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### Determine the relationship between cognitive abilities and subjective well-being among elderly

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#### Abstract

Cognitive functioning and Subjective well-being might be those two main aspects that can help in creating policies that may lead people to a contented and independent way of living. Good strategy in this regard would be to start from middle age onward for preventing the causes of complications in later years of life instead of just providing support to elderly people in their in capability. The present study focuses on determine the relationship between cognitive abilities and subjective well-being among elderly. The study was carried out in lucknow. Random sampling technique was followed in the present study. The sample for this study comprised of 120 elderly individuals (60 females and 60 males respectively) from urban and semi-urban areas. Cognitive abilities scale: The cognitive abilities scale of elderly was assessed using cognitive abilities scale by Dr. Avishai Antonovsky (1987). Subjective Well-Being scale: The perception of Subjective well-being among elderly was measured using Subjective well-being scale developed by prof. William Pavot. *et al.* (1997)., The sample of this study were personally and individually contacted and data was obtained through face-to face interview. The positive clearly indicates that more cognitive abilities better will be the subjective well-being among elderly living at various places.

**Keywords:** Cognitive abilities, subjective well-being, elderly

#### Introduction

Aging population is one of the most significant characteristics of the 21<sup>st</sup> century and is one of the most pressing issues faced by all regions of the world. The issue of aging of population is of great concern particularly for Japan and India. Addressing the issues of elderly in their socioeconomic arena and factors related to their satisfaction with life has significant research implications. Japan provides an interesting setting for the study as it has the highest longevity in the world. By, 2010, there will be 29.29 million elderly (65 years and older) constituting 23.1% of the total population in Japan marking record heights both in number and percentage. Japanese have the highest life expectancy in the World (86.39 years for women and 79.64 years for men in 2010) (Ministry of Internal Affairs and Communications 2011).

Aging of population is an end product of demographic transition. The number of elderly people in developing countries is almost 3-4 times of that of developed countries. Increased human life span as witnessed in the preceding decades has not been accompanied by good quality of life for majority of older Indians. World population of 6.1 billion at the dawn of 21<sup>st</sup> century is likely to become 9.3 billion in 2050 (UN 2004).

Global aged population is going to increase from 595 million to 2 billion-a fourfold rise-by 2050. In terms of proportion rise was 10% in 2000, 15% by 2025, predicted to rise to 21.6% by 2050. Nearly 90 per cent of the total workforce in India is employed in the unorganised sector. Consequently, retirement from gainful employment precludes financial security like pension and other post-retirement benefits. It is estimated that one-third of the elderly population live below the poverty line. As majority works in unorganized sector the dependence rate of the elderly is also so high.

Cognitive functioning and Subjective well-being might be those two main aspects that can help in creating policies that may lead people to a contented and independent way of living. Good strategy in this regard would be to start from middle age onward for preventing the causes of complications in later years of life instead of just providing support to elderly people in their in capability.

