that there is not much difference among different the elderly in different age group as far as satisfaction in life is concerned although elderly in the age group 65-74 are slightly better than other two age groups although it the relationship is not significant as suggested by chi square test.

Table 1 Percentage distribution of elderly by Subjective well-being by different sociodemographic variables and basic needs

		Satisfied with life			P value
		very much satisfied	moderately satisfied	not satisfied	chi square
		286	652	117	
		(27)	(62)	(11)	
Sex	Male	168	341	51	0.018
		(30)	(61)	(9)	
	Female	118	311	66	
		(24)	(63)	(13)	
Age	60-64	100	253	52	0.172
		(25)	(62)	(13)	
	65-74	134	261	41	
		(31)	(60)	(9)	
	75+	52	138	24	
		(24)	(64)	(11)	
Place of residence	Urban	125	204	35	0.001
		(340	(56)	(10)	
	Rural	161	448	82	
		(23)	(65)	(12)	
Education	10+	45	30	3	0
		(58)	(38)	(4)	
	4-9	51	58	5	
		(45)	(51)	(4)	
	1-4	23	29	2	
		(43)	(54)	(4)	
	None	167	535	107	
		(21)	(66)	(13)	
Physiological needs	Not fulfilled	140	487	86	0
		(20)	(68)	(12)	
	Fulfilled	146	165	31	
		(43)	(48)	(9)	
Safety needs	Not fulfilled	50	215	99	0
		(14)	(59)	(27)	
	Fulfilled	236	437	18	
		(34)	(63)	(3)	
Love needs	No	10	35	26	0
		(14)	(49)	(37)	
	Yes	276	617	91	
		(28)	(63)	(9)	

Table 1 continued

		Satisfied with life			P value of
		very much satisfied	moderately satisfied	not satisfied	chi square
		286	652	117	
		(27)	(62)	(11)	
Esteem needs					
	No role at all	4	31	14	0
		(8)	(63)	(29)	
	Children take decisions	16	55	12	
		(19)	(66)	(14)	
	Take decisions with consent	129	437	54	
		(21)	(70)	(9)	
	Take decisions by my self	137	129	37	
		(45)	(43)	(12)	
Self-actualization needs					
	Not at all	7	13	29	0
		(14)	(27)	(59)	
	Not so much	19	151	65	
		(8)	(64)	(28)	
	To some extent	154	461	22	
		(24)	(72)	(3)	
	Very much	106	27	1	
		(79)	(20)	(1)	
N	1055				

Values in parenthesis are percentages.
Sourse: Original data file of PSES 2001 round II

Place of residence has a significant effect on the level of satisfaction among the elderly as shown in the table below. 34 percent of the elderly living in the urban areas are 'very much satisfied' as compared to 23 percent in the rural areas. Similarly 56 percent feel 'moderately satisfied' in the urban areas comparing with 65 percent in rural areas whereas proportion of elderly in the category of 'not at all satisfied' is almost the same for both the region. Although the life of people living in the urban areas is not too good but in comparison with the rural areas they are quite well off. People in the village are deprived of the basic necessities like roads, gas and electricity.

Looking at the comparison of level of education with satisfaction with life, table above shows that level of satisfaction improves as the level of education rises with highly significant level of association as suggested by chi square test. In Pakistan a majority of the people is illiterate and this proportion is worse among the elderly people.

From the table 1 it can be observed that among the elderly whose physiological needs are fulfilled 43 percent of the elderly are very much satisfied and 48 percent are 'moderately satisfied'. On the other hand among the elderly whose physiological needs are not met, percentage points are 20 and 68 for the elderly who are 'very much satisfied' and 'moderately satisfied' respectively. Chi square test reveals that there is highly significant association present between the two variables. From the results it can be observed that due to absence of physiological needs elderly are not worse off with respect to their SWB, although there is significant association present between the two variables. It shows some sort of contentment among the elderly in Pakistan.

Among the elderly, whose safety needs is not fulfilled, 20 percent are 'very much satisfied' as compared to 34 percent whose safety need is met as shown in the table 1. Similarly only 3 percent of the elderly enjoying safety needs are in the category of 'not at all satisfied' as compared to 27 percent whose safety needs are not fulfilled. Chi square provides the evidence of highly significant association between SWB and safety needs. The trend of this association is also clear that as the safety needs are met, person is satisfied and vice versa.

Looking at the relationship between 'time given by children', which is used as a proxy of love needs, above table shows that those elderly who are given time by their children and other household members are better off as far as their level of satisfaction in life is concerned. Among the elderly who are not given time by their household members 14 percent feel 'very much satisfied' as compared to 28 percent of those elderly whose family member entertain them. Similarly only 9 percent of the elderly who are given time by their household members feel 'not at all satisfied' as compared to 37 percent who are not given time by the family members. Chi square test suggests that there is a highly significant relationship between these two variables.

If we look at the relationship between 'role in the decision making', which is used as a proxy of esteem needs among the elderly, with level of satisfaction, above table shows that these two variables are highly associated as the chi square test is highly significant. As the level of decision making becomes pivotal, the level of satisfaction increases. Among the elderly, who take most of the decision by them selves, 45 percent

are very much satisfied as compared to 21 percent of those who take decision with joint consent, 19 percent of those whose children take decisions and 8 percent of those who have no role in the decision making. Similarly only 12 percent of the elderly who take decision by themselves feel 'not at all satisfied' as compared to 29 percent of those elderly who have no role in the decision making.

In the analysis variable of achievement in the life is taken as a proxy of self-actualization needs of the elderly in Pakistan. Above table gives an indicator of high association between the variable of achievement in the life and level of satisfaction as the chi square test is highly significant. Among the elderly who have achieved their aim in life are 79 percent 'very much satisfied' as compared to 24 percent for those who have achieved their aim 'to some extent', 8 percent of those who have achieved their aim 'not so much' and 14 percent of those who have achieved their aim in life 'not at all'.

From the bivarite analysis of the relationship of level of satisfaction of the elderly with that of all the variable under study, it is clear the those elderly who are more educated, live in the urban areas, have time form their family members, have a pivotal role in the decision making and have some sense of achievement in their life are better off with respect to their satisfaction in life as compare to other categories of each variable. Sex and age has no significant association with the variable of level of satisfaction.

Relationship of physiological needs with different sociodemographic variables

Overall situation of physiological needs among the elderly is not so good, as suggested by table 1. Among the elderly only 32 percent are provided with the physiological need. This proportion is very low as in Pakistan almost 33 percent of the population lives under the poverty line.

