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## Factors Related to the Subjective Well-being and Depression Symptoms among Elderly in Rural Areas

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### = ABSTRACT =

**Objectives:** The present study was directed at revealing the influence of various life styles on the subjective well-being and depressive states, and their related factors among the elderly.

**Methods:** The interviews were given to 454 elderly people aged over 65 (197 male and 257 female) in rural areas of Chungnam Province during the 3-month period from July 1st to Sep. 30th, 2002. The interview contents for the elderly included social demographic characteristics, activities of daily living(ADL) whether independent of others or not, subjective well-being, Zung's self-rating depression scale(SDS), etc.

**Results:** The male elderly showed significantly higher scores in subjective well-being than the female, and with regard to Zung's depression scores, they were significantly higher in the female than the male elderly. Based on the correlation between scores of subjective well-being and its related factors, there was a significant, positive correlation in both sexes with whether or not participation in the social gatherings and the degree of satisfaction with subjective health status. The factors shown to be negatively correlated with depression scores in both sexes were whether or not participation in the social gatherings, the degree of satisfaction with the subjective health status, economic conditions, and ADL scores. The factors influencing on the subjective well-being included depressive states, eating habits, dwelling states, ADL scores, and physical activity. Those influencing on the depressive states were the degree of satisfaction with the subjective health status, physical

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activity, sexes, smoking, ADL scores, economic conditions, eating habits and whether or not participation in the social gatherings.

**Conclusions:** Consequently, the subjective well-being as well as physical activity and economic conditions were shown to be the important factors for the healthy elderly life.

**KEY WORDS:** Subjective well-being, Depressive states, Elderly people

(activities of daily living; ADL) 가 , 30

1980 3.8%

1990 5.1%, 2000 7.1%

2020 15.1%

가 가 [1].

(Quality of life; QOL) [4-6], 山下 [7]

가 가 長田 [8]

가 가 (Subjective well-being) 가 [9-11] , Gomez [12]

가 [2].

[13], [14], [15].

[16], [17, 18] 가

Larson [3] 가 가 .

가 ,  
 .  
 1. 65  
 . 2002 2  
 65 1,695 ( 677 ,  
 1,018 ) , 2

(systematic 3)  
 sampling)  
 565 ( 226 , 339 ) ,  
 가 65 454 ( ,  
 197 , 257 ) .

2. 2002 7 1 9 30  
 가

(activities of daily livings;  
 ADL) , (subjective well-  
 bing), Zung[19] 가 (self-rating  
 depression scale; SDS)  
 가 .

1) , , ,  
 , , ,

2) ADL  
 ADL Katz index[20]  
 , , , ,  
 가 6  
 , 6 “ (without help)”,  
 “ (with some help)”, “ 가  
 (completely unable)” , 가 “  
 ”, 3 , “ ” 2 , “ 가 ” 1  
 (6-18 )

3) Philadelphia Geriatric  
 Center(PGC) morale scale[21]17  
 [22-25]  
 , 17  
 (morale score)  
 . 17  
 (internal consistency)

Cronbach's =0.9214 .

4) Zung[19] SDS .  
 SDS 20 ,  
 4 “  
 ” 4 , “ ” 3 , “가 ” 2 , “  
 ” 1 ,  
 “ ” 1 , “ ” 2 , “가  
 ” 3 , “ ” 4  
 (20-80 ) . 가 50  
 , 50-59 , 60-69  
 , 70

. 20  
Cronbach's  $\alpha=0.9452$  . Dummy

3. SPSSWIN(ver 10.0)

chi-square test t-test ANOVA test

Pearson 1.

