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Factors Affecting the Work Participation of Elderly: An Empirical Investigation

Introduction

OLD AGE is the time for persons to relax and enjoy the fruits of their hard labour during early life. But in most of the less developed countries including India, wherein the aged, who unlike their counterparts in more developed countries, live in abject poverty in the absence of old age pension and other social security programmes and insufficient personal savings. In addition, lower fertility, on the one hand, results in fewer children to look after the old parents and on the other hand, many of these children move away from their family in search of livelihood elsewhere. Further, recent decline in mortality increased the longevity of the old persons in general and women in particular, results in an increase in the number of older persons who are in need of both financial and familial support. Besides these, the process of urbanization tends to increase the number of nuclear families and brings about numerous changes in lifestyles not only among the young but also among the aged. These stand obstacles to reciprocal family aid as well as weaken the filial relationship (Dinesh and Rayappa, 1983; Devi, 1983; Gulati and Rajan, 1990; Ogawa *et al.,* 1994). Under these circumstances, a large number of elderly are forced to work beyond the working ages (15-59 years) in less developed countries as compared to their counterparts in more developed countries (U.N., 1999), since they have to take care of themselves and support those directly depend on them as well.

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Levels of Work Participation Rates of the Older Persons: Macro Perspective

Information on the work participation rates of the elderly men and women is provided in Table 1. At the world level (around 1995), countries with high per capita income, by and large, tend to have lower participation rates of older persons. As high as 52 percent of men aged 60 years or older continue to be economically active in less developed regions compared to only 23 percent of their counterparts in more developed regions. The corresponding rates for older women are 20 and 10, respectively (U.N., 1999).

TABLE 1: WORK PARTICIPATION RATES OF THE AGED (60+ YEARS) PERSONS BY SEX FOR SELECTED MORE DEVELOPED AND LESS DEVELOPED COUNTRIES, 1995

More Developed Countries	*% of Aged 60 years or Older in Labour Force*		*Less Developed Countries*	*% of Aged 60 years or Older in Labour Force*	
	Men	*Women*		*Men*	*Women*
More Developed Regions	23	10	Less Developed Regions	52	20
Canada	25	13	Bangladesh	72	42
Germany	13	3	China	42	14
France	7	4	Ethiopia	81	41
Japan	49	21	Indonesia	62	32
Italy	15	4	Korea	46	25
Romania	11	7	Nigeria	80	34
Spain	16	5	Philippines	67	35
Sweden	20	12	Thailand	50	27
United Kingdom	20	7	Turkey	50	30
U.S.A.	21	8	Vietnam	53	32

Source: United Nations (1999).

Details on the labour force participation rates of the elderly (Table 1) in selected countries show that the work participation is much higher in most of the less developed countries as compared to that of more developed countries. Labour force participation rates are lower both for men and women in more developed countries (ranges between 7-49 and 3-21, respectively) than in the less developed (ranges between 42-81 and 14-42, respectively), with a few exceptions like Japan in the former category and China in the latter category. Weakening of traditional support systems, lack of personal savings and limited coverage of pension or support programmes to older persons might be responsible for their continuation of work. On the other hand, availability of some work in agricultural and allied sectors as well as in various activities in un-organised sector in less developed countries provides them some opportunity to work, of course, for lower wages, after 60 year of age.

The work participation rates (main workers) of the elderly persons (60+ years) in India and Tamil Nadu state for the three recent census periods (1971-1991) are provided

TABLE 2: WORK PARTICIPATION RATES OF THE AGED (60+ YEARS) PERSONS BY SEX AND PLACE OF RESIDENCE FOR INDIA AND TAMIL NADU, 1961-1991

Census	*Persons*		*Rural*		*Urban*	
	Men	*Women*	*Men*	*Women*	*Men*	*Women*
			INDIA			
1971	73.8	10.5	77.4	11.3	55.4	6.4
1981	63.9	10.2	67.8	11.3	47.6	5.6
1991	59.5	11.2	64.2	12.9	42.4	5.4
			TAMIL NADU			
1971	70.2	13.3	76.7	15.5	51.8	7.5
1981	61.0	16.5	67.6	20.7	44.5	7.1
1991	56.5	17.7	64.1	23.2	39.1	6.2

Source: Devi and Audinarayana (1984), Mahadevan *et al*. (1992), Devi (1992) and R. G. India (1999).

in Table 2 (Devi and Audinarayana, 1984; Devi, 1992; Mahadevan *et al*, 1992; R.G. India, 1999). On the whole, the participation rates for elderly men are high but seem to be declining moderately over a period of time both in India and Tamil Nadu as well as in the case of rural and urban areas. The work participation rates of older women are substantially lower than men, but appear to be increasing in the recent past only in rural areas and such a trend is more conspicuous in Tamil Nadu.

