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Activity Participation and Life Satisfaction Among High Functioning Elderly

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high functioning elderly to draw some practical implications for retirement education programs. The analysis was based upon data from the MacArthur Study of Successful Aging. The findings showed that neither activity participation nor its interaction with employment was related to life satisfaction whether the type of activity was formal or informal. The consistency of activity participation might be related to life satisfaction.

I. Introduction

Increased life expectancy and the accompanying interests in quality of life in the expanded lifetimes have caused a proliferation of studies on life satisfaction. The focus of these studies varies from the measurement of life satisfaction to examination of specific factors causing life satisfaction. The study of life satisfaction is important because it promotes understanding of what can improve life satisfaction and suggests practical strategies for enhancing adjustment to later life.

The purpose of this study is to examine the relationship between activity and life satisfaction among elderly people. The analysis is based upon data from the MacArthur Study of Successful Aging, which contains information on a variety of topics from socio-demographic and health to psychosocial factors. Since the sample is drawn from a community-dwelling population, it may be appropriate to make inferences about how retirement preparation programs could be developed to incorporate aspects that would increase life satisfaction. This paper specifically examines the effect of formal and informal activity participation and their interaction with employment on life satisfaction.

Life Satisfaction

Life satisfaction is a concept that has been frequently used in the social sciences as well as policy areas to measure the quality of life. When life expectancy was lower, the major issue was how to promote longer life. That is, people focused on the quantity of life. Since the life expectancy of the population is increasing, interest has switched to the quality of life and has produced a corresponding increase in interest in life satisfaction. According to McConatha (1993), life satisfaction involves how individuals view their present life style as well as future expectations. The term, life satisfaction, is somewhat self-suggesting: how content people are with their life. However, this vague conceptualization of life satisfaction is not helpful in indicating how to measure life satisfaction. Because life satisfaction involves many dimensions, it is not a simple task to define life satisfaction.

Life satisfaction is, as the term implies, ambiguous as well as comprehensive because it includes every possible dimension of life conditions. The multi-dimensional aspect of life satisfaction suggests different ways of looking at the quality of life. Some try to define quality of life by assessing the intake of nutritious food or comfortable housing, and others, by measuring physical conditions such as health problems and disease status. Thus, both defining and operationalizing life satisfaction are difficult.

Multi-item scales of life satisfaction are good for measuring particular aspects of life satisfaction. However, as Kozma et al. (1991) point out, because they contain certain preconceptions about the nature of life satisfaction, the results may be biased. In addition, a measure with multi-items may contain different aspects of quality of life in a single scale. Thus, a multi-item life satisfaction scale needs to be confirmed as valid by factor analysis.

Activities

Although activities such as shopping, reading, involvement in hobbies and sports may be viewed as being closely related to levels of physical functioning, they also reflect adequacy of role performance, thus predicting life satisfaction. Activity theory argues that active elderly people are more likely to have greater life satisfaction than those who are inactive (Burgess, 1954). Even though this theory has been criticized because of its overlook of variations in the meaning of particular activities in the lives of the older people (Passuth & Bengtson, 1988) and its unclear explanation on how different types of activity, such as formal, informal, and solitary activities, would affect elderly people's life satisfaction, it seems that this theory deserves consideration because it initiated considering the potential benefits of activities.

[Here, Activity in activity theory holds more interpersonal nature (informal activity) that offers role supports.]

Aquino et al. (1996) showed the effects of paid and volunteer work on social support and life satisfaction by controlling various demographic and health characteristics and concluded that participation in paid and volunteer work may be an important determinant of life satisfaction among the elderly. Menec and Chipperfield (1997) examined the potential mediating role of exercise and participation in nonphysical leisure activities such as attending cultural events, involvement in volunteer organization, etc. and found that exercising and nonphysical leisure activity participation are predictive of positive perception on health and greater life satisfaction.

While Menec and Chipperfield (1997) differentiated physical and nonphysical activities in their study, Iwatsubo et al. (1996) combined three types of leisure activities: physical activities, hobby or other leisure activities such as painting or reading, and social

activities in association, trade, unions, or clubs. Their findings also confirmed the positive relationship between leisure activities and life satisfaction.

