

A Study of Needs for Physical Activity of Korean Adults

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The present study identified and classified needs for physical activity. A questionnaire was developed to measure the needs of Korean adult residents in large cities. Seven factors of the needs for physical activity were identified and 42 items to measure the need factors were included in a questionnaire.

Responses by 1,292 residents of Seoul area were analyzed and the following results were obtained. (1) There was no difference by sex. However, men showed stronger needs than women in all the need factors except the need for exhibition. (2) Young people had a stronger need for achievement, while middle aged persons had a stronger needs for activity and catharsis. Men and women aged 60 and over had the lowest needs. (3) Both men and women with higher education showed stronger needs. Education made no difference in the priorities given to the needs in men, but it did make difference in women. (4) Occupation made differences in the needs of both men and women alike. Top professionals had the highest needs, while lower-class workers had the lowest needs. Finally, (5) Income had significant relationship with the needs. High income group had the highest needs, while the low income group had the lowest ones. Low income group had especially low needs for affiliation and achievement.

INTRODUCTION

Motivation for sport involvement has been studied from sociological and psychological perspectives for some time. Lim and the colleagues (1988) found that Korean adults participate in sport to maintain physical fitness and strength,

to reduce stress, to train the mind, to associate with others, and to enjoy leisure activities. Gill and Gross (1981) reported the major reasons to participate in sport for to be improvement of skills, challenge, competition, fun, friendship, and maintenance of physical fitness. Petlichkoff (1982) found the reasons to be power, affiliation, arousal, esteem, excellence, and aggression.

Most of the motivation studies have dealt with sport participation of preadolescence, neglecting the participation of adults and elderly persons. Moreover, the reasons to decide not to participate in sport is equally important to understand the general pattern of sport involvement (Crandall, 1980). There has been little attempt to give structures to identified reasons of sport participation and to relate them to the internal needs of a participant.

The purpose of the present study was to identify internal needs which underlie the expressed reasons to participate in sport and to examine social patterns of sport involvement in Korean adults.

METHOD

Sample

The population of the present study was adults (20 to 69 years old) who live in Seoul. The sample size was 2,000. The sample was drawn using a multistage (area, age, and population proportion) random stratified sampling technique. The response set method was used to screen the responses and the low reliability response was discarded. After the procedure, the sample size reduced to 1,292.

Measurement

A questionnaire was constructed to measure internal needs for physical activity. The procedures were as follows:

- (a) 112 pilot items were selected from previous studies, review of the literature, and advisory meetings, and were tested to 400 adults.
- (b) The responses set method was applied to examine the data. After discarding the low reliability responses, the remaining 312 responses were analyzed with factor analysis and cluster analysis. The analysis yielded seven factors of the needs for physical activity.

- (c) A reliability test and item to total correlation were performed for 112 test items, and with the results, 42 items were selected to represent seven factors of the needs.

The seven factors identified are:

- (1) Need for Homeostasis (N1): This is the need to maintain the physiological stability for life with physical activities. It represents a desire to maintain and improve health and physical fitness.
- (2) Need for Activity (N2): This need seeks to activate one's body and to provide the body with physical stimuli. It represents a desire to escape monotonous life style.
- (3) Need for Catharsis (N3): This need seeks to maintain mental stability with physical activities by escaping loneliness and reducing stress that results from complex modern life.
- (4) Need for Affiliation (N4): This is the need to be associated with others and to from human relations.
- (5) Need for Exhibition (N5): This is the need to exhibit oneself to others so as to attract attention. It seeks to show one's healthy body to others and to look healthy.
- (6) Need for Achievement (N6): This need seeks to equip oneself with mental strength and to prepare for life. It represents a desire to improve efficiency of daily activities and sports skills and to excel in competition.
- (7) Need for Autonomy (N7): This is the need to free oneself from outside constraints and to be independent. It represents a desire to attempt new ideas and to overcome difficulties. IT also represents a desire to develop leisure activities to prepare for older age.

Analysis of Data

Data were analyzed with the SAS package program on a VAX - 11/750 computer system. One way ANOVA's were performed to compare the means on the seven factors by the independent variables: age, sex, educational attainment, and income. The difference in the means were further identified with Scheffe multiple comparison method.

