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. 가 (Adderley-Kelly & Green, 2000). 가

(Keast & Adamo, 2000; Perasalo, 1988; Sorri, 1988; Sudakov, Sinitchkin & Khasanov, 1988; Valtakari, 1988). (ritual)

. 가 (Adderley-Kelly & Green, 2000; Choi, 1999; Cohen, Scribner & Fareley, 2000; Denny & Taylor, 1999; Ettner, 1999; Friedman, 1998; Kim, 1998; Kulbok, Carter, Baldwin, Gilmartin, & Kirkwood, 1999; Lagorge, Velicer, Richmond & Owen, 1999; Lantz et al., 1998; Michael, Colditz, Coakley & Kawachi, 1999; Shi, 1998).

(KyungHyang newspaper, 1997 2 18).

<Table 1>. 156

100 (The Hankyoreh newspaper, 1999 2 5)

(Hannuksela & Ellahham, 2001), (Lee, Chung, Jun & Jang, 1996),

(Markkola, Mattila & Koivikko, 1989)가 Perasalo(1988) Sorri (1988)

(Hartmann, Drews &

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Bassenge, 1998; Huffman, 2000; Keast & Adamo, 2000)

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(Choi, Lee,

Kim & Kim, 2002)

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<Table 1> Summary of References

Authors (year)	Subjects	Results
Department of Public Health in Thailand (1999)	A total 156 aged above 100	Bathing everyday is related to longevity.
Hannuksela et al.(2001)	No applicable	Sauna bathing provides good effect to patients with various disease and is safe for most healthy adults and children
Lee, Chung, Jun & Jang(1996)	Nine males who hadn't experienced cardiovascular, psychological disease	The gymnastics and bath are more effective on decreasing the lactate and fatigue after exercise than rest.
Markkola, Mattila & Koivikko(1989)	Fifteen hundred randomly chosen Finnish children aged 0-15 years	Over 90% of the children visited sauna at least once a week. Sauna bathing does not seem to cause any significant immediate harm to healthy children.
Perasalo(1988)	No applicable	Finns have used the sauna for centuries for cleaning and health. But the main reason for sauna is the pleasure of sauna bathing.
Sorri(1988)	No applicable	Sauna bathing is a pleasant and relaxing experience that combines psychic, physical and social pleasures. The sauna is a positive mental health resource.
Keast & Adamo(2000)	Cardiovascular patients	The pleasure of sauna bathing can be considered safe and without undue risk of cardiac complications.
Hartmann, Drews & Bassenge(1998)	A total 28 patients with varicose veins & 30 healthy controls	Contrary to widespread belief, bathing in water at temperature above 28 does not adversely affect venous function in patients with varicose veins.
Huffman(2000)	Fifteen men and one women with exertional angina or silent ischemia	The asymptomatic ischemia that occurred in the sauna was well tolerated and was not as great as the ischemia that occurred after exercise.

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1) 10 가

4. SPSS 10.0

가 4가 가

(Cronbach's) 0.60 0.76

2) 1.

가 SF-36 (short-form health status survey questionnaire)(McDowell & Newell, 1996)

1) 20 428

(physical component summary: PCS) 20 69

(physical functioning), 43.3 (S.D.= 14.3)

(role limitation due to physical health), (bodily pain), 71.5%, 20.3%

(general health perception) 가 34.8% .

(mental component summary: MCS) 가 33.7%

(general mental health), 가 249

(role limitation due to emotional problems), (social functioning), (S.D.= 153.8)

(vitality) 1000

2 10 (42.4%) 가 <Table 2>.

0 100

가 가 2)

77.3,

0.70 0.85 71.0, 75.5,

47.9.

: 61.1, 55.9 <Table 3>. 가 65.9, 71.6, 가

<Table 2> Demographic Characteristics

variables		frequency (persons)	percentage (%)
Age	21 - 30 years	89	20.8
	31 - 40 years	84	19.6
	41 - 50 years	90	21.0
	51 - 60 years	83	19.4
	61 - 70 years	82	19.2
	total	428	100.0
Marital status	unmarried	87	20.5
	married	304	71.5
	others	34	8.0
total	425	100.0	
Employment	employed	211	49.4
	unemployed	216	50.6
	total	427	100.0
Level of education	elementary	53	12.5
	junior-high	74	17.4
	high	148	34.8
	college or university	143	33.7
	graduate	7	1.6
	total	425	100.0
	Perceived economic status	high	21
medium-high		96	22.6
medium		180	42.4
medium-low		111	26.1
low		17	4.0
total	425	100.0	

가 (p<.01) 가 가 가 <Table 4>.

