

： ， ，

▪ ▪ ▪ ▪
▪ ▪ ▪ *

가
(Lubkin 1998).

1.

가
가 가 , ,

가

가 ,
1992 55.4% 1999 70%

가 (Korea Institute for Health
and Social Affairs, 1999).

, , , ,
,

가 . Kasl(1975)
4가

43.4% , , , , ,
가가 5
(Korea Ministry Health and Welfare, 2000).

(Lubkin,
1998).

Strauss Glaser(1973)

가

(Korea Institute for Health and Social Affairs,
1995).

3

, , , 가

가

*

2001 8 14

2001 10 11

2002 2 4

COPD 가 가

가

5가

Pender , McWilliam (1996)

가

Gonzales

(1990)

4가

가,

Figure 1> . Pakenham

(1999)

2.

1) 가 , 가,

2) 가 가 , 가

3) . Ginn, Frate Key(1999)

가

, Murphy

(1995)

3가 ,

(chronic disease),

(chronic illness),

(chronic sickness)

가 ,

(Given ,

(Lubkin, 1998). 1998).

가

가

32 , 5 , 가

Cronbach' = .84 .

1.

2)

(1)

가

2.

Pender(1996)가

3

52 , 4 ,

6

1800

가

1748

3

Cronbach's = .92,

가 20

Cronbach's = .87 .

(2)

가

, COPD

3.

Pender(1999)가

9

1)

(1)

가

가

Laffrey(1986)

Cronbach's

. Laffrey(1986)

= .79 .

16 4

(3)

4 , 4 , 4

, 4 16

64 가

Cronbach's = .91,

Cronbach's = .86 .

(2)

(1999)가

Pender

가

Ware(1976)가

11 , 3 가

(Health Perception Scale)

가

Cronbach's = .90,

3 , 3 , 4 ,

Cronbach's = .89 .

. 4 , . 8

(4)

<p>Pender(1999)가</p> <p>19, 5 가</p> <p>Cronbach's = .88,</p> <p>Cronbach's = .92</p> <p>(5)</p>	<p>Park(1985)</p> <p>25 5 , , , ,</p> <p>가 가</p> <p>가</p> <p>Cronbach's = .97,</p> <p>Cronbach's = .96</p> <p>(9)</p>
<p>Pender(1996)가</p> <p>Pender(1999)</p> <p>10, 5 가</p> <p>Cronbach's = .70,</p> <p>Cronbach's = .83</p> <p>(6)</p>	<p>Rogenberg(1965)</p> <p>Chun(1974)가</p> <p>10 4</p> <p>4</p> <p>40 가 가</p> <p>Cronbach's</p> <p>Cronbach's</p> <p>= .85 ,</p> <p>= .76</p>
<p>(1999)</p> <p>Pender(1999)가 12</p> <p>5</p> <p>Cronbach's = .85,</p> <p>Cronbach's = .90</p> <p>(7)</p>	<p>4.</p> <p>1999 12 2000 7</p> <p>가 가</p> <p>6</p>
<p>Sherer (1982)</p> <p>(1982)</p> <p>5</p> <p>17 85 가 ,</p> <p>Cronbach's = .71,</p> <p>Cronbach's = .91</p> <p>(8)</p>	<p>Sherer</p> <p>17</p> <p>5.</p> <p>SAS</p> <p>LISREL</p> <p>1)</p> <p>2) LISREL</p>

	LISREL	490 (28.1%),	382 (21.9%),	186
8.13	.	(10.7%)	, 가	가 659 (37.8%)
	.			가 460 (30.2%),
	.	166 (10.9%),	152 (10.0%),	
	.	106 (7.0%),	79 (5.2%),	55
1.	.	(3.6%),	36 (2.4%),	192 (12.6%)
	.			275 (18.1%)
	가 851	.	‘ ’	가 1368 (78.5%)
(48.7%),	가 897 (51.3%)	.	, ‘ ’	가 332 (19.1%),
50-59 가 493 (28.3%)	가	, 40-49	‘ ’	가 42 (2.4%)
가 417 (24.0%),	20-29 가 301 (17.3%),		가 1243 (71.2%),	가 399 (22.9%),
30-39 가 275 (15.8%),	60	254	가 103 (5.9%)	.
(14.6%)	.	가 1348	() 464 (28.1%)
(77.4%)	,	261	가	, (
(15.0%),	104 (6.0%),	가	(26.4%),	(, COPD) 241
29 (1.7%)	.	714	(14.6%),	194 (11.7%),
(41.2%)	가	539	(10.8%),	100 (6.0%),
(31.1%),	249 (14.4%),	164	(2.5%)	71.86
(9.5%),	65 (3.8%)	.		가 61.3%,