RESULTS AND DISCUSSION

Sex and the Need for Physical Activity

Table 1a and 1b show the comparison between sex. There were significant sex differences in the seven factors of the need for physical activity. Males showed a stronger need for physical activity than females in all the factors except in the need for exhibition, where females showed a stronger need. The result shows a socio-cultural bias concerning physically activity of women . Korean culture generally views women to be passive and physical not active. This cultural norm is represented as women being less interested in physical activity and thus, lower need for physical activity. Women, however, showed a stronger need for exhibition. They had a stronger desire to attract others' attention to their body.

Table 1a. Means , S.D. , and ANOVA Summary Table by Sex.

Subject		Factors of need							F/P
		N1	N2	N3	N4	N5	N6	N7	
Males n 652	M	3.33	3.27	3.10	2.80	2.61	3.45	3.10	39.45
	SD	0.54	0.58	0.64	0.66	0.69	0.62	0.60	0.0001
Females n 640	M	3.22	3.16	2.97	2.71	2.74	3.16	2.94	29.46
	SD	0.61	0.58	0.60	0.65	0.71	0.64	0.61	0.0001
F/P		19.45	9.46	13.73	6.16	11.91	65.71	21.70	
		0.0001	0.0001	0.0002	0.01	0.0006	0.0001	0.0001	

While there was a sexual difference in the magnitude of the need for physical activity, there was a similarity in the relative importance of the needs. As can be seen in Table 1b, the strongest need for physical activity for males was the need for achievement, followed by the needs for homeostasis and activity. For females, the needs for homeostasis, activity, and achievement were the strongest.

Table 1b. Result of Scheffe Test of Needs by sex.

Sex	Factor of need (N)
Males N 652	<u>N6</u> <u>N1</u> <u>N2</u> <u>N3</u> <u>N7</u> <u>N4</u> <u>N5</u>
Females N 640	<u>N1</u> <u>N2</u> <u>N6</u> <u>N3</u> <u>N7</u> <u>N5</u> <u>N4</u>

Age and the Need for physical Activity

Table 2a and 2b show the results of ANOVA's between age and the needs in men and of multiple comparison. For males, the needs for achievement and autonomy were the highest in 20 to 40 years old. That is younger men want to participate in physical activity to improve sports skills, to win in competition, and to be free of constraints. For males in their 40's and 50's, the highest needs were for affiliation, homeostasis, achievement, and catharsis. They want to reduce various stresses, to prepare for old age, to improve sports skills, to maintain relationships with other people, and to maintain physical fitness.

Table 2a. Means, S.D., and the Summary of ANOVA's by age in Men.

Subject		Factors of need							F/P
		N1	N2	N3	N4	N5	N6	N7	
20~29	M	3.31	3.16	3.12	2.74	2.50	3.56	3.19	22.75
n 129	SD	0.49	0.57	0.70	0.66	0.74	0.65	0.63	0.0001
30~39	M	3.27	3.26	3.17	2.74	2.54	3.62	3.22	30.82
n 118	SD	0.56	0.65	0.57	0.61	0.51	0.55	0.61	0.0001
40~49	M	3.38	3.41	3.25	2.86	2.88	3.38	2.97	42.85
n 164	SD	0.63	0.57	0.59	0.71	0.62	0.58	0.65	0.0
50~59	M	3.42	3.33	3.10	2.95	2.75	3.39	3.10	36.38
n 138	SD	0.51	0.58	0.61	0.65	0.70	0.62	0.57	0.0
60~69	M	3.46	3.22	2.91	2.69	2.47	3.21	2.99	32.12
n 103	SD	0.54	0.55	0.65	0.66	0.58	0.61	0.59	0.0001
F/P		2.57	3.95	4.36	2.94	5.78	7.83	1.99	
		0.03	0.004	0.002	0.02	0.0002	0.0001	0.09	

Table 2b. Results of Scheffe Test by Age Groups of Men.