simple correlation

454

가 43.4%,

가 56.6%

65-69

가 , 70

가

Table 1. General characteristics of study subjects

Variable\Sex	Male	Female	Total	p-value
unit: No.(%)				
Age(yrs)				
65-69	53(26.9)	78(30.4)	131(28.9)	0.884
70-74	59(29.9)	74(28.8)	133(29.3)	
75-79	49(24.9)	61(23.7)	110(24.2)	
80	36(18.3)	44(17.1)	80(17.6)	
Living status				
Live alone	16( 8.1)	105(40.9)	121(26.7)	0.000
With spouse	128(65.0)	63(24.5)	191(42.1)	
With family	53(26.9)	89(34.6)	142(31.3)	
Smoking status				
Smoker	84(42.6)	26(10.1)	110(24.2)	0.000
Ex-smoker	64(32.5)	7( 2.7)	71(15.6)	
Non-smoker	49(24.9)	224(87.2)	273(60.1)	
Alcohol drinking				
Drinker	108(54.8)	26(10.1)	134(29.5)	0.000
Ex-drinker	37(18.8)	11( 4.3)	48(10.6)	
Non-drinker	52(26.4)	220(85.6)	272(59.9)	
Participate in social meeting				
Participation	128(65.0)	119(46.3)	247(54.4)	0.000
Absence	69(35.0)	138(53.7)	207(45.6)	
Eating habits				
Regularly	177(89.8)	208(80.9)	385(84.8)	0.053
Irregularly	20(10.2)	49(19.1)	69(15.2)	
Total	197(100.0) (43.4)	257(100.0) (56.6)	454(100.0) (100.0)	

Table 1. Continued

Variable\Sex	Male	Female	Total	p-value
unit: No.(%)				
Economic status				
Good	15( 7.6)	8( 3.1)	23( 5.1)	0.056
Fair	23(11.7)	15( 5.8)	38( 8.4)	
Poor	159(80.7)	234(91.1)	393(86.6)	
Sleeping hour(/ day)				
<7	135(68.5)	187(72.8)	322(70.9)	0.601
7-8	41(20.8)	45(17.5)	86(18.9)	
8<	21(10.7)	25( 9.7)	46(10.1)	
Daily physical activity				
Sleeping	7( 3.6)	11( 4.3)	18( 4.0)	0.628
Watching TV	34(17.3)	55(21.4)	89(19.6)	
Work at under 4 hrs/week	51(25.9)	72(28.0)	123(27.1)	
Work at 4 hrs over/week	92(46.7)	102(39.7)	194(42.7)	
Physical training at 3 hrs over/week	13( 6.6)	17( 6.6)	30( 6.6)	
Disease				
Yes	148(75.1)	199(77.4)	347(76.4)	0.644
No	49(24.9)	58(22.6)	107(23.6)	
Health status				
Good	25(12.7)	16( 6.2)	41( 9.0)	0.052
Fair	83(42.1)	103(40.1)	186(41.0)	
Poor	89(45.2)	138(53.7)	227(50.0)	
Total	197(100.0) (43.4)	257(100.0) (56.6)	454(100.0) (100.0)	

가 . 가 84.8%가 , 1  
가 가 70.9%가 7  
가 4 , 4  
가 ,  
가 76.4%가 ,  
, 86.6%가 9.0% 가 (Table 1).

2.

12.32 , 11.42 가  
 (p=0.000), (p=0.036)(Table 3).  
 65-69 가 Zung  
 가 52.0% 41.2% , ,  
 가 가  
 (p=0.000).  
 (Table 2). 가 (Table 4).

3.

가 50.00 , 가 46.35 가  
 (p=0.000),  
 가

4.