<Table 1> Univariate summary statistics and test of univariate normality for continuous variables (n = 1748)

Variables	Mean (S.D)	Skewness	Kurtosis	Range
Health concept				
Non disease	2.98(0.52)	0.22	0.65	1.50-5.00
Role performance	2.94(0.44)	0.27	2.49	1.50-5.00
Adaptation	2.92(0.45)	0.32	2.19	2.00-5.00
Self-actualization	1.91(0.57)	0.28	-0.16	1.00-4.00
Health perception	2.02(0.70)	0.07	-0.86	1.00-3.50
Perceived benefits	4.04(0.63)	-0.93	2.74	1.00-5.00
Perceived barriers	2.62(0.61)	-0.33	0.62	1.00-4.80
Self- efficacy	3.47(0.57)	-0.33	0.15	1.00-5.00
Self- esteem	2.97(0.42)	-0.27	0.26	1.59-5.00
Activity-related Affect	3.50(0.71)	0.01	-0.18	1.60-4.50
Social support				
Emotional support	3.52(0.68)	-0.64	1.05	1.17-5.00
Informational support	3.42(0.73)	-0.50	0.54	1.00-5.00
Material support	3.56(0.65)	-0.54	1.01	1.80-5.00
Evaluational support	3.34(0.71)	-0.35	0.13	1.83-5.00
Preference	0.44(0.17)	0.30	-0.09	0.00- 1.00
A plan of action	1.54(0.47)	0.81	-0.13	1.00-3.00
Health promoting behaviors				
Responsibility to health	2.40(0.42)	0.09	0.49	1.00-4.00
Exercise	2.12(0.67)	0.14	-0.64	1.00-4.00
Diet	2.59(0.40)	-0.30	0.95	1.00-4.00
Spiritual growth	2.54(0.51)	-0.09	0.36	1.00-4.00
Interpersonal relationship	2.61(0.44)	-0.41	0.71	1.00-4.00
Stress management	2.54(0.43)	-0.24	0.95	1.00-4.00

가 38.7% . 1 가 3.

448 (30.9%), 2 가 242 (16.7%), 3 가 110

(7.6%), 4 135 (9.3%),

가 516 (35.6%)

가 240 (14.7%), 가 1394 (85.3%)

($r = .26$, $p =$

.000), ($r = .53$, $p = .000$),

($r = .20$, $p = .000$),

($r = .30$, $p = .000$),

($r = .30$, $p = .000$),

($r = .33$,

2.

$p = .000$), ($r = .31$, $p = .000$),

($r = .26$, $p = .000$)

가

(skewness) (kurtosis)