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It might be more beneficial if we able to find such factors which are not only positively associated with both cognition and subjective well-being but also contribute in effecting their relationship positively. Cognitive abilities have a very important role in daily life of any individual as whatever one does depends on the level of his understanding about the task and its context. Nothing is beyond the domain of cognitive abilities whether it is related to self-care like bathing or interacting with people or solving a complex problem at work etc. The term “Cognitive” according to the Webster’s Dictionary means conscious mental activity as thinking, remembering, learning or using language. Hansen *et al.* (2012) has conducted a study “The age and subjective well-being paradox revisited: A multidimensional perspective” This study re-examines the much-discussed paradox that although aging is associated with declines in many life domains, overall subjective well-being does not appear to decline sharply with age. We use data from two waves of the Norwegian Nor LAG study (age 40-85, n=3,750) and examine age differences in change in well-being outcomes (life satisfaction, positive affect, negative affect, and depression) and factors that may account for age variations in such change. Outcomes show stability well into older age, but negative changes in advanced age, cross-sectionally or longitudinally. Life satisfaction and negative affect are adversely related to older age longitudinally, whereas positive affect and depression are adversely related to older age in the cross-section. Results are similar for men and women. Loss of health and partner are the main causes of declining well-being in older age. Findings suggest qualifications to the “well-being paradox”, e.g.: only some dimensions of SWB remain stable, while others decline; across dimensions SWB change is more negative in old-old than in young-old age. Daniel *et al.* (2014) has conducted a study on “subjective well-being status of elderly people in old age homes in Kolkata in relation to their perceived physical health and cognitive functioning” There is a limited data on the subjective well-being of elderly people living at old age homes in India. It is needed for planning better maintenance of physical health as well as cognitive function for their overall well-being. A descriptive survey was conducted. The data were collected from 50 elderly people who were selected by total enumeration sampling from two different old age home in Kolkata. They were assessed using Subjective Well-being Inventory and a self-developed checklist for perceived physical health problems. Cognitive function was assessed by using Mini Mental State Examination. More than half (52%) of the elderly people have reported high subjective well-being status. Regression analysis showed that perceived physical health problem ( $P < 0.001$ ) and having children ( $P = 0.010$ ) were statistically significant predictors of subjective well-being. In order to improve the quality of life of elderly people health workers should give more emphasis on psychosocial aspects of this population. Improved psychosocial aspects can increase perceived physical health hence subjective well-being. Wilson *et al.* (2009) has conducted a study on “Social Engagement and Cognitive Function in Old Age” We examined the association of diverse measures of social engagement with level of function in multiple cognitive domains in 838 persons without dementia who had a mean age of 80.2 (SD = 7.5). Social network size, frequency of social activity, and level of perceived social support were assessed in linear regression models adjusted for age, sex, education, and other covariates. Social activity and social support were related to better cognitive function, whereas social network size was not strongly related to global cognition. The results confirm

that higher level of social engagement in old age is associated with better cognitive function but the association varies across domains of social engagement. Prskawetz *et al.* (2005) has conducted a study on “Social Engagement, Behavioural Risks and Cognitive Functioning Among the Aged” In this study we analyse the relationship between cognitive performance, social participation and behavioural risks taking into account the influence of age and educational attainment. We use individual data from twelve mainly European countries collected in the first wave of SHARE. The methodology proposed, a stochastic frontier approach, allows us to identify the effects of the different sources of plasticity on cognitive functioning while explicitly taking into account the age-related decline in cognitive performance. In the pooled sample, the results clearly show that all kinds of social engagement enhance cognitive functions, in particular the continuation of occupational activities. Moreover, behavioural risks such as physical inactivity, obese, smoking or drinking clearly do not benefit cognitive performance. Country-specific results, however, vary with respect to signs for all indicators of social engagement and behavioural risks.

### Objective

To determine the relationship between cognitive abilities and well-being among elderly

### Methodology

The sample for this study comprised of 120 elderly individuals (60 females and 60 males respectively) from urban and semi urban areas of Lucknow district.

### Sampling design

**Lucknow city was purposively selected to conduct the study.**

Random sampling technique was followed in the present study.

### Tools and techniques

To carry out the present study, the following tools were used to measure various parameters

### Cognitive abilities scale

The cognitive abilities scale of elderly was assessed using cognitive abilities scale by Dr. Avishai Antonovsky (1987).

### Subjective Well-Being scale

The perception of Subjective well-being among elderly was measured using Subjective well-being scale developed by prof. William Pavot. *et al.* (1997).

### Procedure

The samples of this study were personally and individually contacted and data was obtained through face-to face interview. The duration of data collection were spread over a period of three months (60 days). The obtained responses were scored and statistically analyzed.

### Data processing

Coding- Coding refers to the process of assigning, numbers other symbols to answers. So that workers on them be part into a limited number of categories or classes appropriate to the research problem under consideration.