(ADL) 가  
 ADL 가  
 17.51 , 가 17.53  
 ,  
 가

Table 2. Mean scores of subjective well-being by age and sex

Age\Sex	Male		Female		p- value
	N	Mean $\pm$ SD	N	Mean $\pm$ SD	
65-69	53	12.30 $\pm$ 1.43	78	11.83 $\pm$ 1.94	0.119
70-74	59	12.20 $\pm$ 1.80	74	11.39 $\pm$ 2.24	0.025
75-79	49	12.71 $\pm$ 1.70	61	11.42 $\pm$ 1.50	0.000
80	36	11.99 $\pm$ 2.45	44	10.73 $\pm$ 2.82	0.038
P- value		0.300		0.057	
Total	197	12.32 $\pm$ 1.83	257	11.42 $\pm$ 2.14	0.000

Table 3. Mean scores of depression(SDS) by age and sex

Age\Sex	Male		Female		p- value
	N	Mean $\pm$ SD	N	Mean $\pm$ SD	
65-69	53	45.08 $\pm$ 7.31	78	51.59 $\pm$ 8.48	0.221
70-74	59	47.53 $\pm$ 6.94	74	50.39 $\pm$ 8.84	0.041
75-79	49	45.73 $\pm$ 7.57	61	49.43 $\pm$ 5.57	0.000
80	36	46.86 $\pm$ 8.88	44	47.34 $\pm$ 7.81	0.003
p- value		0.337		0.036	
Total	197	46.35 $\pm$ 7.58	257	50.00 $\pm$ 7.97	0.000



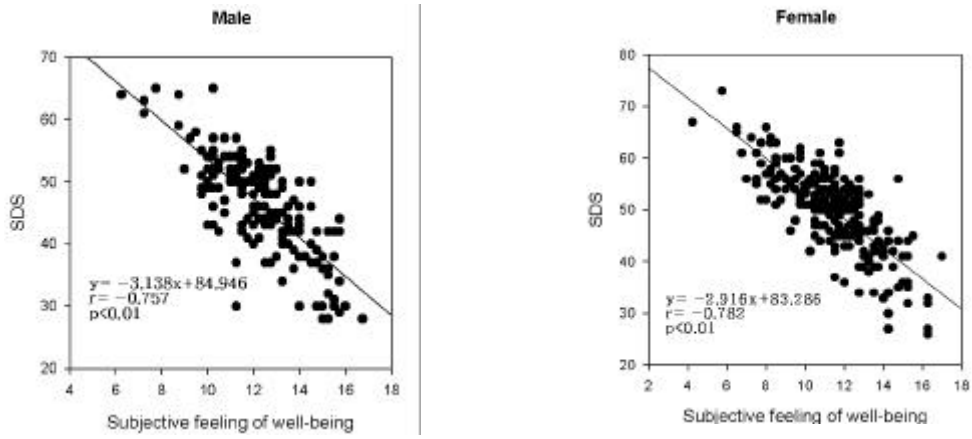


Figure 1. Partial correlation coefficients between SDS scores and subjective well-being scores

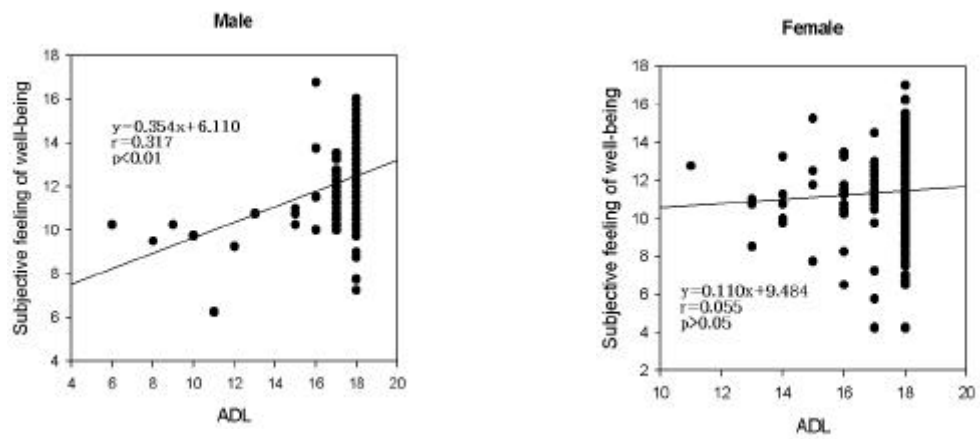


Figure 2. Partial correlation coefficients between ADL scores and subjective well-being scores