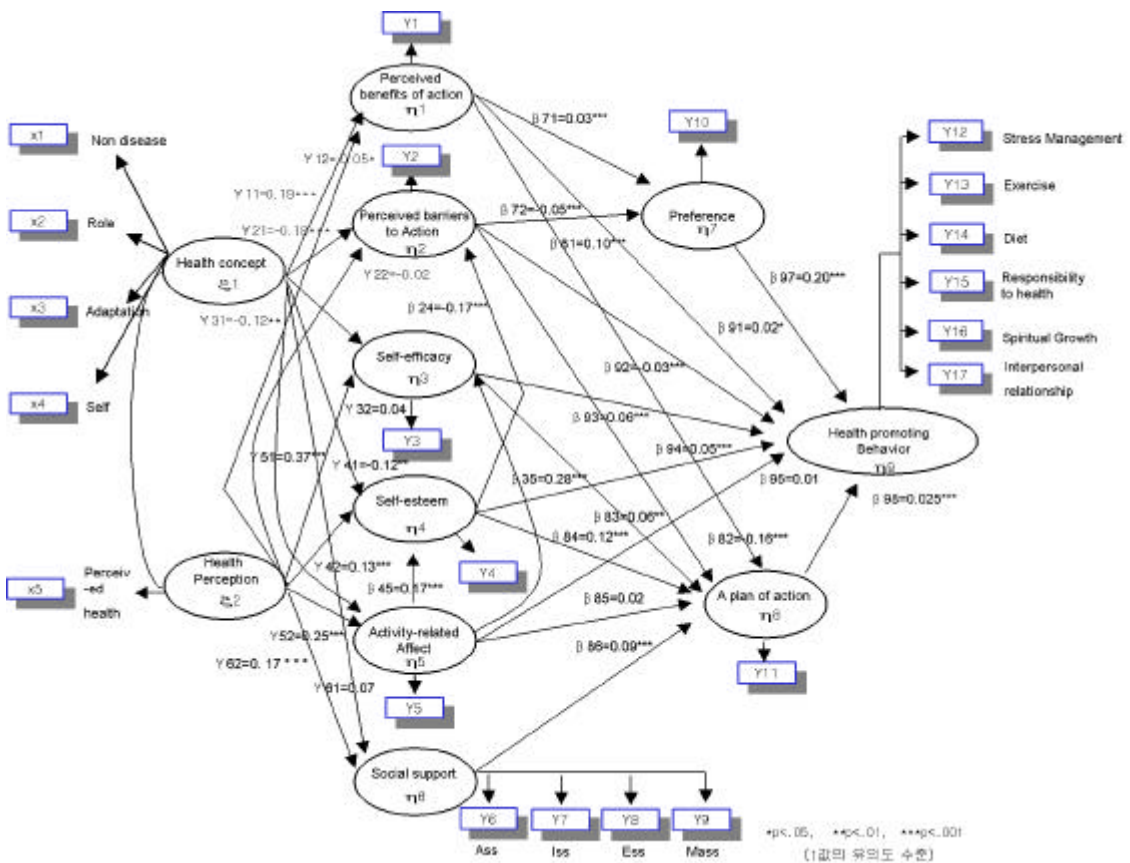
가

($r = -.31$, $p = .000$)

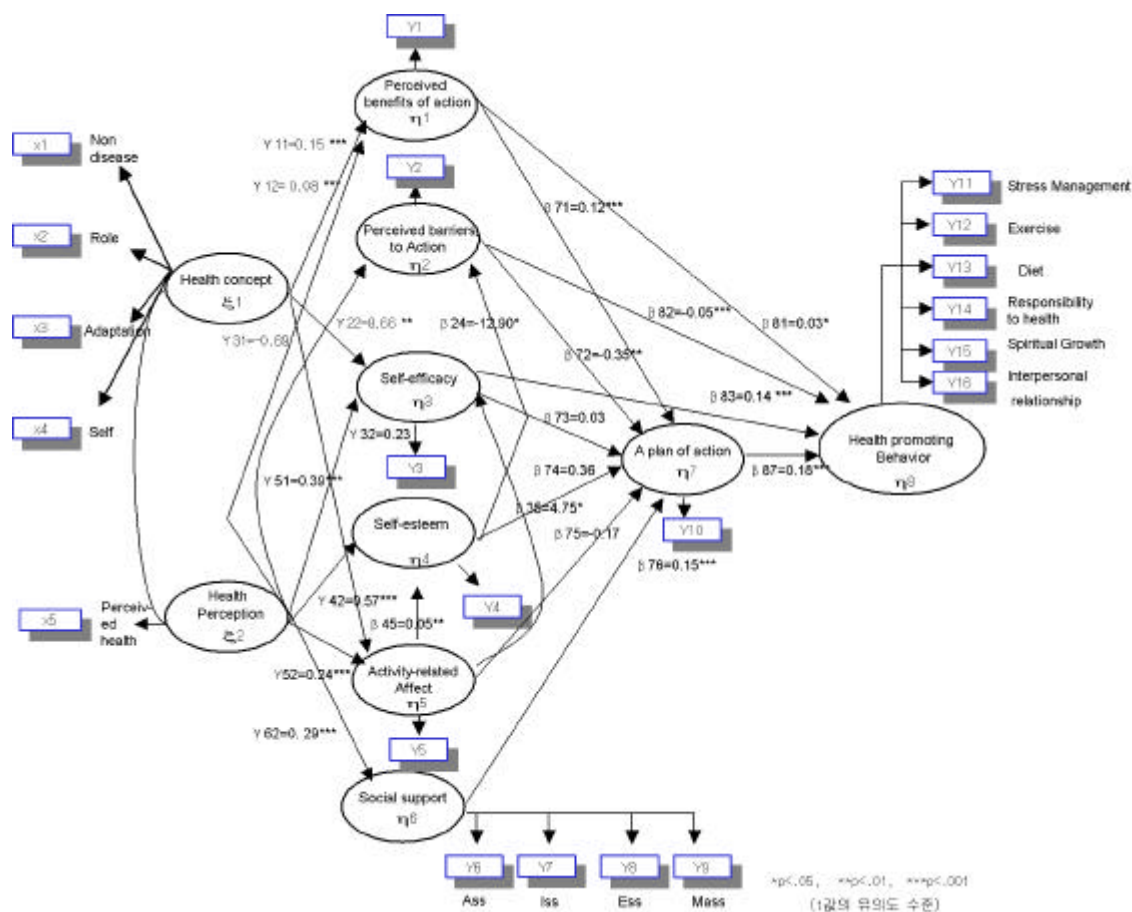
<Table 1>.