Table 2 elaborates the differentials between the physiological needs and the sex of the elderly. It is clear from the table that the situation is almost same for both the sexes as far as physiological needs is concerned. Chi square test reveals the same result as it is insignificant. In order to find out the adjusted effect of sex of the elderly on the fulfillment of the physiological needs after controlling the effect of all other control variables, binary logistic regression is applied. It reveals that the odds for male elderly that their physiological needs are fulfilled are almost 60 percent higher than the odds that their physiological needs are not fulfilled as compared to female elderly with a highly significant coefficient(see table 3).

Unadjusted relationship of level of education and physiological need is quite clear (see table 2). As the level of education increases, proportion of elderly whose physiological needs are fulfilled, rises and vice versa. Chi square test also suggests that there is highly significant association present between the two variables. Same trend can be observed from the results of binary logistic regression (see table 3), which shows that as higher the level of education of the elderly, the higher are chances of fulfillment of the physiological needs among the elderly with highly significant coefficients.

Relationship among elderly in different age groups and physiological needs is not associated suggested by both chi square test (table 2) and binary logistic regression (table 3) although the 'older old' are a bit deprived of as compared to other two younger groups.

Higher proportion of elderly people living in the rural areas is deprived of the physiological needs as compared to the elderly in the urban areas (73 percent versus 55) and vice versa as shown in table 2. Association between the two variables is highly significant according to chi square test. Same trend of the results can be observed in binary logistic regression with highly significant coefficient (table 3).

Table 2 Percentage distribution of elderly by Physiological needs by different sociodemographic variables

		Physiological needs		P value Chi square
		Not fulfilled	fulfilled	
Total		713	342	
		(68)	(32)	
Sex	Male	380	180	0.196
		(68)	(32)	
	Female	333	162	
		(67)	(33)	
Education	10+	23	55	0.00
		(29)	(71)	
	5-9	58	56	
		(51)	(49)	
	1-4	35	19	
		(65)	(35)	
	None	597	212	
		(74)	(26)	
Age	60-64	266	139	0.165
		(66)	(34)	
	65-74	291	145	
		(67)	(33)	
	75+	156	58	
		(73)	(27)	
Place of residence	Urban	202	162	0.000
		(55)	(45)	
	Rural	511	180	
		(74)	(26)	

Values in parenthesis are percentages.
Sourse: Original data file of PSES 2001 round II

Table 3 Relationship of the physiological needs with sociodemographic variables

		Coefficient	Standard Error	P value	Odds ratio
Not fulfilled					
	Intercept	0,522	0,621	0,401	
Age		0,008	0,009	0,405	1,008
Sex	Male	0,468	0,156	0,003	1,596
	Female	0,000	.	.	.
Education	10+	-1,942	0,282	0,000	0,143
	5_9	-1,132	0,222	0,000	0,323
	1_4	-0,538	0,310	0,082	0,584
	No education	0,000	.	.	.
Place of residence	Urban	-0,584	0,145	0,000	0,558
	Rural	0	.	.	.
N	1055				
nagelkerke R2					
	0,132				
-2 Likelihood	1224,08				
Chi square	105,168				
df	6				

Values in parenthesis are percentages.
Sourse: Original data file of PSES 2001 round II

Relationship of safety needs with different sociodemographic variables

Overall 65 percent of the elderly have safety needs fulfilled, as shown in table 4. This figure is a bit encouraging as compared to physiological needs.

From table 4 the unadjusted relationship of safety needs and sex of the elderly can be observed. Higher percentage of male elderly is enjoying safety needs as compared to female elderly (70 percent versus 60 percent). The association is highly significant suggested by chi square test. Binary logistic regression, which gives adjusted effect of the sex of the elderly on the fulfillment of the safety needs, reveals same trend with highly significant coefficient (see table 5).

Among the elderly with different levels of education, those who have no education are worse of as compared to elderly having education at any level. Those who are in the category of education from 5 to 9 standards are a bit better than those who have education between 1-4 standards and 10 standards or above. Test of association between

two variables is highly significant as given in table 4. Adjusted relationship between these two variables shows same trend with highly significant coefficients (see table 5).

There is not much difference among the elderly in different age groups as far as safety needs is concerned. Test of association also reveals that there is no association between these variables. Similar trend can be observed for the place of resident with similar result of chi square test.

Table 4 Percentage distribution of elderly by Safety needs by different sociodemographic variables

		Safety needs		**P value**
		Not fulfilled	Fulfilled	Chi square
Total		364 (35)	691 (65)	
Sex	Male	167 (30)	393 (70)	0.001
	Female	197 (40)	298 (60)	
Education	10+	19 (24)	59 (76)	0.000
	5-9	23 (20)	91 (80)	
	1-4	13 (24)	41 (76)	
	None	309 (38)	500 (62)	
Age	60-64	139 (34)	266 (66)	0.785
	65-74	147 (34)	289 (66)	
	75+	78 (36)	136 (64)	
Place of residence	Urban	124 (34)	240 (66)	0.838
	Rural	240 (35)	451 (65)	

Values in parenthesis are percentages.
Sourse: Original data file of PSES 2001 round II

Table 5 Relationship of the safety needs with sociodemographic variables

		Coefficient	Standard Error	P value	Odds ratio
Not fulfilled					
	Intercept	-1,090	0,564	0,053	
Age		0,010	0,008	0,210	1,010
Sex	Male	-0,265	0,140	0,060	0,767
	Female	0,000	.	.	.
Education	10+	-0,525	0,289	0,069	0,592
	5_9	-0,782	0,254	0,002	0,457
	1_4	-0,573	0,333	0,085	0,564
	No education	0,000	.	.	.
Place of residence	Urban	0,062	0,143	0,665	1,064
	Rural	0,000	.	.	.
N	1055				
nagelkerke R2	0,036				
-2 Likelihood	1331,63				
Chi square	27,867				
df	6				

Values in parenthesis are percentages.
Sourse: Original data file of PSES 2001 round II

Relationship of love needs with different sociodemographic variables

The prevailing situation of the variable of time given by children and other household members to elderly is given encouraging as 93 percent of the elderly are given time by their family members. To explore the prevailing situation of the love needs among the elderly in Pakistan, cross table of the love needs with different sociodemographic variables is given in the table below.

Table 6 shows that proportion of male and female elderly, who are enjoying 'love needs', is almost same. Test of association is also highly insignificant. Same result may be observed after controlling for other control variables as shown in table 7.

From the table 6 it is evident that age and time given by the household members to the elderly is also not associated as suggested by chi square test. Elderly who are given time by household members are almost same in percentages in each age group. Adjusted relationship between the two variables endorses the same result (see table 7).

Relationship of time given by the household members and place of residence is also insignificant as suggested by the test of association (table 6) and binary logistic regression (table 7).