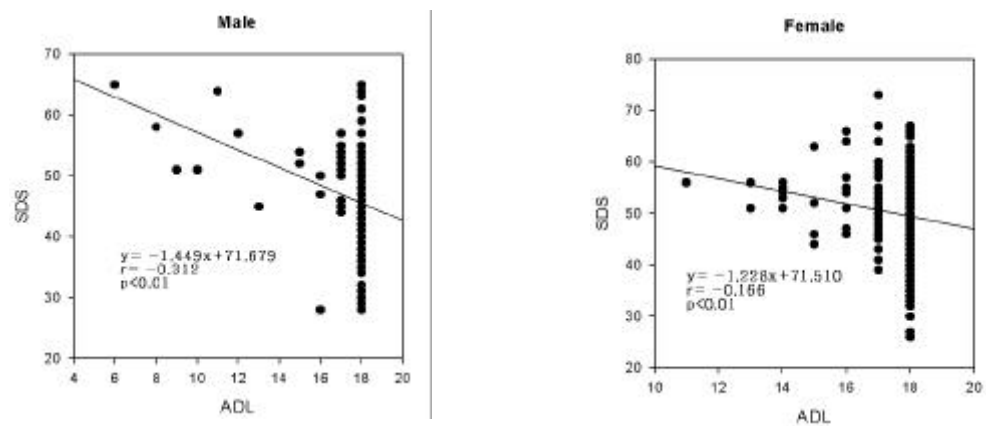


Figure 3. Partial correlation coefficients between SDS scores and ADL scores



5.  $-0.757(p=0.000)$ ,  $-0.782(p=0.000)$ , ADL

6. Zung, ADL

(Table 6).

(Table 7).

Table 6. Partial correlation coefficients between subjective well-being scores and related factors

Variable	Male		Female	
	Coefficient	p- value	Coefficient	p- value
SDS score	-0.757	0.000	-0.782	0.000
Living status <sup>1)</sup>	0.027	0.703	0.237	0.000
Smoking <sup>2)</sup>	0.170	0.057	0.176	0.055
Alcohol drinking <sup>3)</sup>	0.022	0.759	0.059	0.349
Eating habits <sup>4)</sup>	0.137	0.065	0.228	0.139
Sleeping hours <sup>5)</sup>	0.057	0.429	0.031	0.620
Physical activities <sup>6)</sup>	0.338	0.000	0.107	0.086
Diseases <sup>7)</sup>	-0.002	0.979	-0.103	0.101
Participate in social meeting <sup>8)</sup>	0.221	0.002	0.230	0.000
Satisfaction of one's health status <sup>9)</sup>	0.254	0.000	0.263	0.000
Economic status <sup>10)</sup>	0.180	0.051	0.101	0.108
Age	-0.027	0.707	-0.148	0.068
ADL score	0.317	0.000	0.055	0.376

1): Living with spouse and/or family=1, Live alone=2

2): Non-smoker=1, Smoker=2

3): Non-drinking=1, Drinking=2

4): Regularly=1, Irregularly=2

5): Under 7 hours per day=1, 7-9 hours=2, 9 hours and over=3

6): Sleeping=1, Watching TV and reading=2, Walk and sports=3, Working at home and fields=4

7): Yes=1, No=2

8): Participate=1, Not participate=2

9): Satisfaction=1, Common=2, Dissatisfaction=3

10): Good=1, Fair=2, Poor=3

Table 7. Partial correlation coefficients between depression(SDS) scores and related factors