ML

가



<Figure 2> Hypothetical model



<Figure 3> Modified model

4. 가

가 (GFI: .97), (AFGI : .94), (NNFI : .95), (NFI : .96) 가 (RMSR : .01), (RMSEA : .05) 0

가 (.41), 가 (.61), 가 (.21), 가 (.97) 4

가 가

Lambda X

Lambda Y

<Figure 2, Figure 3>.

가

<Table 2>.

1)

($p<.0001$) 가 가 591.83 3) (3193.73,

T 가

<Table 2> LISREL estimate and SMC in the Modified model

Lambda Y				
Variables	Measurement	Parameter estimate	Standardized solution	SMC
Benefits		1 ^a	0.65	1.00
Barriers		1 ^a	0.62	1.00
Self-efficacy		1 ^a	0.58	1.00
Self-esteem		1 ^a	0.43	1.00
Activity-related affect		1 ^a	0.71	1.00
Social support	Emotional	1 ^a	0.67	0.96
	Informational	1.03***	0.69	0.83
	Material	0.89***	0.60	0.79
	Evaluational	0.98***	0.66	0.81
Preference		1 ^a	0.17	1.00
A plan of action		1 ^a	0.46	1.00
Health promoting behavior	Responsibility to health	1 ^a	0.21	0.52
	Exercise	2.18***	0.47	0.73
	Diet	1.00***	0.21	0.53
	Spiritual growth	1.42***	0.30	0.61
	Interpersonal support	0.97***	0.19	0.51
	Stress management	0.98***	0.20	0.52
Lambda X				
Health concept	Non disease	1 ^a	0.33	0.62
	Role performance	1.29***	0.43	0.93
	Adaptation	1.17***	0.39	0.83
	Self-actualization	0.12**	0.04	0.07
health perception		1 ^a	0.69	1.00

(T 2, p<.05) , 가
 , 가 92%
 가 가
 . ,
 , 가
 , 18%
 , 가 16%
 50% . , , 가 10%
 , , <Table 3>.
 , 가 22%
 . 4) /
 , (91
 가 66% . = 0.03), (93 = 0.14), (94 =
 0.03) (98 = 0.18) 가
 , 가 (92
 10% . = -0.05)
 , 가
 가 9% . 가 <Table 4>.