Scoring – The scoring of various dependent and independent variables include in the questionnaire was done as mentioned below

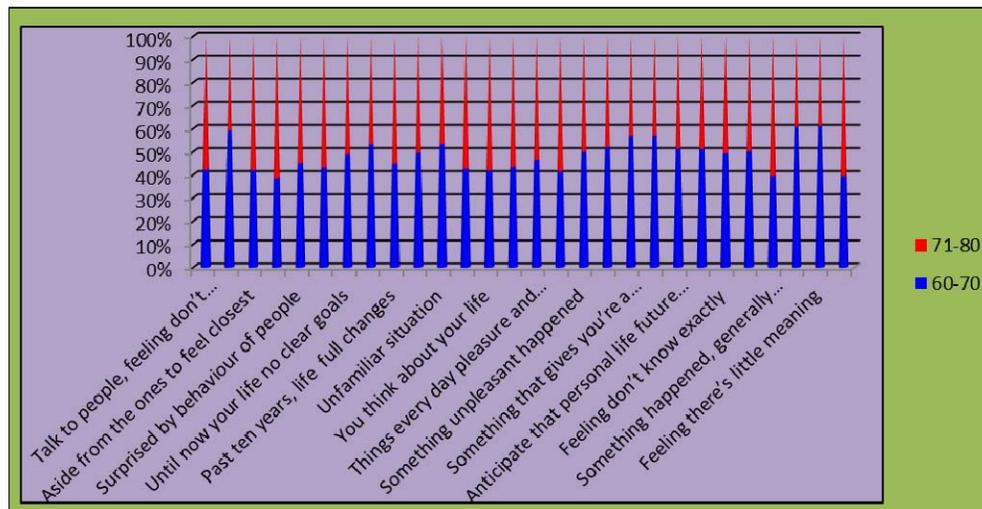
**Data Analysis**

Data collected was analysed statistically with the help of various statistical techniques using PAS software.

**Result**

**Table 1:** Cognitive abilities among elderly of various age groups.

S. No.	Statement	60-70	71-80	t	P
1.	Talk to people, feeling don't understand	2.06±1.724	2.81±1.167	8.970	.003
2.	Dependent upon cooperation with other's	3.57±1.839	2.47±1.276	3.208	.076
3.	Aside from the ones to feel closest	2.76±2.316	3.81±1.969	8.896	.003
4.	Don't really care what goes on around you	2.06±1.022	3.28±2.106	22.86	.000
5.	Surprised by behaviour of people	3.49±2.176	4.25±1.713	13.60	.000
6.	Counted on disappointed	2.30±1.395	3.03±2.348	19.68	.000
7.	Until now your life no clear goals	5.54±2.091	5.78±1.929	1.558	.214
8.	Feeling treated unfairly	5.36±2.269	4.72±1.861	2.769	.099
9.	Past ten years, life full changes	3.45±2.613	4.25±1.857	20.50	.000
10.	Most of things future completely fascinating	2.77±1.631	2.83±1.483	0.198	.657
11.	Unfamiliar situation	4.55±2.252	4.00±1.927	6.830	.010
12.	Describe how you see life	4.04±2.543	5.44±1.423	21.18	.000
13.	You think about your life	3.94±2.246	5.47±1.276	19.72	.000
14.	Face a difficult problem	3.54±2.062	4.61±1.856	0.012	.912
15.	Things every day pleasure and satisfaction	3.67±2.480	4.22±1.355	33.96	.000
16.	Life in future probably	4.10±2.655	5.81±1.283	53.66	.000
17.	Something unpleasant happened	4.39±2.546	4.42±1.918	15.67	.000
18.	Very mixed-up feeling and ideas	3.25±2.545	3.00±2.378	0.593	.443
19.	Something that gives you're a good feeling	2.93±2.502	2.22±2.002	9.727	.002
20.	Feeling inside you rather not feel	4.30±2.516	3.25±2.310	2.261	.135
21.	Anticipate that personal life future without meaning	4.54±2.452	4.31±2.703	1.756	.188
22.	Able to count on in the future	4.38±2.035	4.19±2.734	13.11	.000
23.	Feeling don't know exactly	1.24±0.529	1.28±0.454	0.061	.806
24.	Character-sometime feel like sad	4.86±2.272	4.83±2.210	1.073	.302
25.	Something happened, generally found	2.81±1.793	4.31±1.508	2.040	.155
26.	Think of difficulties face in important aspects	4.50±2.335	2.92±1.538	1.161	.283
27.	Feeling there's little meaning	4.58±2.335	2.92±1.538	19.57	.000
28.	Feelings not sure keep under control.	2.88±2.044	4.42±1.461	16.97	.000
29.	Total	101.86±15.003	109.14±13.139	1.003	.319