Age (A)	Factors of need (N)	factors of Need (N)	Ages (A)
20~29 (A1)	<u>N6 N1 N7 N2 N3 N4 N5</u>	N1	<u>A5 A4 A3 A1 A2</u>
30~39 (A2)	<u>N6 N1 N2 N7 N3 N4 N5</u>	N2	<u>A3 A4 A2 A5 A1</u>
40~49 (A3)	<u>N2 N1 N6 N3 N7 N5 N4</u>	N3	<u>A3 A2 A1 A4 A5</u>
50~59 (A4)	<u>N1 N6 N2 N7 N3 N4 N5</u>	N4	<u>A4 A3 A2 A1 A5</u>
60~69 (A5)	<u>N1 N2 N6 N7 N3 N4 N5</u>	N5	<u>A3 A4 A2 A1 A5</u>
		N6	<u>A2 A1 A4 A3 A5</u>

For men in thier 60's, the single highest need was for homeostasis, revealing their concern for health as they became aware of their growing age. The need for homeostasis in this age group represented their desire to live long and healthy. For males aged 60 and over, the needs for physical activity was generally lower than other age group, except for the need for homeostasis. The lower level of need reflects lesser degree of activity in both social and physical domains, and a possible worry about physical activity related injuries.

Table 3a. Meanes, S. D., and the Summary of ANOVA's by Age in Women.

Subject		Factors of need							F/P
		N1	N2	N3	N4	N5	N6	N7	
20~29	M	3.13	3.15	2.96	2.59	2.98	3.31	2.92	17.08
n 113	SD	0.60	0.59	0.57	0.61	0.58	0.54	0.50	0.0001
30~39	M	3.16	3.35	3.02	2.72	2.92	3.29	3.06	16.87
n 134	SD	0.59	0.54	0.61	0.66	0.64	0.61	0.59	0.0001
40~49	M	3.20	3.13	3.25	2.74	2.71	3.15	2.90	15.23
n 173	SD	0.61	0.57	0.59	0.71	0.58	0.63	0.60	0.0001
50~59	M	3.29	3.10	3.03	2.85	2.76	3.10	2.96	8.79
n 121	SD	0.61	0.60	0.58	0.63	0.62	0.57	0.60	0.0001
60~69	M	3.22	3.09	2.89	2.64	2.27	2.96	2.86	22.51
n 99	SD	0.71	0.67	0.65	0.59	0.60	0.64	0.70	0.0001
F/P		2.36	4.41	6.02	2.70	18.69	5.92	1.85	
		0.05	0.002	0.0002	0.03	0.0001	0.0002	0.12	

Table 3b. Results of Scheffe Test by Age Groups of Women.

Age (A)	Factors of need (N)	Factors of need (N)	Age (A)
20~29(A1)	<u>N6 N2 N1 N5 N3 N7 N4</u>	N1	<u>A4 A5 A3 A2 A1</u>
30~39(A2)	<u>N2 N6 N1 N7 N3 N5 N4</u>	N2	<u>A2 A1 A3 A4 A5</u>
40~49(A3)	<u>N3 N1 N6 N2 N7 N4 N5</u>	N3	<u>A3 A4 A2 A1 A5</u>
50~59(A4)	<u>N1 N2 N6 N3 N3 N4 N5</u>	N4	<u>A4 A3 A2 A5 A1</u>
60~69(A5)	<u>N1 N2 N6 N3 N7 N4 N5</u>	N5	<u>A1 A2 A4 A3 A5</u>
		N6	<u>A1 A2 A3 A4 A5</u>

As can be seen in Tables 3a and 3b, women in their 20's showed the highest scores in needs for achievement and for activity. The results show that young women want to build confidence and feel satisfaction, and to organize their life styles. For women in their 30' s, the need for activity was the strongest, revealing their desire to experience new physical activity.

The women in their 40's show a stronger need for catharsis, revealing their desire to reduce stresses and alienation. Women in their 50's and 60's participated in physical activity for homeostasis and activity. Like men in their age groups, they want to stay fit so that they can maintain health as they grow old.

Educational Attainment and the Need for physical Activity

Tables 4a and 4b present the results of analysis of the need for physical activity in men in relation to educational attainment. Education made differences in the degree of the needs.

Higher the men's education level was, stronger their needs for physical activity were. The men with higher than college education had stronger needs than less educated men. As the education level went up, men showed stronger needs for homeostasis, activity, affiliation, achievement, and autonomy.

Education, however, did not differentiate men in the priority given to the needs for physical activity. That is, men gave similar priorities to the needs, regardless of their education level.

Table 4a. Means, S.D., and the Summary of ANOVA's by Education in Men.