Why elderly persons to a large extent continue to work after the age of 60 years? Is there any gender specific reasons for this? To address these issues, an attempt is made in this paper to examine the role of selected demographic, socio-economic and health factors on the work participation of the elderly with the help of micro level data collected from Tamil Nadu state, India.

Theoretical Base and Empirical Evidence

Standing (1978) postulated two general theories (hypotheses) — Additional Worker Theory and the Discouraged Worker Theory—for the participation of the elderly in labour force. According to Additional Worker Theory, elderly persons are viewed as a reserve force to be utilised at times of economic crises. If the family wherein the elderly are living is economically very poor, it becomes necessary for the older persons (as additional workers to the prime age males) to participate in work and contribute to the family income. This pattern is quite common in the case of less developed countries where the individual income to aged persons will be mostly less in the absence of social security measures. When the economic situation improves and income increases, the additional workers are withdrawn from the labour market. Additional Worker Theory thus focuses attention on the supply side. Further, this theory clearly highlights the fact

that the grim economic necessity is the major factor to force the older persons to participate in economic activities.

The Discouraged Worker Theory views that economic development brings change in the employment structure of the economy especially the importance of agriculture as an absorber of labour declines and also opportunities for self-employment deteriorate. In addition, aged persons with outmoded skills and less stamina have to face stiff competition from the prime age members of the society. All these discourage the elderly from entering the labour market and thus, the theory views the situation from the side of demand for labour.

Work participation rate of the elderly male is generally governed by their role as bread-winners and in old age when financial stress is felt in the family, it will be men who come out first to participate in income generating activities. On the other hand, female work participation is generally affected by a number of variables other than financial stress, like social and cultural norms, marital status, number and age of children etc. besides opportunities for work (Standing, 1978; Devi, 1983, 1992; Shantakumar, 1994). Next to the gender background, place of residence would also play a crucial role in influencing the labour force participation of the elderly. Generally, the avenues for work in agricultural related and household industry will be plenty, which do not have a specific age ceiling to work, and thereby there is possibility of a higher work participation of the elderly in rural areas as compared to their counterparts in urban areas. A large number of macro and micro level studies carried out around the world and in India have concluded that the work participation rates of the elderly women and of those living in urban areas are significantly lower than their men and rural counterparts (Devi and Audinarayana, 1984; Sahayam, 1988; Vijayakumar, 1991; Mahadevan *et al*, 1992; Devi, 1992; Ogawa *et al*, 1994; Shantakumar, 1994; Visaria, 1996; R. G. India, 1999; U.N., 1999).

Though economic necessity induce the elderly to participate in income generating activities, some factors will discourage their chances to be in the labour market. For instance, advancing age of the elderly will have a negative effect on their work participation. This is mainly because of deterioration of their physical as well as mental health and stamina to work. Health status of the elderly *per se* would affect their participation in the labour force i.e., elderly who are maintaining good health would have a greater chance of being in the work force (Ogawa *et al*, 1994). In the opposite direction, it may be argued that because of ill health elderly may not be able to participate in the economic activities during their old age even under pressing economic conditions. However, these patterns depend on the nature of work and economic factors.

The work participation of the elderly, by and large, is negatively related to their educational status. Highly educated would have been placed in better positions i.e., employment mostly in organised sector and hence, receive more than subsistence level of income through pensions or other savings (CPF, Gratuity) after retirement, which

reduce the necessity to participate in work. On the contrary, it is also plausible that some elderly may continue to be in the labour force if they do not have sufficient savings to support themselves and if the employer wants to make use of their services. The net effects of these two opposite forces need empirical verification.

Occupation held by the elderly persons in the past (during their working ages, 15-59 years) would affect their work status after the age of 60 years. Generally, the chances of continuing the work at old age will be more in the case of coolies (labourers) especially in agricultural sector, so also in the case of artisans and cultivators cultivation as compared to those employed in organized sector. This is because of the absorption of older workers will be easy in the former case, whereas it would be difficult in the latter case.