**Fig 1**

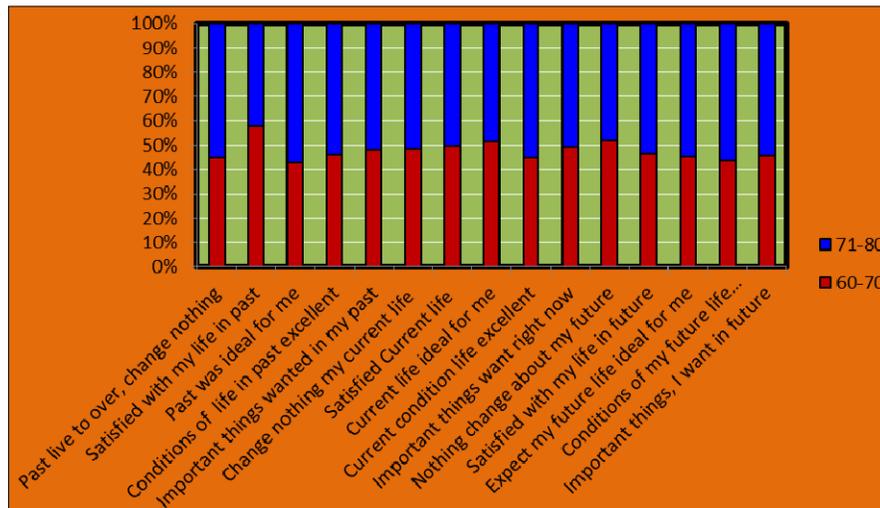
**Assessment of cognitive abilities among elderly of various age group**

Statistically no significant difference between various age group for any of the items talk to people, feeling don't understand, aside from the ones to feel closest don't really care what goes on around you. Surprised by behaviour of people, counted on disappointed, past ten years, life full changes, unfamiliar situation, describe how you see life, things every pleasure and satisfaction, life in future probably, something unpleasant happened, something that gives you're a good

feeling, able to count on in the future, feeling there's little meaning and feeling not sure keep under control (0.05). Mean values of 60-70 age groups of elderly were significantly higher as compared to those of 71-80 age groups of elderly for items such feeling there's little meaning. Mean value of 60-70 age group of elderly were significantly higher as compared to that of 60-70 age group of elderly is cognitive abilities from others. Most of the elderly 60-70 age group of elderly ( $\mu=4.10$ ) and 71-80 age group of elderly ( $\mu=5.81$ ) believe life in future probably.

**Table 2:** Assessment of subjective well-being among elderly on various age group.

S.NO.	Statement	60-70	71-80	t	P
1.	Past live to over, change nothing	2.51±1.820	3.08±1.402	6.363	.013
2.	Satisfied with my life in past	3.38±1.714	2.44±1.229	2.569	.112
3.	Past was ideal for me	2.74±2.106	3.69±1.849	6.236	.014
4.	Conditions of life in past excellent	2.27±1.492	2.67±1.971	1.865	.175
5.	Important things wanted in my past	3.50±1.973	3.78±1.742	4.666	.033
6.	Change nothing my current life	2.69±1.643	2.83±2.091	3.021	.085
7.	Satisfied Current life	5.51±2.108	5.53±1.934	1.258	.264
8.	Current life ideal for me	4.85±2.295	4.56±1.858	6.875	.010
9.	Current condition life excellent	3.67±2.446	4.50±1.859	14.66	.000
10.	Important things want right now	2.99±1.572	3.06±1.393	1.073	.302
11.	Nothing change about my future	4.19±2.170	3.86±1.710	13.251	.000
12.	Satisfied with my life in future	4.81±2.209	5.56±1.463	13.619	.000
13.	Expect my future life ideal for me	4.43±2.186	5.39±1.293	26.37	.000
14.	Conditions of my future life excellent	3.61±2.157	4.69±1.818	0.706	.403
15.	Important things, I want in future	3.51±2.176	4.19±1.348	19.04	.000
16.	Total	54.82±8.769	59.83±9.263	1.530	.219