Palmore et al. (1985) used several measures of activities and social relationships: participation in formal organizations, time spent in extra-work interests (including home maintenance and other instrumental activities), interaction with family, interaction with friends, and time spent in solitary activities. They found that increased interaction with friends and increased time in solitary leisure activities are positively related to life satisfaction. Particularly, increased participation in formal organizations and time spent in extra-work interests are predictors of retirees' (but not nonretirees') increased life satisfaction. This finding is conceivable because retirees may feel deprived of their identity as workers, so that those who pursue the 'worklike-activities' are more likely to have greater life satisfaction.

This finding is supported by Jahoda's (1982) *latent function model of employment* (deprivation theory) which identifies five latent functions of employment such as time use, social contacts, self-identify, *regular activities*, and participation in collective purposes. McIntosh and Danigelis (1995) also found that both paid and unpaid productive activities outside the home such as paid work, formal religious/nonreligious participation, and informal volunteering are positively related to life satisfaction.

Other Factors Affecting Life Satisfaction

There are many potential factors that may affect elderly people's life satisfaction. Literature review shows several commonly used factors that could affect life satisfaction: socio-demographic factors (i.e. age, race, education, gender, marital status, employment status, and income), physical health, social support and network, and psychological well-being. Often, the literature produces

conflicting results. In part, this may reflect differences in control for confounding variables.

To conclude the literature review, a model of life satisfaction with four dimensions such as socio-demographic aspects, health factors, psychological and socio-emotional factors is drawn (Figure 1). Most previous researchers on the topic of life satisfaction seem to exclusively focus on the aspects whose effects they want to show without including a variety of possible intervening or interacting variables in their analysis. On the contrary, this paper intends to examine a full set of factors affecting life satisfaction resulting in greater certainty that the effects identified are correctly isolated. It needs to be made clear that the reason for including this broad range of factors in the analysis is not to identify a perfect explanation of life satisfaction. It is rather to examine the isolated effect of activity participation on life satisfaction.