It is also likely that the living arrangements of the elderly persons will affect their work participation after age 60 years. Generally, aged persons living with young dependant children are likely to participate in labour force to a large extent, since most of them have the responsibility of supporting them. On the other hand, co-residence with grown up earning children will discourage elderly from participating in labour force, because they are not (or less) likely to encounter serious financial stress. Of course, counter argument can also be made that their inability to participate in economic activity force them to co-reside with married children. Very few studies have examined all these relationships/hypotheses (Devi, 1983; Ogawa *et al.*, 1994; Shantakumar, 1994).

Data and Methods

Data for this paper was drawn from an empirical study entitled "Status and Well-being of the Elderly in Tamil Nadu", which was carried out in three districts — North Arcot, Pudukottai and Coimbatore — of Tamil Nadu state. Information was collected from 750 elderly persons (aged 60 years and above) — 450 from rural areas (from 9 clusters) and 300 from urban areas (from 6 clusters) — with the help of an interview schedule during July-October, 1997. The following are the variables in the study.

Dependent Variable

Work Participation of the Elderly	0 = Not Working 1 = Participating in one or the other income generating work

Explanatory Variables

Sex	1 = Male 2 = Female
Monthly Income of the Elderly from other sources	Monthly income (in Rs.) from other sources (excluding wages/salaries) to elderly

Average Monthly Income of the Earning Members	Average monthly income (in Rs.) to earning members in the family where elderly reside
Living Arrangements of the Elderly	0 = Living alone or with Spouse 1 = With Unmarried Children (young dependents) 2 = With Married Children (working sons)
Current Age	Actual no. of Completed Years
Opinion on Health Status	1 = Poor 2 = Fair 3 = Good
Educational Status of the Elderly	0 = Illiterate 1 = Primary School 2 = Middle School and above
Major Occupation of the Elderly till 60 years of age	0 = Salaried/Business 1 = Artisans/Cultivators 2 = Labourers 3 = Not Worked
Place of Current Residence	1 = Rural 2 = Urban

The descriptive statistics of the explanatory variables are provided in Table 3.

In the preliminary analysis, the association of marital status, number of surviving sons, chronic ill-health and disability status of the elderly with their work participation has been examined and found to be insignificant. Therefore, these variables are not included in the analysis. However, because of the conspicuous gender differentials in the work participation rates (details discussed earlier) it is felt to be appropriate and meaningful to examine the major factors that determine the likelihood of work participation separately among the elderly men and women in addition to the total sample elderly. Logistic regression analysis is adopted to identify the factors that influence the work participation of the elderly.

Results

Among the sample elderly, about 36 per cent are participating in one or the other economic activity. Work participation rate of older women is much lower (24%) than older men (54%). While majority of women and men work as agricultural and other labourers, a substantial number of men are also engaged in other activities such as weaving (and other skilled works), business and cultivation (Table not given).

TABLE 3: DESCRIPTIVE STATISTICS OF THE EXPLANATORY VARIABLES

Explanatory Variables	*Persons*		*Men*		*Women*	
	Mean/ Proportion	*S.D.*	*Mean/ Proportion*	*S.D.*	*Mean/ Proportion*	*S.D.*
Sex						
Male	0.42	—	—	—	—	—
Female	0.57	—	—	—	—	—
Monthly income of the Elderly from other sources	322.08	880.23	379.15	1059.54	296.67	715.92
Average Monthly Income of the Earning Members	881.31	1909.32	718.82	1856.75	1003.56	1941.13
Living Arrangements of the Elderly						
Living alone or with spouse	0.30	—	0.35	—	0.26	—
With unmarried children	0.18		0.22		0.15	
With married children	0.52	—	0.43	—	0.59	—
Current Age	68.30	7.04	68.14	6.69	68.42	7.31
Opinion on Health Status Poor	0.40		0.36		0.43	
Fair	0.45	—	0.46	—	0.46	—
Good	0.15	—	0.18	—	0.13	—
Educational Status						
Illiterate	0.56	—	0.32	—	0.74	—
Primary School	0.26	—	0.39	_	0.17	—
Middle School and above	0.18		0.29		0.09	
Occupational Status till 60 Years of Age Salaried/Business	0.22		0.40		0.09	
Artisans/Cultivators	0.22	—	0.33	—	0.14	—
Labourers	0.33	—	0.27	—	0.39	—
Not Worked	0.23	—	$	$	0.38	—
Place of Current Residence						
Rural	0.60	—	0.61	—	0.59	—
Urban	0.40	__	0.39	—	0.41	—
Total Sample	750		322		428	

Note: — : Not Applicable.