Level of education has a significant association with the variable of time given by members of household as shown in the table both unadjusted and adjusted . There is not much difference in the percentage points of the elderly who are given time at different levels of education although those elderly who have no education are slightly smaller in terms of percentages points than the elderly in other categories of the level of education (see table 6). Binary logistic regression gives adjusted effect of the variable of education on fulfillment of safety needs (see table 7). It reveals that the odds ratio that safety needs for those elderly who have education 10+, 5-9, and 1-4 are not fulfilled are more than 70 percent less , for all three levels of education, than the odds ratio that their safety needs are fulfilled as compared to those elderly who have no education at all with highly significant coefficient.

Table 6 Percentage distribution of elderly by 'Love needs' by different sociodemographic variables

		Love needs		P value
		Not fulfilled	Fulfilled	Chi Square
Total		71	984	
		(7)	(93)	
Sex	Male	36	524	0.713
		(6)	(94)	
	Female	35	460	
		(7)	(93)	
Place of residence	Urban	21	343	0.438
		(6)	(94)	
	Rural	50	641	
		(7)	(93)	
Education	10+	2	76	0.024
		(3)	(97)	
	5-9	3	111	
		(3)	(97)	
	1-4	1	53	
		(2)	(98)	
	None	65	744	
		(8)	(92)	
Age	60-64	33	372	0.247
		(8)	(92)	
	65-74	23	413	
		(5)	(95)	
	75+	15	199	
		(7)	(93)	

Values in parenthesis are percentages.
Sourse: Original data file of PSES 2001 round II

Table 7 Relationship of the love needs with sociodemographic variables

		Coefficient	Standard Error	P value	Odds ratio
Not fulfilled					
	Intercept	-2,550	1,050	0,015	
Age		0,001	0,015	0,960	1,001
Sex	Male	0,178	0,256	0,487	1,195
	Female		.	.	.
Place of residence	Urban	-0,068	0,274	0,806	0,935
	Rural		.	.	.
Education	10+	-1,253	0,746	0,093	0,286
	5_9	-1,237	0,611	0,043	0,290
	1_4	-1,594	1,024	0,120	0,203
	No education		.	.	.
N	1055				
nagelkerke R2	0,029				
-2 Likelihood	211,196				
Chi square	12,185				
df	6				

Values in parenthesis are percentages.
Sourse: Original data file of PSES 2001 round II

Relationship of Esteem needs with different sociodemographic variables

Looking at the table below to find out the prevailing situation of elderly in 'role in decision making' which is used as a proxy for 'esteem need', it can be observed that overall majority of the elderly have a vital role in decision making and 59 percent of them take decision with joint consent whereas 29 percent take decision by them selves. On the other hand there is a small proportion of 5 percent who have no role in the decision making among the elderly. This could be due to the religious and cultural norms to abide by the orders of the elderly parents as majority of the population in the country is Muslim.

Looking at the differentials in the role of decision making between the sexes, table below suggests that there is highly significant association between the two variables as chi square test is highly significant. Among the male elderly 39 percent take decision by them selves as compared to 17 percent female elderly. Similarly 54 percent of the male elderly take decision with joint consent whereas this proportion is 65 percent among the female elderly. Those who have no role in the decision making are 3 percent and 6 percent among male and female elderly respectively. From table 8 it is clear that male have more authority in the decision making than their female counterparts and it is due

the male dominant society where mostly head of the household is a male. Binary logistic regression also reveals the same result with highly significant coefficient (see table 9)

Role in the decision making has also strong association with different age groups of the elderly as suggested by the highly significant chi square value (see table 8). Among the elderly in the age group 60-64, 33 percent take most of the decision by themselves as compared to 29 percent and 20 percent for the elderly in the age group 65-74 and 75 or above respectively. On the other hand 4 percent, 3 percent and 9 percent of the elderly have no role in the decision making among the age group 60-64, 65-74 and 75 or above respectively. From the above results it is clear that authority of the elderly people diminishes with the age. Regression analysis shows same relationship between age and esteem needs among the elderly as shown in table 9.

Significant association can be observed between the variable of role in the decision making and place of residence as shown in table 8. Elderly living in the urban areas are slightly better off with respect to decision making as 33 percent of them take decision on their own as compare to 26 percent in the rural areas. On the other hand 3 percent of the elderly in the urban areas and 5 percent in the rural areas have no role in the decision making respectively. From the above results it is clear that elderly in the urban areas are better off as compared to the elderly in the rural areas with respect to role in the decision making. The regression analysis endorses the result of the test of association between place of residence and esteem needs among the elderly (see table 9).

Similarly variable of education and role in the decision making are also highly significant as shown in table 8. As the level of education increases there is an increase in the role in the decision making. Among the elderly who have education 10 grade or above, 53 percent take decisions by them selves as compared to 49 percent, 35 percent and 23 percent of those elderly who have education between 5 to 9 grades, 1 to 4 grades and no education respectively. The regression analysis shows same trend as can be observed in the test of association but some of the relationship are insignificant (see table 9).

Table 8 Percentage distribution of elderly by 'Esteem needs' by different sociodemographic variables

		Esteem				P value
		Not at all	Not so much	To some extent	Very much	Chi square
Total		49	83	620	303	
		(5)	(8)	(59)	(29)	
Sex	Male	17	26	300	217	0.000
		(3)	(5)	(54)	(39)	
	Female	32	57	320	86	
		(6)	(12)	(65)	(17)	
Place of residence	Urban	12	22	210	120	0.044
		(3)	(6)	(58)	(33)	
	Rural	37	61	410	183	
		(5)	(9)	(59)	(26)	
Education	10+	1	1	35	41	0.000
		(1)	(1)	(45)	(53)	
	5-9	3	2	53	56	
		(3)	(2)	(46)	(49)	
	1-4	0	3	32	19	
		(0)	(6)	(59)	(35)	
	None	45	77	500	187	
		(6)	(10)	(62)	(23)	
Age	60-64	15	24	233	133	0.000
		(4)	(6)	(58)	(33)	
	65-74	14	39	256	127	
		(3)	(9)	(59)	(29)	
	75+	20	20	131	43	
		(9)	(9)	(61)	(20)	

Values in parenthesis are percentages.
Sourse: Original data file of PSES 2001 round II