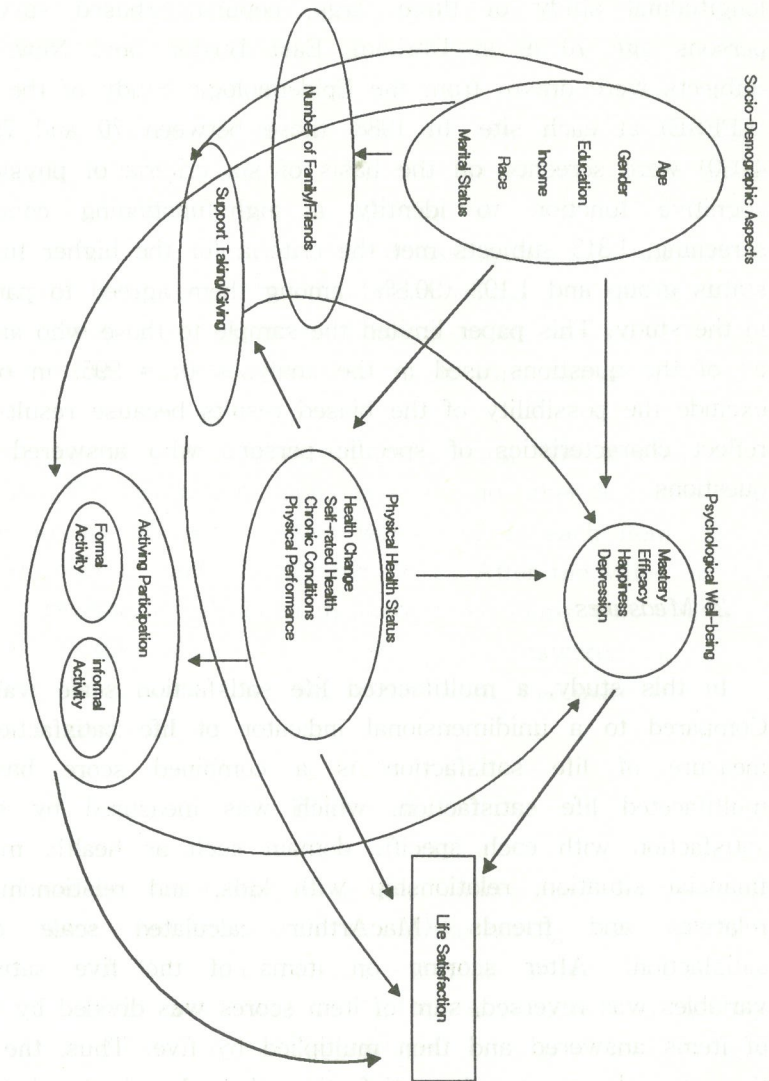
Hypotheses

Two hypotheses are investigated in this paper. The first hypothesis is that leisure activity, group activity, and volunteer work are likely to be positively related to life satisfaction. The second hypothesis is that there will be an interaction effect between activity and employment on life satisfaction. Since retired elderly tend to compensate for their role loss by participating in formal activity and older workers tend to prefer informal activity, it is likely that there is an interaction effect between different types of activity and employment status.

II. Method

1. Data and Subject Selection

The analyses in this paper used the data from the MacArthur



< Figure 1 > Model of Multidimensional Life Satisfaction

Research Network on Successful Aging Community Study, a longitudinal study of three large, population-based surveys of persons age 70-79 in Durham, East Boston, and New Haven. Subjects were drawn from the Epidemiologic Study of the Elderly (EPESE) at each site. In 1988, those between 70 and 79 ($n = 4,030$) were screened on the basis of six criteria of physical and cognitive function to identify a high-functioning cohort. At screening, 1,313 subjects met the criteria for the higher functional status group and 1,192 (90.8%) among them agreed to participate in the study. This paper limited the sample to those who answered all of the questions used in the analyses ($n = 995$) in order to exclude the possibility of the biased results because results might reflect characteristics of specific persons who answered certain questions.

2. Measures

In this study, a multifaceted life satisfaction scale was used. Compared to a unidimensional indicator of life satisfaction, this measure of life satisfaction is a combined score based on multifaceted life satisfaction, which was measured by sum of satisfaction with each specific domain such as health, marriage, financial situation, relationship with kids, and relationship with relatives and friends (MacArthur calculated scale of life satisfaction). After scoring on items of the five satisfaction variables was reversed, sum of item scores was divided by number of items answered and then multiplied by five. Thus, the higher the score, the greater the satisfaction. (In order check whether the combination of these five variables into a single scale is proper, a Cronbach α coefficient was calculated. The coefficient is .59 proving this life satisfaction scale to be reliable.)

Participation in such activities as leisure activity, volunteer

activity, and group activity were measured to see the effect of activities on life satisfaction among elderly people. Leisure activity, representing informal activity, was measured by asking whether respondents ever do leisure activities like taking walks, going swimming or golfing, or others such as these. It was coded as a dichotomous variable (*yes/no*). This question only asks about physical leisure activities, not non-physical leisure activities.

Volunteer activity was assessed by asking whether respondents did volunteer work for a church or other religious organization, for a political group, a senior citizens' group, or for any other type of organization during the last 12 months. It was also answered *yes* or *no*.

Group activity was measured by asking the frequency of attending club meetings, religious service, and other activities with religious group. Six-point values were used in each item [from *more than once a week* (1) to *never* (6)]. After the value of each item was reverse, a calculated mean of three items was multiplied by three. In this analysis, only those who answered all of the three items were used. The higher the score, the more frequently involved in group activity.

III. Results

The baseline characteristics of the subjects are presented in Table 1. Age ranged from 70 to 80 and the average age was 74.23 years ($SD = 2.72$). There were a few more female respondents (55%) than male ones. Whites (79.1%) were dominant in this sample. Only 18.8% of the respondents were employed in paid work and the majority were not employed. A little less than half of the subjects were married at the time of interview. The health status of the sample shows that they are healthy. Over 70% of the respondents rated their health excellent or good. The average number of chronic conditions was 1.16 and the majority of the

sample did have less than two chronic conditions. The mean score of physical performance (ranging from 0.485 to 3.861) was 2.76 with a standard deviation of 0.52. Seventy eight percent of the sample did not experience a health change in the past year while about 10% of them improved their health and about 12% deteriorated. While the majority (81.5%) did leisure activity, only 28.9% of the respondents participated in volunteer activity during the last 12 months. The subjects had, on average, two to three children, four other close relatives, and six close friends. Total social support (instrumental and emotional support) and positive attitude on network have high mean scores. Particularly, the network score was concentrated in the range from 20 to 24. The mean score of the multifaceted life satisfaction scale was 20.18 with the maximum score of 25.