$: 6 men 'not worked' before age 60 are added with Labourers.

Results based on the logistic regression analysis show that among the total sample elderly (Table 4), controlling for the other factors included in the model, women have a significantly (at .001 level) lesser odds of work participation as compared to their men counterparts. Regular monthly incomes from other sources to the elderly and their

TABLE 4: LOGISTIC REGRESSION COEFFICIENTS AND ODDS RATIOS FOR WORK PARTICIPATION OF THE ELDERLY BY THEIR GENDER BACKGROUND

Explanatory Variables	Persons		Men		Women	
	Beta	Exp (B)	Beta	Exp (B)	Beta	Exp (B)
Sex (Ref.: Male)	-.6852	.5040**	-	-	-	-
Monthly Income of the Elderly from others Sources	-.0007	.9993***	-.0005	-.9995**	-.0019	.9981***
Average Monthly Income of the Earning members	-.00001	1.0000	-.00007	1.0001	-.0007	.9993
Living Arrangements of the Elderly (Ref.: Alone/With spouse)						
Unmarried Children	-.1172	1.1243	.4920	1.6356	-.0356	.9651
Married Children	-.7220	.4858***	-.3518	.7034	-.7546	.4702*
Current Age	-.0627	.9392***	-.0803	9228***	-.0420	.9588*
Opinion on Health Status (Ref.: Poor)						
Fair	.3172	1.3733+	.3087	1.3617	.3100	1.3634
Good	.7819	2.1855***	.8758	2.4009*	.8041	2.2347+
Educational Status (Ref.: Illiterate)						
Primary School	.0767	1.0798	.0931	1.0975	-.0386	.9621
Middle School	1.1187	3.0608***	.8353	2.3055*	2.7271	15.2880***
Occupational Status till Age 60 Years (Ref.: Salaried/Business)						
Artisans/Cultivators	-.2361	.7897	-.1692	.8444	-.3223	.7245
Labourers	-.0877	.9160	-.3509	.7041	-.1203	.8866
Not Worked	-1.9001	.1496***	$	$	-2.2193	.1087**
Place of Current Residence (Ref. Rural)						
Urban	.1874	1.2062	.0739	1.0767	.5008	1.6500
Constant	4.3955		5.3407		2.7748	
Log-Likelihood	765.376		386.986		347.987	
Chi-Square	215.896		57.610		112.567	
Significance (df)	.000(14)		.000(12)		.000(13)	
Sample Size	750		322		428	

Note: — : Not used in the model; $: 6 men 'not worked' before age 60 are added with Labourers.
+ =p < .10; * = *p* < .05; ** =P< .01; *** = *p* < .001

current age have exhibited significant (at .001 level) negative effects on their work participation. Co-residence of the elderly with their married children (mostly with sons) reduces the propensity to work during their old age as compared to those living with their spouse or alone. Elderly who never worked (mostly women) till they reach 60 years

of age remained in the same state (sig. at .001 level) as compared to those who were in salaried employment/business.

Elderly who opined that their health is 'good' and 'fair' showed higher odds of work participation after age 60 years (sig. at .001 and .10 level respectively) as compared to those who stated to be in 'poor' health. Likewise, elderly who completed middle school and above education have a greater likelihood (sig. at .001 level) of work participation during their old age than that of their illiterate counterparts. Elderly with little education do have exhibited such a tendency (as against illiterates), but statistically not significant.

While average monthly income to the adult members of the family wherein the elderly reside discourages the elderly to work after age 60 years, the urban residence seem to be conducive to continue their work in old age, however, both the effects are insignificant. Contrary to the expectation, compared to those elderly who were in salaried employment/business before the age of 60 years, elderly who worked as agricultural labourers and artisans/cultivators are less likely to participate in the economic activities during their old age, but statistically insignificant.