Table 9 Relationship of the esteem needs with sociodemographic variables

		Coefficient	Standard Error	P value	Odds ratio
	Intercept	-6,445	1,213	0,000	
Age		0,083	0,017	0,000	1,087
Sex	Male	-1,443	0,353	0,000	0,236
	Female	0,000	.	.	.
Education	10+	-1,182	1,057	0,263	0,307
	5_9	-0,784	0,646	0,225	0,457
	1_4	-19,804	0,000	.	0,000
	No education	0,000	.	.	.
Place of residence	Urban	-0,647	0,371	0,082	0,524
	Rural	0,000	.	.	.
2	Intercept	-3,037	1,096	0,006	
Age		0,043	0,016	0,007	1,043
Sex	Male	-1,448	0,286	0,000	0,235
	Female	0,000	.	.	.
Education	10+	-1,944	1,039	0,061	0,143
	5_9	-1,767	0,747	0,018	0,171
	1_4	-0,348	0,655	0,595	0,706
	No education	0,000	.	.	.
Place of residence	Urban	-0,484	0,290	0,095	0,616
	Rural	0,000	.	.	.
3	Intercept	-0,274	0,687	0,690	
Age		0,025	0,010	0,012	1,026
Sex	Male	-0,838	0,163	0,000	0,433
	Female	0,000	.	.	.
Education	10+	-0,700	0,263	0,008	0,497
	5_9	-0,688	0,222	0,002	0,502
	1_4	-0,155	0,311	0,619	0,857
	No education	0,000	.	.	.
Place of residence	Urban	-0,174	0,156	0,266	0,841
	Rural	0,000	.	.	.
N	1055				
nagelkerke R2	0,14				
-2 Likelihood	827,861				
Chi square	136,982				
df	18				

Relationship of self-actualization needs with different sociodemographic variables

The percentage distribution of elderly people by 'self-actualization need' reveals that overall 13 percent of the elderly have the view of achieving their aim in life as 'very much' whereas 60 percent have 'to some extent' on the other hand only 5 percent of the elderly responded as 'not at all'.

Looking at the distribution of 'self-actualization' with respect to sex, it can be observed that there is not too much difference between the two sexes as suggested by chi square test although it is significant at 7 percent level of significance. Table below shows that 64 percent of male elderly in comparison with 57 percent of female elderly reported to have achieved their aim in life 'to some extent' whereas the percent points are 25 and 20 for male and female elderly, who reported to have achieved their aim in life 'not so much', respectively. These results give a mixed picture. On the other hand the regression analysis shows that female elderly are better off than male elderly. Table 11 shows that the odds for male elderly to have achieved their aim 'not so much' and 'to some extent' are 68 percent and 84 percent higher, respectively, than the odds that they have achieved their aim 'very much' as compared to female elderly with highly significant coefficients.

Highly significant association can be observed between self-actualization need and place of residence if we look at the p value of the chi square test. Among the elderly who live in urban areas 21 percent responded that they have achieved their aim in life' very much' as compared to 8 percent of those elderly who live in the rural areas. On the other hand those elderly who responded 'to some extent' when asked about the achievement of aim in life, residents of rural areas were 8 percentage points ahead from their urban counterparts (63 versus 55). Similarly 18 percent of the elderly, living in the urban areas, responded 'not so much' when they were asked about the achievement of the aim in life, as compared to 24 percent among the rural elderly. Overall these are mixed results although urban inhabitants are slightly well off. Reason for higher percentage of urban residents, responding that they have achieved their aim in life 'very much', is the opportunities available to them. The regression analysis, with highly significant coefficients, demonstrate the same trend as suggested by the test of association.

Education has a vital role in the achievement of the aim in life among the elderly in Pakistan as suggested by chi square test and differentials in the percentages of the responses at different levels of education in the table below. It is clear form the table 4 that perception of the elderly towards the achievement of the aim in the life is optimistic with the increase in the level of education and vice versa. The regression analysis shows the same trend as suggested by test of association (see table 11).

Table 10 Percentage distribution of elderly by 'Self-actualization' by different sociodemographic variables and basic needs

		Self-actualization				P value
		Not at all	Not so much	To some extent	Very much	Chi square
Total		49	235	637	134	
		(5)	(22)	(60)	(13)	
Sex	Male	21	112	357	70	0.068
		(4)	(20)	(64)	(13)	
	Female	28	123	280	64	
		(6)	(25)	(57)	(13)	
Place of residence	Urban	18	67	201	78	0.000
		(5)	(18)	(55)	(21)	
	Rural	31	168	436	56	
		(4)	(24)	(63)	(8)	
Education	10+	1	5	47	25	0.000
		(1)	(6)	(60)	(32)	
	5-9	4	13	69	28	
		(4)	(11)	(61)	(25)	
	1-4	0	8	37	9	
		(0)	(15)	(69)	(17)	
	None	44	209	484	72	
		(5)	(26)	(60)	(9)	
Age	60-64	20	97	242	46	0.199
		(5)	(24)	(60)	(11)	
	65-74	18	100	252	66	
		(4)	(23)	(58)	(15)	
	75+	11	38	143	22	
		(5)	(18)	(67)	(10)	

Values in parenthesis are percentages.
Sourse: Original data file of PSES 2001 round II

Table 11 Relationship of the self-actualization needs with sociodemographic variables

		Coefficient	Standard Error	P value	Odds ratio
	Intercept	-0,332	1,495	0,824	
Age		-0,001	0,022	0,971	0,999
Sex	Male	0,334	0,372	0,370	1,396
	Female	0,000	.	.	.
Place of residence	Urban	-0,527	0,354	0,137	0,590
	Rural	0,000	.	.	.
Education	10+	-2,736	1,066	0,010	0,065
	5_9	-1,533	0,600	0,011	0,216
	1_4	-20,905	0,000	.	0,000
	No education	0,000	.	.	.
2	Intercept	2,096	1,032	0,042	
Age		-0,013	0,015	0,386	0,987
Sex	Male	0,517	0,257	0,044	1,678
	Female	0,000	.	.	.
Place of residence	Urban	-0,894	0,239	0,000	0,409
	Rural	0,000	.	.	.
Education	10+	-2,688	0,538	0,000	0,068
	5_9	-1,961	0,391	0,000	0,141
	1_4	-1,261	0,525	0,016	0,283
	No education	0,000	.	.	.
3	Intercept	1,597	0,898	0,075	
Age		0,006	0,013	0,649	1,006
Sex	Male	0,611	0,230	0,008	1,842
	Female	0,000	.	.	.
Place of residence	Urban	-0,875	0,204	0,000	0,417
	Rural	0,000	.	.	.
Education	10+	-1,283	0,322	0,000	0,277
	5_9	-1,155	0,290	0,000	0,315
	1_4	-0,611	0,415	0,141	0,543
	No education	0,000	.		
N	1055				
nagelkerke R2	0,11				
-2 Likelihood	878,217				
Chi square	107,366				
df	18				

No differentials are evident from the above tests (10 and 11) in the perception of the elderly about the achievement of the aim in life at different age groups.

From the above bivariate unadjusted analysis, it is clear that the main factors which are significantly associated with the perception about the achievement of aim in the life are level of education and place of residence whereas sex of the elderly also plays a vital role, as male elderly, with higher level of education and living in the urban areas have higher percentages of the responses towards achievement of aim in life as compared to other categories of these variables. On the other hand age of the elderly does not have any association with the perception about the aim in life.