Variable	Male		Female	
	Coefficient	p- value	Coefficient	p- value
Scores of feeling of well-being	-0.757	0.000	-0.782	0.000
Living status <sup>1)</sup>	-0.014	0.840	-0.134	0.062
Smoking <sup>2)</sup>	-0.200	0.005	-0.144	0.061
Alcohol drinking <sup>3)</sup>	-0.049	0.496	-0.006	0.923
Eating habits <sup>4)</sup>	0.169	0.068	0.241	0.043
Sleeping hours <sup>5)</sup>	-0.035	0.624	-0.007	0.905
Physical activities <sup>6)</sup>	-0.400	0.000	-0.155	0.053
Diseases <sup>7)</sup>	-0.086	0.227	-0.126	0.063
Participate in social meeting <sup>8)</sup>	-0.254	0.000	-0.209	0.001
Satisfaction of one's health status <sup>9)</sup>	-0.338	0.000	-0.340	0.000
Economic status <sup>10)</sup>	-0.229	0.001	-0.250	0.000
Age	0.010	0.893	0.188	0.053
ADL score	-0.312	0.000	-0.266	0.008

1): Living with spouse and/or family=1, Live alone=2

2): Non-smoker=1, Smoker=2

3): Non-drinking=1, Drinking=2

4): Regularly=1, Irregularly=2

5): Under 7 hours per day=1, 7-9 hours=2, 9 hours and over=3

6): Sleeping=1, Watching TV and reading=2, Walk and sports=3, Working at home and fields=4

7): Yes=1, No=2

8): Participate=1, Not participate=2

9): Satisfaction=1, Common=2, Dissatisfaction=3

10): Good=1, Fair=2, Poor=3

Table 8. Results of multiple regression analysis of factors affecting to the feeling of well-being

Variable	B	SE	Beta	t	p- value	R2
Satisfaction of one's healths tatus	2.810	0.557	0.222	5.046	0.000	0.160
Eating habits	2.880	1.040	0.126	2.769	0.006	
Living status	1.737	0.479	0.161	3.629	0.000	
ADL score	0.645	0.282	0.105	2.290	0.022	
Physical activities	0.852	0.392	0.102	2.171	0.030	

Table 9. Results of multiple regression analysis of factors affecting to the depression

Variable	B	SE	Beta	t	p-value	R <sup>2</sup>
Satisfaction of one's health status	3.007	0.523	0.244	5.749	0.000	0.292
Physical activities	-0.966	0.355	-0.119	-2.720	0.007	
Sex	3.978	0.804	0.246	4.949	0.000	
Smoking habits	-1.757	0.459	-0.186	-3.828	0.000	
ADL score	-0.978	0.255	-0.164	-3.836	0.000	
Economic status	-2.111	0.655	-0.132	-3.222	0.001	
Eating habits	2.376	0.932	0.107	2.550	0.011	
Participate in social meeting	1.606	0.689	0.100	2.330	0.020	

7.

[3, 26-28], ADL, ,  
 [24, 29-31].  
 , 가  
 , ADL , Zung  
 16.0% (Table 8).  
 , ADL 가 가 ,  
 29.2% 福田[32] 65  
 (Table 9).  
 Zung  
 SDS 가 가  
 福田[32] 가 가  
 가 가

. 上野[33] 65  
 SDS  
 , 更井[34] SDS  
 , 福田 [32]  
 가  
 ,  
 가  
 Briscoe[22] . Zung  
 SDS , , ADL  
 3.0%, 10.5% ,  
 更井[34] 14.1%, SDS  
 20.4%, 新野[35] 9.6%, 12.0%, 가  
 Takeida [36] 9.1%, 14.4% 福田 [32]  
 가  
 ,  
 , ADL  
 ADL 가 가  
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 田 [32] ADL 가 가 가 bias  
 가  
 가  
 r=-0.757 (p=0.01), r=-0.782  
 (p=0.01) 가  
 가 福  
 [32] SDS morale 가  
 -0.5856(p<0.001), -0.636 (p<0.001)  
 , 山下  
 [7]  
 가 가



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