In the case of elderly men (Table 4) the likelihood of work participation after age 60 years has significantly (at .01 level) reduced as their monthly income from other sources increases. Similarly, the chance of work participation declines with advancing current age (sig. at .001 level). On the other hand, the odds of work participation is moderately (sig. at .05 level) higher for those elderly who are stated to be in 'good' health and educated up to middle school and above as against to those who opined that their health is 'poor' and illiterates.

As noted in the case of total sample, rest of the variables (or their categories) have showed same sign of effects on work participation of the elderly (except in the case of elderly living with unmarried children), but the magnitude of the effects are very weak and insignificant.

Among the elderly women (Table 4) all the variables and their categories (except four i.e., co-residence with unmarried children, primary school education, worked as agricultural labourers and artisans/cultivators till age 60 years) under consideration have showed not only statistically significant (at different levels, except in the case of urban residence) effects on their work status, but also consistent with the theoretical predictions.

Conclusions and Implications

A substantial number of sample elderly continue to be in the labour force and as universally noticed men are in large proportion than women. This finding has been further confirmed by the multivariate analysis. Elderly who have large sums of monthly incomes from other sources (i.e., pension, house rent, interests on deposits and loans, regular income from children and old age pension by the government) and those who are older by age have less chance of work participation, irrespective of their gender

background. This shows, on the one side, grim economic necessity is the major factor to force the elderly to work, on the other side, their advancing age consequently their inability to work act as an obstacle in the way of work participation. Women belonging to those families wherein the average monthly income of the earning members is high (indicating better off in economic status) have a disinclination to participate in work during their old age. These findings clearly support the Additional Worker Theory stated earlier.

The results also suggest that good health status and educational attainment beyond primary school (i.e., middle school and above) have significant positive effects on work participation of both older men and women. However, older women who have education only up to primary school level have shown a tendency of not to go for work as compared to their illiterate counterparts. Such deferential effects of education on work participation are also noticed in Thailand (Ogawa *et al*, 1994), while in Singapore (Shantakumar, 1994) it is observed that the higher the educational attainment, the higher the work participation of the aged.

As expected, aged persons living with married children (mostly with son) are less likely to work for wage especially in the case of women. But, co-residence with unmarried children affects the work participation of the elderly. A large majority of the unmarried children with whom elderly co-reside are either not working or not sufficiently self-supporting and thereby depend on their aged parents. This forces the older men to go for work and generate income so as to fulfill the basic requirements of the family. On the other hand, older women who live with earning children mostly engage in household chores and do not engage themselves in income generating work outside of home.

The effects of major occupation held by older persons during their working ages and urban residence on their work participation, by and large, are observed to be not consistent with the expectation. However, elderly women who ever worked for wage during their working ages remained in the same state. Finally, residence in urban areas appears to be favourable for the work participation of the elderly than their rural counterparts. Increasing opportunities for work in the informal sector may be the chief reason for such a trend, in addition to poor economic support from the family members.

On the basis of the preceding findings, a few policy issues are suggested here:

A. Measures to Make Elderly Self-reliant

— Most of the elderly are engaged in work and more women may want to work in near future due to an increase in their longevity, suitable work programmes may be initiated taking into account the job variety and job experience of the older people and their desire/capability to work. However, the work programmes should aim at utilising the skill and experiences of the aged and to suit their physical ability.

— Age at retirement may be increased in a phased manner. Part-time and regular services of the elderly with reasonable wages may be considered after the age of 60 years at least up to 65. Incidentally, the nation can gain from their rich and mature experiences.

B. Social Security Schemes

— Since financial stress acts as the major force to the older persons to stay at labour market, programmes should be aimed to increase the old age pension to a reasonable level.

— Efforts may also be taken to provide pension to most of the adult workers so as their income at retirement will be substantial. With these efforts they will become slightly better off in their economic position and thereby opt for outside the labour market.

— In Indian context, children especially sons are still taking care of their elderly. Therefore, strategies may be evolved, on the one side, to strengthen the family as a social institution and motivate the young to take care their parents. On the other side, dependent allowance and tax rebates for caretakers may also be initiated.

C. Encouragement to Save for Old Age

— There is possibility of increase in the proportion of elderly in near future due to increasing longevity and declining fertility. This will pose a serious problem in the future in meeting the needs of the older citizens by the government social security system. Hence, it is recommended to provide various schemes to the present day adults in labour force so that they could save for their old age.

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