4.3 Multinomial logistic regression analysis

4.3.1 Introduction

Multinomial logistic regression is applied to find out the net effect of each variable included in the model while controlling the effect of all others. The reference category is 'not at all satisfied' for the dependent variable. Comparison for each category of the dependent variable with that of reference category is given for all the models in a separate table.

4.3.2 Results

'Very much satisfied' relative to 'not at all satisfied'

In the basis model variables of age, sex, education and place of residence are included. Looking at table 1 it is evident that only education has a significant effect on the overall well-being of the elderly in Pakistan as suggested by the PSES round II data while comparing 'Very mush satisfied' relative to 'not at all satisfied' whereas the coefficients for each level of education are also quite high in magnitude comparing with that of 'no education'.

In the second model the variable of physiological needs is included with that of all the control variables. In table 1 it is evident that the impact of this variable is statistically highly significant. Looking at the relationship of physiological needs with that of satisfaction in life in terms of the odds ratio, the odds are almost 70 percent higher (exp(0.53)) for the elderly to be 'very much satisfied' relative to the odds of 'not at all satisfied' with an increase of one unit of the basic physiological needs. In this model too, education is the only variable which is significant among the control variables although its level of significance and the magnitude of the coefficients for all the different levels of educations are a bit lower than what were observed in the basic model but they are still highly significant with high levels of magnitudes of the coefficient.

In the next model safety needs are added in the previous model. The variable of safety needs is highly significant with more than 600 percent higher odds (exp(2.01)) that the elderly would be 'very much satisfied' as compared to the odds of 'not at all satisfied' if there is an increase of one unit in the safety needs. Results show that with the inclusion of the variable of safety needs in the model, the variable of physiological needs is no more highly significant with relatively lower magnitude of the coefficient as compared to

the magnitude observed in the previous model. Level of education has lost its significance for the highest level: 10 +, whereas other two levels are still highly significant but with a lower level and a decreasing level of magnitude of the coefficients than what were observed in the previous model.

Looking at the next model where love needs are also included in the model, which are highly significant with high magnitude of coefficient. In terms of odds ratio those elderly whose children and other household members did not give time, the odds are almost 68 percent less (exp(-1.148)) that they will be 'very much satisfied' than the odds that they are 'not at all satisfied' as compared to those elderly who are entertained by their children and other household members. Variable of safety needs is still highly significant with a relatively lower coefficient value whereas there is a subsequent decrease in the levels of significance and magnitudes of the coefficients of the variables of physiological needs and level of education from the previous model. Other control variables remain insignificant in this model too.

In the next model when 'esteem needs' are added in the previous model, the odds that elderly who have 'No role at all in decision making' are 'very much satisfied' are 93 percent less (exp(-2.661)) than the odds of being 'not at all satisfied' as compared to those elderly who 'take most of the decisions by them selves' with highly significant coefficient. Similarly the odds that elderly whose children take most of the decisions and those elderly who take decision with joint consent are 'very much satisfied' are 59 percent (exp(-0.888)) and 42 percent (exp(-0.54)) less than the odds that the elderly are 'not at all satisfied' respectively as compared to those who 'take most of the decisions by them selves' with slightly significant coefficients. The variables of love needs, safety needs and level of education have almost same level of significance and magnitudes of the coefficients as observed in the previous model. Other control variables are still insignificant.

In the final model where all the basic needs are included with that of control variables, the odds that the elderly have 'not at all achieved their aim in life', 'not so much achieved their aim in life' or 'to some extent achieved their aim in life' are 'very much satisfied' are 98 (exp(-4.372)), 98 (exp(-4.141)) and 81 (exp(-1.693)) percent less than the odds that the elderly are 'not at all satisfied' as compared to those who have achieved their aim in the life, respectively. Coefficients of first two categories of the variable 'achievement of aim in life' are highly significant whereas the third category is slightly significant. All other variables in the model have same level of significance and magnitude of the coefficient as observed in the previous model except for the level of education which is no more significant.

From the above results, which are comparison between 'very much satisfied' and 'not at all satisfied', except from physiological needs, all other needs add to the SWB of the elderly with highly significant magnitudes of the coefficients. Among the control variables none of them is important in the final model but initially level of education proved to be an important predictor of SWB of the elderly.

Table 12 Multinomial logistic regression results for very much satisfied relative to not at all satisfied

Very much satisfied		Basic model		Physiological needs		Physiological and safety needs	
		Coefficient	Standard error	Coefficient	Standard error	Coefficient	Standard error
Intercept		0.388	0.962	0.512	0.972	0.359	1.115
Age		-0.001	0.0.014	-0.002	0.014	0.007	0.016
Sex	Male	0.042	0.242	0.195	0.246	0.047	0.284
	Female	0.000	.	0.000	.	0.000	.
Education	Education 10+	2.141***	0.629	1.665***	0.643	0.979	0.689
	Education 5-9	1.813***	0.500	1.562***	0.506	1.206**	0.568
	Education 1-4	1.937**	0.756	1.741**	0.762	1.646**	0.828
	No education	0.000	.	0.000	.	0.000	.
Place of residence	Urban	0.295	0.245	0.149	0.250	0.071	0.288
	Rural	0.000	.	0.000	.	0.000	.
Physiological needs				0.530***	0.167	0.264	0.167
Safety need						2.011***	0.157
Love needs	No						
	Yes						
Esteem needs	Not at all						
	Not so much						
	To some extent						
	Very much						
Self-actualization needs	Not at all						
	Not so much						
	To some extent						
	Very much						
	N	1055		1055		1055	
	nagelkerke R2	0.094		0.132		0.344	
	-2 Likelihood	718.54		1765.78		1532.11	
	Chi-square	85.99		123		356.68	
	df	12		14		16	

Table 12 continued

Very much satisfied		Physiological, safety and love		Physiological, safety, love and esteem		Full model	
		Coefficient	Standard error	Coefficient	Standard error	Coefficient	Standard error
Intercept		0.470	1.123	0.110	1.149	4.082**	1.606
Age		0.007	0.0.016	0.021	0.017	0.008	0.018
Sex	Male	0.085	0.286	-0.139	0.298	-0.144	0.316
	Female	0.000	.	0.000	.	0.000	.
Education	Education 10+	0.904	0.688	0.928	0.697	0.243	0.744
	Education 5-9	1.215**	0.585	1.118	0.601	0.756	0.622
	Education 1-4	1.513*	0.823	1.441	0.821	0.935	0.850
	No education	0.000	.	0.000	.	0.000	.
Place of residence	Urban	0.099	0.291	0.032	0.295	-0.034	0.318
	Rural	0.000	.	0.000	.	0.000	.
Physiological needs		0.253	0.167	0.224	0.172	0.091	0.182
Safety need		1.969	0.158	2.009***	0.162	1.253***	0.170
Love needs	No	-1.148	0.462	-1.197**	0.475	-1.556***	0.516
	Yes	0.000	.	0.000	.	0.000	.
Esteem needs	Not at all			-2.661***	0.716	-3.095***	0.777
	Not so much			-0.888*	0.528	-1.484**	0.587
	To some extent			-0.540*	0.314	-1.122***	0.352
	Very much			0.000	.	0.000	.
Self-actualization needs	Not at all					-4.372***	1.164
	Not so much					-4.141***	1.078
	To some extent					-1.693	1.058
	Very much					0.000	.
	N	1055		1055		1055	
	nagelkerke R2	0.354		0.404		0.499	
	-2 Likelihood	1520.1		1455.53		1321.6	
	Chi-square	368.67		433.25		567.18	
	df	18		24		30	