The OLS regression analysis was conducted to examine the effect of activities and their interaction with employment on life satisfaction. Table 2 shows the effects of activity participation and its interaction with employment on life satisfaction. The hypotheses that activity is likely to be positively related to life satisfaction and the effect of leisure, group, and volunteer activity is likely to interact with that of employment status were not confirmed. Model 4 shows that there was no significant effect of activity participation or its interaction with employment on life satisfaction, no matter what the type of activity was.

Volunteer work, assumed to be formal activity, had some effect on life satisfaction in model 1 to model 3. Given the majority of the respondents are unemployed, the significant positive relationship between formal activity participation and life satisfaction was expected because the non-employed elderly tend to pursue a 'work-type' formal activity. In terms of informal type of activity participation, on the other hand, leisure activity participation was not a predictor of life satisfaction and had no interaction effect with employment on life satisfaction.

< Table 1 >

Characteristics of the Study Population:
MacArthur Study(1986) of Successful Aging (n = 955)

Variables	M	SD	%age	Range
<i>Multifaceted life satisfaction</i>	20.18	2.84		10-25
<i>Socio-demographic factors</i>				
Age	74.23	2.72		70-80
Gender (% female)			55.0	
Education (years completed)	10.66	3.40		0-17
Income (\$ annual)	15615	12185		
Race (%)				
White			79.1	
Black			20.9	
Employment (% in paid work)			18.4	
Marital status (% currently married)			46.4	
<i>Health factors</i>				
Self-rated health (%)			19.5	
Excellent			54.5	
Good			24.8	
Fair			1.2	
Poor			0	
Bad	1.16	0.96		0-5
Number of chronic conditions				
Health change				
Improved			9.7	
Worse			12.3	
No change			78.0	
Physical performance score	2.76	0.52		0.5-3.9
<i>Psychological factors</i>				
Personal mastery	19.00	2.28		11-28
Happiness	14.25	2.34		6-20
Depression score	14.06	3.07		11-30
Efficacy	26.33	2.41		19-36
<i>Socio-emotional factors</i>				
Number of children	2.44	2.26		0-21
Number of other close relatives	4.11	4.91		0-60
Number of close friends	5.89	8.88		0-96
Instrumental/Emotional support	2.04	0.52		0.5-3
Providing help to others	7.44	3.16		0-15
Network	21.00	2.76		10-24
Leisure activity participation (%yes)			81.5	
Volunteer activity participation(%yes)			28.9	
Group activity	9.01	4.06		3-18

< Table 2 >

Understandized Parameter Estimates of Activity Participation and
Other Selected Variables in Model of Life Satisfaction ($n = 955$)

Variables	Model 1	Model 2	Model 3	Model 4
Age				.05
Education				-.06*
Race (White)				.48
Income				.12**
Marital status (Married)				.11
Gender (Female)				-.38*
Self-rated health				.75**
Number of chronic conditions				-.07
Health change (no change as reference)				
Improved				-.18
Worse				-.65**
Physical performance				-.10
Number of kids				.03
Number of other close relatives				.01
Number of close friends				-.00
Providing help to others				-.06*
Network				.16**
Instrumental/Emotional support				.55**
Mastery				.05
Efficacy				.13**
Happiness				.24**
Depression				-.11**
Employment(A)			2.07	1.51
Leisure activity(B)	.08	.10	.27	-.01
A × B		.02	-.75	-.67
Group activity(C)	.02	.02	.02	.02
A × C		.03	.01	.00
Volunteer work(D)	.57**	.53*	.60*	.21
A × D		.07	-.24	-.28
R^2	.01	.02	.02	.37

* $p < .05$ ** $p < .01$

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However, the relationship of volunteer work with life satisfaction disappeared when other factors were taken into account, and leisure activity was always insignificant in its effect on life satisfaction (model 4). Thus, neither formal nor informal activity participation influenced life satisfaction. Nor did activity participation have an effect on life satisfaction via its interaction with employment.

IV. Discussion

The hypotheses of the positive effect of activity participation and its interaction with employment on life satisfaction were not confirmed. Leisure activity, which is regarded as informal activity, was not significant at all in its effect on life satisfaction even in

junction with employment status while volunteer work participation had some degrees of bivariate relationship with life satisfaction. Also, there was no interaction effect of volunteer work as formal activity and employment status. Nor did informal activity (leisure activity) have interaction effect with employment status on life satisfaction. It seems to be mainly due to the preponderance of the non-employed people compared to the employed people in the sample. However, it may also show that types of activity and employment status are not associated with each other. That is, whether activity is formal or informal may not be related to life satisfaction even when employment status is considered. Further, some elderly people's tendency to pursue formal activity and others' tendency to pursue non-worklike activity after a long years of working life may cancel out each other's effect.