Subject		Factors of need							F/P
		N1	N2	N3	N4	N5	N6	N7	
Undle middle school n 95	M	3.16	3.05	2.94	2.69	2.56	3.23	2.87	15.61
	SD	0.58	0.54	0.65	0.67	0.64	0.69	0.59	0.0001
high school n 163	M	3.31	3.16	2.96	2.74	2.38	3.32	3.02	29.78
	SD	0.71	0.65	0.61	0.68	0.67	0.61	0.60	0.0001
College n 394	M	3.37	3.37	3.21	2.85	2.72	3.54	3.18	30.74
	SD	0.64	0.66	0.59	0.67	0.70	0.64	0.61	0.0001
F/P		6.13 0.002	15.79 0.0001	15.97 0.0001	4.68 0.01	16.13 0.0001	9.60 0.0001	11.98 0.0001	

Table 4b. Results of Scheffe Test by Education of Men.

Level of education (E)	Factors of need (N)	Factors of need (N)	Level of education (E)
Undle middle (E1)	<u>N6 N1 N2 N3 N7</u> N4 N5	N1	<u>E3 E2 E1</u>
high school (E2)	<u>N6 N1 N2 N7 N3</u> N4 N5	N2	<u>E3 E2 E1</u>
College (E3)	<u>N6 N1 N2 N3 N7</u> N4 N5	N3	<u>E3 E1 E2</u>
		N4	<u>E3 E2 E1</u>
		N5	<u>E3 E1 E2</u>
		N6	<u>E3 E1 E2</u>
		N7	<u>E3 E2 E1</u>

Women's needs for physical activity by education level was analyzed and presented in 5a and 5b. Women showed a different pattern from men in the relationship between education and the needs. Women with high school education and under had stronger needs for homeostasis, while those with college education and over had stronger needs for achievement. Also as the education went up, the needs for exhibition and achievement increased. In general, women with lower education level participate in physical activity to stay healthy, while those with higher education level do to train mind, to organize their daily lives, and to prepare for old age.

Table 5a. Means, S.D., and the Summary of ANOVA's by Education in Women.

Subject	Factors of need							F/P
	N1	N2	N3	N4	N5	N6	N7	
Undle middle school n 222	M 3.19	3.08	2.96	2.71	2.55	3.03	2.93	26.25
	SD 0.61	0.59	0.69	0.64	0.64	0.67	0.60	0.0001
High school n 240	M 3.27	3.24	2.27	2.70	2.77	3.16	2.92	32.60
	SD 0.61	0.60	0.58	0.67	0.64	0.66	0.70	0.0001
College n 178	M 3.07	3.21	3.00	2.72	2.94	3.29	2.99	14.94
	SD 0.71	0.69	0.70	0.69	0.63	0.67	0.61	0.0001
F/P	3.48	3.62	0.39	0.08	15.33	7.97	0.69	
	0.03	0.03	0.67	0.92	0.0001	0.0004	0.50	

Table 5b. Results of Scheffe Test by Education of Women.

Level of education (E)	Factors of need (N)	factors of need (N)	Level of education (E)
Undle middle (E1)	<u>N1 N2 N6 N3 N7 N4 N5</u>	N1	<u>E2 E1 E3</u>
high school (E2)	<u>N1 N2 N6 N3 N7 N5 N4</u>	N2	<u>E2 E3 E1</u>
College (E3)	<u>N6 N2 N1 N3 N7 N5 N4</u>	N5	<u>E3 E2 E1</u>
		N6	<u>E3 E2 E1</u>

Occupation and the need for physical Activity

Tables 6a and 6b present the relationship between occupation and the needs for physical activity in men. Men showed a similar priorities of needs for physical activity, regardless of their occupations. However, it is interesting to note that men with no jobs showed stronger needs than those with jobs.

While there was no difference in the priorities given to the needs, there was a difference in the strength of the needs by men's occupations. High professionals like administrators, executives, and specialists had stronger needs than those in the middle range. The workers had the lowest needs for physical

activity. The differentiation in the needs seem to stem from awareness of the importance of physical activity on the one hand, and availability of time and finance on the other on the part of high professionals.

Table 6a. Means, S.D., and the Summary of ANOVA's by Occupation in Men.