Values in parenthesis are percentages.
Sourse: Original data file of PSES 2001 round II

'Moderately satisfied' relative to 'not at all satisfied'

In the basis model, in which only control variables i.e. age, sex, education and place of residence are included, none of them is significant as given in the table 2. It means that none of these control variables have any significantly effect on the elderly as far as relationship between 'moderately satisfied' relative to 'not at all satisfied' is concerned.

In the second model the variable of physiological needs is included with that of all the control variables. Impact of Physiological needs on the SWB on the elderly is also insignificant as given in the table 2.

Table 13 Multinomial logistic regression results for moderately satisfied relative to not at all satisfied

Moderately satisfied		Basic model		Physiological needs		Physiological and Safety needs	
		Coefficient	Standard error	Coefficient	Standard error	Coefficient	Standard error
Intercept		1.952**	0.852	1.943**	0.854	2.345**	0.951
Age		-0.006	0.012	-0.006	0.012	-0.002	0.014
Sex	Male	0.212	0.212	0.210	0.214	0.092	0.243
	Female	0.000	.	0.000	.	0.000	.
Education	Education 10+	0.573	0.630	0.542	0.639	0.083	0.668
	Education 5-9	0.740	0.490	0.724	0.493	0.478	0.542
	Education 1-4	0.976	0.745	0.964	0.747	0.945	0.790
	No education	0.000	.	0.000	.	0.000	.
Place of residence	Urban	0.009	0.223	0.004	0.224	-0.019	0.253
	Rural	0.000	.	0.000	.	0.000	.
Physiological needs				0.045	0.162	-0.144	0.161
Safety need						1.106***	0.107
Love needs	No						
	Yes						
Esteem needs	Not at all						
	Not so much						
	To some extent						
	Very much						
Self-actualization needs	Not at all						
	Not so much						
	To some extent						
	Very much						
	N	1055		1055		1055	
	nagelkerke R2	0.094		0.132		0.344	
	-2 Likelihood	718.54		1765.78		1532.11	
	Chi-square	85.99		123		356.68	
	df	12		14		16	

Table 13 continued

Moderately satisfied		Physiological, safety and love needs		Physiological, safety love and esteem needs		Full model	
		Coefficient	Standard error	Coefficient	Standard error	Coefficient	Standard error
Intercept		2.462**	0.962	1.935**	0.971	3.699**	1.476
Age		-0.002	0.014	-0.001	0.014	-0.011	0.015
Sex	Male	0.129	0.245	0.189	0.253	0.078	0.269
	Female	0.000	.	0.000	.	0.000	.
Education	Education 10+	0.008	0.667	0.112	0.676	-0.443	0.719
	Education 5-9	0.492	0.559	0.566	0.572	0.358	0.589
	Education 1-4	0.810	0.786	0.749	0.783	0.221	0.807
	No education	0.000	.	0.000	.	0.000	.
Place of residence	Urban	0.010	0.257	-0.005	0.259	0.067	0.278
	Rural	0.000	.	0.000	.	0.000	.
Physiological needs		-0.156	0.161	-0.140	0.166	-0.179	0.172
Safety need		1.063***	0.108	1.058***	0.110	0.772***	0.121
Love needs	No	-1.157***	0.327	-1.030***	0.337	-1.230***	0.376
	Yes	0.000	.	0.000	.	0.000	.
Esteem needs	Not at all			-0.455	0.464	-0.950*	0.507
	Not so much			0.309	0.434	-0.056	0.472
	To some extent			0.710**	0.282	0.177	0.316
	Very much			0.000	.	0.000	.
Self-actualization needs	Not at all					-2.823**	1.118
	Not so much					-1.445	1.056
	To some extent					0.251	1.060
	Very much					0.000	.
	N	1055		1055		1055	
	nagelkerke R2	0.354		0.404		0.499	
	-2 Likelihood	1520.1		1455.53		1321.6	
	Chi-square	368.67		433.25		567.18	
	df	18		24		30	

Values in parenthesis are percentages.
Sourse: Original data file of PSES 2001 round II

In the next model safety needs are added in the previous model. The variable of safety needs is highly significant with more than 200 percent higher odds that the elderly would be 'moderately satisfied' as compared to the odds of 'not at all satisfied' if there is an increase of one unit in the safety needs. Table 2 shows that with the inclusion of this variable there is no difference in the significance of all other variables.

Looking at the next model where love needs are also included in the model, which are highly significant with high magnitude of coefficient. In terms of odds ratio those elderly whose children and other household members did not give time, the odds are almost 68 percent less (exp(-1.157)) that they are 'moderately satisfied' than the odds that they are 'not at all satisfied' as compared to those elderly who are entertained by their children and other household members. Variable of safety needs is still highly significant with a relatively lower coefficient value whereas all other variables are still insignificant.

In the next model when 'esteem needs' are added in the previous model, the odds that elderly who 'take decision with joint consent' are 'moderately satisfied' are almost 100 percent higher (exp(0.71)) than the odds of being 'not at all satisfied' as compared to those elderly who 'take most of the decisions by them selves' with highly significant coefficient. Other two categories of this variable are insignificant. The variables of love needs and safety needs have almost same level of significance and magnitudes of the coefficients as observed in the previous model. Other variables remain insignificant.

In the final model where all the basic needs are included with that of control variables, the odds that the elderly have 'not at all achieved their aim in life' are 'moderately satisfied' are 94 percent less (exp(-2.823)) than the odds that the elderly are 'not at all satisfied' as compared to those who have achieved their aim in the life with highly significant coefficient. Coefficients of other two categories of the variable 'achievement of aim in life' are insignificant. All other variables in the model have same level of significance and magnitude of the coefficient as observed in the previous model except for the esteem needs. In the previous model only 'decision taken by joint consent' was significant but in this model only the coefficient of 'no role in the decision making' is highly significant with odds for those elderly who have 'no role in the decision making' are 'moderately satisfied' are 61 percent less (exp(-0.95)) than the odds of elderly being 'not at all satisfied' relative to 'most of the decisions taken by themselves'.