**Fig 2**

**Assessment of subjective well-being among elderly on various age groups**

The above table 4.3.2 shows that the respondent on various age groups have the highest mean that is ( $\mu=5.36$ ), indicating that respondents belonging to 60-70 age group of elderly like expect satisfied with my life in future and widow/-ers. Lowest is mean in the 71-80 age group of elderly ( $\mu=2.38$ ) the indicating conditions of life in past excellent. It can also be noted that the widow/-ers have the highest mean that is ( $\mu=5.72$ ) indicates that the respondents belonging to 71-80 age group of elderly satisfied current life.

Data showed that as the all p value were more than 0.05. The hypothesis was non-significant. The null hypothesis was accepted.

**Table 3:** Relationship with cognitive abilities and subjective well-being among elderly

Statement	Cognitive scale	Subjective scale
Cognitive scale	1	
Subjective scale	0.403** 0.000	1

It is also evident that the cognitive abilities and subjective well-being are highly correlated. The positive clearly indicates that more cognitive abilities better will be the subjective well-being among elderly living at various places.

The result of this study supports one of the hypotheses that higher level of cognitive abilities is associated with good

subjective well-being. This finding is also consistent with other previous studies. One of such study was conducted to see the relationship between the personal and socio-economic factors and subjective quality of live among the oldest old people. According to their findings higher cognitive abilities was also one of the factors which were positively related to subjective quality of live. It is also evident that the positive association of cognitive abilities with life satisfaction and happiness is independent of level of education and income the older people has.

Researchers are convinced that a good level of cognition contributes in almost all aspects of life; make people able to utilize the resources of life at the full extent which eventually has a positive effect on subjective well-being also. Moreover an active life also helps in maintaining cognitive abilities. So the possible explanation of this finding in my study can be that many respondents are still working so they need some optimal level of cognition to support their work related activities and at the same such activities are also contributing in maintenance of their cognition reservoir. In addition to this many respondents are living with their spouse only which means that they are not having any kind of support from someone younger in their house, further majority is living in rural areas, all such living conditions may also motivate them to keep themselves socially connected with people in their surroundings. Such interactions with people in locality may also help them to use as well as maintain their cognitive reservoir. Moreover, it is

evident from the results of this study that respondents are involved in high level of physical activity, which is considered as positively associated with high level of cognition in elderly people.

### Discussion and Implications

The purpose of this study was to examine the pattern of cognitive function and subjective wellbeing among the different age groups of elderly people and the relationship between these important aspects of successful ageing. Our hypotheses were that higher cognitive function results in better subjective well-being in ageing.

The results of this study support one of the hypotheses that higher level of cognitive abilities is associated with good subjective well-being. This finding is also consistent with other previous studies. One of such study was conducted to see the relationship between the personal and socioeconomic factors and subjective quality of life among the oldest old people. According to their findings higher cognitive abilities was also one of the factors which were positively related to subjective quality of life.

### Conclusion

The challenge we are facing currently is not regarding the increase in number of years in life of people but how can we make them able to live a healthy and independent life. It might not be realistic if we think healthy and independent means a disease free life in older age. So focus is shifted towards the cognitive abilities and subjective well-being aspects of success full ageing. Moreover as it is not possible to ignore the effects of ageing itself on cognitive abilities so it might be more beneficial if we start maintaining the cognitive abilities reserves from the mid-life age so that not only process of natural decline in cognition can be delayed but also give boost to subjective well-being. In this study the pattern of cognition and subjective well-being were emphasized and related. This effort was to identify such factors which may shed some light on the nature of relationship existing between cognitive abilities and subjective well-being.

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