Subject		Factors of need							F/P
		N1	N2	N3	N4	N5	N6	N7	
Service	M	3.37	3.19	3.00	2.75	2.40	3.14	2.96	30.13
n 125	SD	0.56	0.57	0.58	0.64	0.62	0.64	0.56	0.0001
Sales clerk	M	3.32	3.30	3.13	2.83	2.55	3.46	3.15	32.49
n 173	SD	0.60	0.59	0.65	0.74	0.65	0.61	0.65	0.0001
Management	M	3.35	3.28	3.14	2.84	2.80	3.38	3.10	46.24
n 176	SD	0.48	0.54	0.60	0.65	0.66	0.57	0.56	0.0
Free	M	3.44	3.32	3.09	2.82	2.70	3.68	3.17	41.79
n 113	SD	0.56	0.51	0.62	0.64	0.74	0.59	0.57	0.0
Jobless	M	3.11	3.20	3.40	2.69	2.58	3.18	3.06	13.98
n 65	SD	0.47	0.74	0.75	0.58	0.79	0.68	0.65	0.0001
F/P		5.31	1.40	4.69	1.09	4.92	5.65	2.04	
		0.003	0.23	0.007	0.36	0.007	0.002	0.09	

Table 6b. Results of Scheffe Test by Occupation of Men.

Kind of Job	Factors of need	Factors of need (N)	Kind of Job
Service	<u>N1 N2 N6 N3 N7 N4 N5</u>	N1	<u>J4 J1 J3 J2 J5</u>
Sales clerk	<u>N6 N1 N2 N7 N3 N4 N5</u>	N3	<u>J5 J3 J2 J4 J1</u>
Management	<u>N6 N1 N2 N3 N7 N4 N5</u>	N5	<u>J3 J4 J5 J2 J1</u>
Free	<u>N6 N1 N2 N7 N3 N4 N5</u>	N6	<u>J4 J2 J3 J5 J1</u>
Jobless	<u>N3 N2 N6 N1 N7 N4 N5</u>		

Table 7a and 7b present the relationship between occupation and the needs for physical activity in women. Homemakers showed strong needs for activity,

homeostasis, and achievement. For women with jobs outside home, the strongest need was for achievement, followed by the needs for activity and homeostasis. Women with no jobs had the strongest need for catharsis, but had lower needs for affiliation, exhibition, and achievement than others. It is conceivable that single jobless women with high education want to reduce stresses and alienation from not having jobs.

Table 7a. Means, S. D., and the Summary of ANOVA's by Occupation in Women.

구 분		Factors of need							F/P
		N1	N2	N3	N4	N5	N6	N7	
Housewife n 384	M	3.20	3.21	3.02	2.74	2.81	3.19	2.97	36.56
	SD	0.57	0.53	0.58	0.65	0.71	0.63	0.60	0.0
Occupation n 177	M	3.07	3.09	2.90	2.73	2.98	3.25	2.92	13.50
	SD	0.64	0.72	0.60	0.60	0.69	0.58	0.60	0.0001
Jobless n 79	M	3.17	3.15	3.33	2.46	2.29	2.89	2.84	18.94
	SD	0.73	0.63	0.72	0.73	0.61	0.80	0.66	0.0001
F/P		1.12	1.55	3.18	3.91	13.06	6.11	1.17	
		0.23	0.19	0.02	0.01	0.0001	0.0004	0.31	

Table 7b. Results of Scheffe Test by Occupation of Women.

Kind of Job	Factors of need	factors of Need (N)	Kind of Job
Housewife	<u>N2-N1-N6</u> <u>N3-N7</u> <u>N5-N4</u>	N3	<u>J3</u> <u>J1-J2</u>
Occupation	<u>N6</u> <u>N2-N1</u> <u>N5-N7-N3-N4</u>	N4	<u>J1-J2</u> <u>J3</u>
Jobless	<u>N3</u> <u>N1-N2</u> <u>N6-N7</u> <u>N4-N5</u>	N5	<u>J1-J2</u> <u>J3</u>
		N6	<u>J2-J1</u> <u>J3</u>

Income and the Need for physical Activity

Table 8a and 8b present the relationship between the need and income in men, and Table 9a and 9b, that in women. The relationship between income and the needs for physical activity was similar in men and women. In both

groups, low income group (under W 490,000 per month) showed the lowest need level, while high income group (over W 1,500,000) showed the strongest needs. The low income group had significantly lower needs for affiliation and achievement than other income groups. It seems that high income groups want to form a good relationship with others and to develop oneself by participating in physical activity and can afford to realize the needs.

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