4.4 Hierarchy of needs

In this section it will be investigated that either hierarchy among the needs is present among the elderly in Pakistan, suggested by Maslow's. Hierarchy among the basic needs refer to the non emergence of the higher level of needs if any of the lower level of the needs is not fulfilled as shown in the figure 2.

Here it is assumed that all needs emerge before it their fulfillment. Taking this assumption in to account simple cross tabulations of different needs are used to find out the relationship between the needs.

Table 14 Cross tabulation of needs with respect to fulfilled and not fulfilled

		Safety needs	
		Not fulfilled	Fulfilled
Physiological needs	Not fulfilled	275	**438**
	Fulfilled	89	253
		Love needs	
		Not fulfilled	Fulfilled
Physiological needs	Not fulfilled	50	**663**
	Fulfilled	21	321
		Esteem needs	
		Not fulfilled	Fulfilled
Physiological needs	Not fulfilled	98	**615**
	Fulfilled	34	308
		Self-actualization	
		Not fulfilled	Fulfilled
Physiological needs	Not fulfilled	221	**492**
	Fulfilled	63	279
		Love needs	
		Not fulfilled	Fulfilled
Safety needs	Not fulfilled	44	**320**
	Fulfilled	27	664
		Esteem needs	
		Not fulfilled	Fulfilled
Safety needs	Not fulfilled	58	**306**
	Fulfilled	74	617
		Self-actualization	
		Not fulfilled	Fulfilled
Safety needs	Not fulfilled	193	**171**
	Fulfilled	91	600
		Esteem needs	
		Not fulfilled	Fulfilled
Love needs	Not fulfilled	13	**58**
	Fulfilled	119	865
		Self-actualization	
		Not fulfilled	Fulfilled
Love needs	Not fulfilled	30	**41**
	Fulfilled	254	730
		Self-actualization	
		Not fulfilled	Fulfilled
Esteem needs	Not fulfilled	49	**83**
	Fulfilled	235	688

Values in parenthesis are percentages.
Sourse: Original data file of PSES 2001 round II

From the table 14, it can be observed that except from first two needs; physiological and safety, hierarchy of needs is somewhat present for other higher level needs. For the first two needs there are huge proportions of the elderly who are enjoying higher level of needs without being provided by the first two needs in the hierarchy.

Only 5.5 percent of elderly are those who are privileged of esteem needs without having safety needs up to a certain level. Similarly there are only 3.9 percent and 7.9 percent of elderly who have achieved the subjective self-actualization without enjoying love needs and esteem needs respectively.

Another way of looking at the hierarchy among the needs is to find out the explaining power of the initial needs on the subsequent advanced ones. For this purpose needs are categorized into two categories i.e. fulfilled and not fulfilled. Further binary logistic regressions are applied in the following ways

Safety needs = f (physiological needs)
Love needs = f (physiological need, safety needs)
Esteem needs = f (physiological needs, safety needs, love needs)
Self-actualization needs = f (physiological needs, safety need, love needs, esteem needs)

Table 15 Relationship of the safety needs with the physiological needs

		Coefficient	Standard Error	P value	Odds ratio
	Intercept	-1,045	0,123	0,000	
Physiological needs	Not fulfilled	0,579	0,145	0,000	1,785
	Fulfilled	0,000	.	.	.
	N	1055,000			
	nagelkerke R2	0,021			
	-2 Likelihood	12,995			
	Chi square	16,257			
	df	1,000			

Table 16 Relationship of the love needs with the lower needs

		Coefficient	Standard Error	P value	Odds ratio
	Intercept	-3,185	0,261	0,000	
Physiological needs	Not fulfilled	-0,027	0,274	0,922	0,973
	Fulfilled	0,000	.	.	.
Safety needs	Not fulfilled	1,222	0,256	0,000	3,393
	Fulfilled	0,000	.	.	.
	N	1055,000			
	nagelkerke R2	0,058			
	-2 Likelihood	18,314			
	Chi square	23,915			
	df	2,000			

Table 17 Relationship of the esteem needs with the lower needs

		Coefficient	Standard Error	P value	Odds ratio
	Intercept	-2,345	0,192	0,000	
Physiological needs	Not fulfilled	0,313	0,213	0,141	1,368
	Fulfilled	0,000	.	.	.
Safety needs	Not fulfilled	0,389	0,193	0,044	1,476
	Fulfilled	0,000	.	.	.
Love needs	Not fulfilled	0,366	0,328	0,264	1,442
	Fulfilled	0,000	.	.	.
	N	1055,000			
	nagelkerke R2	0,016			
	-2 Likelihood	33,134			
	Chi square	9,181			
	df	3,000			

Table 18 Relationship of the self-actualization needs with the lower needs

		Coefficient	Standard Error	P value	Odds ratio
	Intercept	-2,288	0,173	0,000	
Physiological needs	Not fulfilled	0,508	0,176	0,004	1,662
	Fulfilled	0,000	.	.	.
Safety needs	Not fulfilled	1,937	0,156	0,000	6,941
	Fulfilled	0,000	.	.	.
Love needs	Not fulfilled	0,229	0,281	0,416	1,257
	Fulfilled	0,000	.	.	.
Esteem needs	Not fulfilled	0,391	0,219	0,074	1,478
	Fulfilled	0,000	.	.	.
	N	1055,000			
	nagelkerke R2	0,251			
	-2 Likelihood	52,430			
	Chi square	200,100			
	df	4,000			

Values in parenthesis are percentages.
Sourse: Original data file of PSES 2001 round II

Results from the regression analysis reveal that the physiological needs explain only the safety needs and the self-actualization needs with significant coefficient. The safety needs have explained all the higher level needs with highly significant coefficient. The love needs do not have any role in explaining higher needs. Finally, the esteem needs explain the self-actualization needs with highly significant coefficient (see table).

Summing up from the cross tabulations and regression analysis, it can be concluded that hierarchy among the needs is not present in the life of the elderly in Pakistan.

5. Discussion and Conclusions

5.1 Introduction

In this research, the effort has been made to study the subjective well-being of the elderly in Pakistan in connection with the basic needs. In Pakistan, ageing will be a huge problem in the coming years, given the adverse economic situation and low level of educational attainment combined with a high unemployment ratio, although at the present moment there is a small proportion of elderly in the population. In the absence any concrete policy and intervention to address the needs of ever rising elderly population, it was important to study the prevailing situation of the elderly in Pakistan with respect to basic needs, and their connection with their SWB. In section 1.3, different research questions were given. In the following sections, those questions will be answered.