The above findings seem unsupportive of the activity theory which argues that greater involvement in activities in later life increases well-being of elderly people. The findings may partly support continuity theory, which implies that what makes elderly people satisfied with their life is not a sudden activity participation or an increase in level of participation, but a continuation of activity participation and the participation level. However, this interpretation should be made with caution because there is no information on how long respondents have participated in activities nor how satisfied they are with activities they participate in.

Study Strengths and Weaknesses

The strengths of this study are: a sample drawn from a community-based population, thus more generalizable, age range of the sample (70-80) which minimizes the effect of some dramatic changes, which usually take place in the 60's, in interpreting the results, and the availability of a diverse set of psycho-social factors. However, there are some limitations in the study findings.

First, the generalization of the findings to the general elderly population including those with lower-functioning population is questionable. For the group of people who are relatively unhealthy or have lower functioning, the relationship between activity participation and life satisfaction may differ. Second, questions on activity are somewhat ambiguous. The questions, "Do you *ever* do physical leisure activities such as....," "During the last 12 months, *did you* do volunteer work for....," and the sum of "how *often* do you attend such group activities," make the comparison of effects of different types of activities hard. Also, it is not certain whether respondents participate in activities on a regular basis or in an episodic way. Regular activity participation and sporadic participation would definitely make a lot of differences in effect on life satisfaction.

Implications and Suggestions

The study findings suggest that the overall emphasis on activity program in the current retirement education programs may need to be re-considered. However, it is possible that what is more critical to life satisfaction of elderly people is not activity participation per se, but the duration or consistency of activity participation over time. [Those who showed a consistent pattern activity and volunteer work in the 1988 and 1991 surveys (participated both in 1988 and in 1991 or did not participate at either time) had a higher mean life satisfaction than those who had a consistent pattern of activity participation and 18.45 for those with an inconsistent pattern. Although this analysis is not comprehensive, it provides some thought upon which a further study can be pursued.]

There are some suggestions for future research on this topic. First, questions on participation in activities should have more detail and depth to have practical implications for developing

retirement education programs. Future study on the impact of activity participation on life satisfaction should include the effect of the frequency and duration of activity participation on life satisfaction as well. Second, using longitudinal data would facilitate examining the consistency pattern of activity participation and its effect on life satisfaction. Third, a qualitative study on why elderly people do not participate in various activities would be able to give some guidelines on why and how activities should be incorporated in retirement education programs.

References

- Aquino, J. et al. (1996). Employment status, social support, and life satisfaction among the elderly. *Journal of Counseling Psychology*, 43, 480-489.
- Burgess, E. W. (1954). Social relations, activities, and personal adjustment. *American Journal of Sociology*, 59, 352-360.
- Iwatsubo, U. et al. (1996). Predictors of life satisfaction amongst retired people in Paris. *International Journal of Epidemiology*, 25, 160-170.
- Jahoda, M. (1982). *Employment and Unemployment: A social-psychological Analysis*. New York: Cambridge University Press.
- Kozma, A. et al. (1991). *Psychological Well-being in Later Life*. Toronto, Canada: Butterworths.
- McConatha, J. (1993). Maintaining well-being after retirement. In N. Julius & H. Krauss (Eds.), *The Aging Work Force: A Guide for Higher Education Administrators*. Washington, D. C.: College and University Personnel Association.
- McIntosh, B., & Danigelis, N. (1995). Race, gender, and the relevance of productive activity for elders' affect. *Journal of Gerontology*, 50, S229-S239.
- Menec, V., & Chipperfield, J. (1997). Remaining active in later life.

Journal of Aging and Health, 9, 105-125.

- Palmore, E. et al. (1985). *Retirement: Causes and Consequences*. New York: Springer.
- Passuth, P., & Bengtson, V. (1988). Sociological theories of aging: Current perspectives and future directions. In J. Birren & B. Bengtson (Eds.), *Emergent Theories of Aging*. New York: Springer.