<Table 3> Parameter estimate and standardized solution in Modified Model

Variables(on)	Variables	Parameter estimate (standard error)	Standardized estimate	SMC
Health Promoting Behavior				0.50
	Benefits	0.03 (0.01)***	0.11	
	Barriers	-0.05 (0.01)***	-0.14	
	Self-efficacy	0.14 (0.01)***	0.39	
	Self-esteem	0.03 (0.02)	0.07	
	A plan for action	0.18 (0.02)***	0.41	
A plan for action				0.22
	Health concept	-0.10 (0.04)***	-0.07	
	Benefits	0.12 (0.01)***	0.17	
	Barriers	-0.35 (0.11)***	-0.46	
	Self-efficacy	0.03 (0.02)	0.04	
	Self-esteem	0.14 (0.03)***	0.13	
	Activity-related to affect	-0.17 (0.11)	-0.25	
	Social support	0.15 (0.02)***	0.19	
Preference				0.66
	Benefits	0.34 (0.04)***	1.27	
	Barriers	-0.06 (0.01)***	-0.20	
Self-efficacy				0.18
	Health concept	0.69 (0.38)	0.40	
	Health perception	0.23 (0.20)	0.28	
	Activity-related to affect	4.75 (1.97)*	0.34	
Barriers				0.16
	Health perception	8.66 (3.26)**	9.58	
	Self-esteem	-12.90 (4.77)*	-0.12	
Benefits				0.10
	Health concept	0.15 (0.03)***	0.08	
	Health perception	0.08 (0.01)***	0.09	

5) 가

(2) 가 (8)가 (3) 가 3. 가

(가 2 = -0.05, T = -5.95), (가 2 = -0.12, T = 5.27), (가 2 = -0.08, p<.001)가

(1) 가 1. 가 (4) 가 4. 가 (가 3 = 0.14, T = 10.77), (가 3 = 0.11, T = 6.59), (가 3 = 0.03, T = 2.51, p<.001)가

(가 2 = 0.13, T = 12.59) (가 2 = 0.13, T = 12.59, p<.001)가

(2) 가 2. 가 (가 1 = 0.03, T = 5.75), (가 1 = 0.02, T = 6.87), (가 1 = 0.06, T = 7.33, p<.001) (가 5 = 0.07, T = 9.02), (가 5 = 0.07, T = 9.02, p<.001)가

<Table 4> Direct, indirect, and total effect in Modified model

Variables(on)	Variables	Direct effect (T)	Indirect effect (T)	Total effect (T)
Health promoting behavior	Health perception		0.13 (12.59)***	0.13 (12.59)***
	Benefits	0.03 (5.75)***	0.02 (6.87)***	0.06 (7.33)***
	Barriers	-0.05 (-5.95)***	-0.12 (5.27)***	-0.08 (3.29)***
	Self-efficacy	0.14 (10.77)***	0.11 (6.59)***	0.03 (2.51)*
	Activity-related to affect		0.07 (9.02)***	0.07 (9.02)***
	Social support		0.03 (6.75)***	0.03 (6.75)***
A plan for action	A plan for action	0.18 (11.55)***		0.18 (11.55)***
	Health concept	0.10 (2.76)**	-0.00 (-0.46)	0.07 (2.15)*
	Benefits	0.12 (8.38)***		0.12 (8.38)***
	Barriers	-0.35 (-3.16)**	0.34 (3.38)***	-0.02 (-0.72)
	Self-efficacy	0.03 (1.61)	0.03 (0.84)	0.06 (2.56)**
	Self-esteem	0.14 (4.27)***	0.21 (0.63)	0.36 (1.00)
Self-efficacy	Activity-related to affect	-0.17 (-1.57)	0.30 (2.83)***	0.13 (8.48)***
	Social support	0.15 (8.54)***		0.15 (8.54)***
	Health concept	-0.69 (-1.83)	0.05 (1.80)	-0.04 (-1.14)
	Health perception	0.23 (1.17)	0.55 (2.66)**	0.78 (16.55)***
	Activity-related to affect	4.75 (2.41)*	-4.67 (-2.37)*	0.08 (2.87)**
	Barriers		-0.20 (-4.38)***	-0.20 (-4.38)***
Barriers	Health concept		-8.76 (-2.69)**	-0.10 (-4.82)***
	Health perception	8.66 (2.66)**		
	Self-efficacy	-1.56 (-3.02)**	1.40 (2.73)**	0.16 (2.72)**
	Self-esteem	-12.90 (-2.33)*	11.61 (2.45)*	-1.29 (-1.29)
	Activity-related to affect		-0.81 (-16.55)***	-0.81 (-16.55)***
	Benefits			
Benefits	Health concept	0.15 (4.47)***		0.15 (4.47)***
	Health perception	0.08 (6.48)***		0.08 (6.48)***