5.2 Relationship of the SWB with its main determinants

In order to study the relationship of the SWB of the elderly with its main determinants, multivariate regression analysis was carried out. From the multinomial regression, it was discovered that except for physiological needs, all other needs have significant effect on the SWB of the elderly. On the other hand, none of the sociodemographic variables have any impact of the SWB of the elderly.

5.3 Prevailing situation of SWB and basic needs of elderly

Among the elderly in Pakistan, according to PSES round II data, 11% reported dissatisfied with life, hence having the adverse situation as far as well-being is concerned. From cross tabulation, it was discover that those elderly who have all the basic needs defined in this study, fulfilled, enjoy a higher level of well-being. Similarly, sociodemographic variables demonstrated that elderly in the age group 65-74, male, with higher level of education and those who were living in the urban areas were enjoying higher levels of SWB as compared to their counterparts. Variable of age has insignificant chi square test whereas all other variables have significant association with the SWB.

The majority of the elderly (68 percent) in Pakistan are deprived of the physiological needs, and in terms of percentage points, there is not much difference between male and female elderly whose physiological needs are not fulfilled. Due to this reason, the test of association could not capture any association between the sex and the fulfillment of physiological needs of the elderly. Since the test of association only captures unadjusted relationship, the regression analysis was applied to find out the adjusted relationship of sex with the physiological needs of the elderly while controlling the effect of all other sociodemographic variables. From the regression analysis, it was discovered that male elderly were more likely that their physiological needs unmet than female elderly. On the other hand, those elderly who have higher education were better off as far as their fulfillment of physiological needs was concerned. Similarly, from the regression analysis it was discovered that elderly with higher education were much more

likely to have their physiological needs fulfilled than those elderly who have no education. The same trend was observed for the place of residence in both adjusted and unadjusted relationships. The situation of physiological needs was identical among the elderly at different ages, as revealed by both adjusted and unadjusted tests.

Safety needs, which are comprised of health status, perception about the future and availability of suitable place, were met by the majority (65 percent) of the elderly in Pakistan. The situation of female elderly, and those who have no education at all, was worse off with respect to safety needs.

According to the results, a huge majority of the elderly in Pakistan was enjoying the love needs (93 percent), which were assessed by time given by the children. Those elderly who have the highest level of education (10 and above) have a better condition with respect to love needs suggested by both test of association and regression analysis, as compared to those who have lower levels of education. The Difference among the elderly with respect to their sociodemographic variables was insignificant.

Esteem needs, which was judged by the role in the decision making in the household by the elderly, was fulfilled by the majority of the elderly (59 percent). Male elderly, elderly with higher education, living in urban areas and those who were relatively young play a vital role in decision making as suggested by the test of association and regression analysis.

Achievement of the aim in life was used as a proxy for the self-actualization needs. From the analysis, it was observed that 13 percent of the elderly have the opinion that they have 'very much achieved their aim in life,' whereas 5 percent considered that they gave 'not at all' met the achievement of the aim in life. The majority of the elderly felt that they had achieved their aim in life 'to some extent'. A higher proportion of the male elderly, elderly with higher education and those who lived in urban areas 'have the optimistic view about the achievement of the aim in life as compared to other categories of these variables. On the other hand, regression analysis showed that the male were less likely to achieve their aim in life as compared to female elderly.

Summing up, the prevailing situation with respect to the above discussed variables it can be concluded that the situation of the elderly with respect to the physiological needs and safety needs was adverse. With regard to the other needs, the majority of the elderly were in a better situation. Finally, the need for love was largely met.

5.4 Hierarchy of needs

In order to explore whether a hierarchy among the needs existed in the lives of the elderly, two different approaches were adopted, cross tabulations with test of significance

and regression analysis. Both approaches revealed that no such hierarchy was present among all five needs.

5.5 Discussion

From the analysis, it can be observed that safety, love, esteem and self-actualization were the most important variables which contributed towards the higher levels of the SWB among the elderly. Similarly, it is argued that in Pakistan there is sex discrimination in all spheres of life, but here in this study, contrary results have been observed in many dimensions of the lives of the elderly. Moreover, the elderly living in urban areas and having some education were better off as compared to those who are living in rural areas or have no education.

Further, no hierarchy among the needs was discovered in this study. Maslow (1970), in his theory, stated that hierarchy among the needs is not so rigid. In fact, in some cases there is reversal in the hierarchy. In this study too, reversal is observed, which could perhaps be attributed to the cultural and religious background of the people of Pakistan. Reversal of hierarchy could have two causes: loss of prepotency of the lower needs and more emphasis on the higher needs. Both these angles are in accordance with the teachings of Islam. Absence of prepotency of the basic needs could be due to contentment, which is one of the main teachings of Islam. Similarly, the emergence of higher order needs as more prepotent than the basic needs, could be attributed to the love, respect, and pivotal role in the home enjoyed by the elderly in Pakistan, as manifested in a respectful attitude of the youth towards their parents. This attitude of the young people is again in accordance with the following teachings of the holy Quran.

> "Thy Lord hath decreed that ye worship none but Him, and that ye be kind to parents. Whether one or both of them attain old age in thy life, say not to them a word of contempt, nor repel them, but address them in terms of honour. And, out of kindness, lower to them the wing of humility, and say: "My Lord! bestow on them thy Mercy even as they cherished me in childhood."" (Quran, 17: 23, 24).

5.6 Recommendation

This study sheds light on the prevailing situation in different aspects of the life of the elderly in Pakistan, while discussing the importance of those factors in improving the SWB of the elderly. In Pakistan, there is absence of any concrete policy addressing the sufferings of the elderly population. Policies which are made mainly address the economic problems with little attention given to health problems. Results in this study have shown that a high proportion of elderly is facing problems with physiological needs and safety needs. The analysis showed that a vast majority of elderly were deprived of the physiological (68 percent) and safety needs (35 percent).The perception that the home care for elderly is eroding has been disconfirmed, from the results of this study. Therefore, policies should not be formulated in such a way as to improve the economic and health status of the elderly at the cost of their love and esteem needs. Ideally policies should be formulated to appraise the overall well-being, to provide economic assistance

to their families as in Malaysia, where those families who take care of their elders are given tax incentives who take care of their elders. Another option for the improvement of the elderly's physiological and safety needs could be that the children should be made legally responsible for the support of their elderly parents as was done in Singapore (Westly et. el., 2000).

There is also need for further research with in-depth analysis, to find out which kind of genuine problems are faced by elderly. The SWB of the elderly needs to be studied more thoroughly. In this study, for example, subjective health status, which might include personal perceptions and biases, is used to evaluate health status as a proxy to assess the of safety needs. Nevertheless, a proper diagnostic of the elderly's health problems is a must to find out the actual health status of the elderly. furthermore analysis should also focus on the supply and demand side of different problems faced by the elderly.

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