* p<.05 ** p<.01 *** p<.001

(7) 가 7. 가 가 가

가 , , ,

($r_{86} = 0.03$, T = 6.75), ($r_{86} = 0.03$, T = 6.75, p<.001) 가

가 가

(8) 가 8. 가 가

가 가

($r_{87} = 0.18$, T = 11.55), (r_{87} (Walker et al., 1988; Yeun, 1999) = 0.18, T = 11.55, p<.001)가

.

.

가 , , ,

2.47 가 , , ,

가

Yeun(1999) 2.39 , (Frank-Stromborg et al., 1990; Oh Park (1996) 2.52 1993; Pender et al., 1990)

.

가 . ,

가

가

2가

가

(Park, 1998; Wu,

1999)

9가

29

Park (2001)

가

가

가

가 (41),

가 (61),

가

(21),

가 (

가

97) 4

가

가 가

가 가

591.83(p<.0001)

가

, GFI=0.97, AGFI=0.94, NNFI=0.95, NFI=0.96, RMSR=0.01, RMSEA=0.05

Pender(1996)

가

50%

가

가

Oh(1994)

가

가

Pender(1996)가

Oh(1993)

가

가

가

50%

Oh(1994)

가

Oh(1994)

57.6%

가

- Health and Welfare for New Millenium 2010*, internet website.
- Kahn, M. G. (1999). Clinical research databases and clinical decision making in chronic disease. *Horm Res*, 51 Suppl 1, 50-57.
- Korea Institute for Health and Social Affairs (1995). *Objectives and Strategies of Health Promotion for Korean*. KIHASA. Seoul.
- Korea Institute for Health and Social Affairs (1999). *Statistics for disease for Korean*. Internet website.
- Laffrey, S. C. (1986). Development of a Health Conception Scale. *Res Nurs Health*, 9, 107-113.
- Lewis, F. M. (1982). Experienced personal control and quality of life in late-stage cancer patients. *Nurs Res*, 31(2), 113-118.
- Lubkin, I. M., & Larson, P. D. (1998). *Chronic illness-Impact and Interventions (4th ed.)*. Jones and Bartlett Pub. Sudbury. MA
- McWilliam, C. L., Stewart, M., Brown, J. B., Desai, K, & Coderre, P. (1996). Creating health with chronic illness. *Adv Nurs Sci*, 18(3), 1-15.
- Nicassio, P. M., & Smith, T. W. (1995). *Managing Chronic Illness - A Biopsychosocial Perspective*.
- Noro A., & Aro S. (1996). Health-related quality of life among the least dependent institutional elderly compared with the non-institutional elderly population. *Qual Life Res*, 5(3), 355-366.
- Oh, H. S. (1993). *Health promoting behaviors and quality of life of Korean Women with arthritis*. Unpublished doctoral dissertation. The university of Texas Austin.
- Oh, P. J. (1994). *A model for health promoting behaviors and quality of life in People with Stomach cancer*. Unpublished doctoral dissertation. Seoul National University, Seoul, Korea.
- Padilla, G. V., Ferrell, B., Grant, M. M., & Rhiner, M. (1990). Defining the content domain of quality of life for cancer patients with pain. *Cancer Nurs*, 13(2), 108-115.
- Pakenham, K. I. (1999). Adjustment to multiple sclerosis : application of a stress and coping model. *Health psychol*, 18(4), 383-392.
- Park, E. S., Kim, S. J Kim, S. I. Chun, Y. J., Lee, P. S., & Han, K. S. (1998). A Study of Factors Influencing health Promoting Behavior and Quality of Life in the Elderly. *J Korean Acad Nurs*, 28(3), 638-649.
- Park, Y. J., Kim, S. I., Lee, P. S., Khim, S. Y., Lee, S. J., Park, E. S., Ryu, H. S., Chang, S. O., Han, K. S. (2001). A Structural Model for health Promoting Behaviors in Patients with Chronic respiratory Disease. *J Korean Acad Nurs*, 31(3), 477-491.
- Pender, N. J., Walker S. N., & Sechrist, K. R. (1990). *The Health Promotion Model : Refinement and Validation*. Final Report to the National Center for Nursing Research, National Institutes of Health. Northern Illinois University Press.
- Pender, N. J. (1996). *Health promotion in nursing practice*, (3rd ed.). Stanford, CT: Appleton and Lange.
- Pender, N. J. (1999). *Health Promotion and Nursing*. Korea University Institute of Nursing Research. International conference. June. Seoul.
- Rogenberg, M. (1965). *Society and the adolescent self image*. Princeton University Press, 16, 1343-1349.
- Rosomoff, H. L., & Rosomoff, R. S. (1999). Low back pain. Evaluation and management in the primary care setting. *Med Clin North Am*, 83(3), 643-662.
- Sherer, M. S., & Maddux, J. E. (1982). The self-efficacy scale : construction and validation, *Psychol Rep*, 51, 663-671.

- Strauss, A. L., & Glaser, B. G. (1974). *Chronic illness and the quality of life*. C.V. Mosby, St Louis.
- Wu, T. Y. (1999). *Determinants of physical activity among Taiwanese adolescents: an application of the health promotion model*. Dissertation of Doctor of philosophy (Nursing) in The university of Michigan
- Walker, S. N., Volkan, K., Sehrist, K. R., & Pender, N. J. (1988). The health promoting lifestyles of older adults : Comparisons with young and middle-aged adults correlates and patterns. *Adv Nurs Sci*, 11, 76-90.
- Ware, H. E. (1976). Scales for measuring general health perceptions. *Health Sci Res*, 11, 396-415.
- Weitzel, M. H. (1989). A test of the Health Promotion Model with blue collar workers. *Nurs Res*, 38(2), 99-104.
- Yeun, E. J. (1999). A Study on the Relations of the Psychosocial well-being, perceived health status and Health promoting lifestyle practices of middle aged adults. *J of Korean Acad of Nurs*, 29(4), 977-989.

- Abstract -

Key words : Chronic illness, Health promoting behavior, Structural model

Construct a Structural Model for Health Promoting Behavior of Chronic Illness

Lee, Sook-Ja · Kim, So-In

Lee, Pyoung-Sook · Kim, Soon-Yong

Park, Eun-Sook · Park, Young-Joo

Ryu, Ho-Shin · Chang, Sung-Ok

Han, Kuem-Sun *

Purpose: This study was designed to construct a structural model for health promoting behavior of patients with chronic disease. The hypothetical model was developed based on the literature review and Pender's health promotion model.

Method: Data was collected by questionnaires from 1748 patients with chronic disease in General Hospital from December 1999 to July 2000 in Seoul. The disease of subject were cardiac disease included hypertension peptic ulcer, pulmonary disease included COPD and asthma, DM, and chronic kidney disease. Data analysis was done with SAS 6.12 for descriptive statistics and PC-LISREL 8.13 Program for Covariance structural analysis.

Results: 1. The fit of the hypothetical model to the data was moderate, it was modified by excluding 4 path and including free parameters to it. The modified model with path showed a good fitness to the empirical data ($\chi^2=591.83$, $p<.0001$, GFI=0.97, AGFI= 0.94, NNFI=0.95, RMSR=0.01, RMSEA=0.05). 2. The perceived benefits, perceived barriers, self-efficacy, self-esteem, and the plan for action were found to have significant direct effect on health promoting behavior of chronic disease. 3. The health concept, health perception, emotional state, social support were found to have indirect effects on health promoting behavior of chronic disease.

Conclusion: The derived model in this study is considered appropriate in explaining and predicting health promoting behavior of patients with chronic disease. Therefore, it can effectively be used as a reference model for further studies and suggested implication in nursing practice.

* Korea University, College of Nursing