<Table 5> Reasons for Tub-Bath

Reasons for tub-bath		Frequency	Percentage (%)
Relieving fatigue	Yes	347	81.1
	No	81	18.9
Hygiene	Yes	193	45.1
	No	235	54.9
Habitually	Yes	146	34.1
	No	282	65.9
Relieving pain	Yes	143	33.4
	No	285	66.6
Relieving stress	Yes	110	25.7
	No	318	74.3
Maintaining health	Yes	109	25.5
	No	319	74.5
Beauty	Yes	97	22.7
	No	331	77.3
Alleviating disease	Yes	31	7.2
	No	397	92.8

<Table 3> General Health Status

Subscales		Means	Medians	Modes	S.D	Min	Max
Physical Component Summary (PCS)	Physical functioning	77.28	83.33	88.89	19.21	11.11	100.00
	Role limitation due to physical health	70.99	100.00	100.00	36.40	.00	100.00
	Bodily pain	75.50	77.50	67.50	20.16	10.00	100.00
Mental Component Summary (MCS)	General health perception	47.88	45.00	45.00	20.64	.00	100.00
	General mental health	61.11	60.00	60.00	17.28	4.00	100.00
	Role limitation due to emotional problems	65.88	66.67	100.00	38.46	.00	100.00
Vitality	Social functioning	71.55	75.00	75.00	20.56	.00	100.00
	Vitality	55.94	55.00	55.00	19.64	.00	100.00

<Table 4> Correlations between Age and General Health Status

	PF	RP	BP	GH	MH	RE	SF	VT
age	-.45**	-.26**	-.26**	-.21**	.01	-.10*	-.16**	-.06

* p<0.05 **p<0.01

PF: physical functioning; RP: role limitation due to physical health; BP: bodily pain; GH: general health perception; MH: general mental health; RE: role limitation due to emotional problems; SF: social functioning; VT: vitality

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3.4 ,

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가 (46.8%) (24.4%)

가 <Table 6>.

가 (81.9%) , 3.
 (45.1%), (34.1%)
 (33.4%), (25.7%), 1)
 (25.5%)

<Table 5>.

(F = 17.13, p<.01),

<Table 6> Frequency of Bathing

	Means (times/ weeks)	Medians (times/ weeks)	Modes (times/ weeks)	Standard deviations
Frequency of shower	3.43	3.00	3.00	2.15
Frequency of tub-bath in bathroom	0.84	0.25	0.00	1.20
Frequency of Tub-bath in public baths	1.17	1.00	1.00	1.14

<Table 7> ANOVA for Health Status by Type of Bath

Health status	Type of bath	Means	F
Physical functioning	Shower	82.52 †	17.13**
	Tub-bath	69.71 †	
	Others	75.75	
Role limitation due to physical health	Shower	77.50 †	7.42**
	Tub-bath	60.92 †	
	Others	70.58	
Bodily pain	Shower	78.48 †	7.57**
	Tub-bath	69.28 †	
	Others	76.46	
General heath perception	Shower	50.78 †	8.45**
	Tub-bath	40.97 †	
	Others	49.65	
General mental heath	Shower	61.02	0.30
	Tub-bath	60.80	
	Others	62.40	
Role limitation due to emotional problems	Shower	67.84	1.61
	Tub-bath	60.90	
	Others	69.59	
Social functioning	Shower	75.13 †	6.34**
	Tub-bath	66.59 †	
	Others	71.09	
Vitality	Shower	56.48	5.05*
	Tub-bath	51.65	
	Others	59.96	

*:p<.05, **:p<.01

† : Scheffe test showed significant difference between Two groups

(F = 7.42, p<.01), (F = 7.57, p<.01), 가
 (F = 8.45, p<.01)
 (F = 6.34, p<.01) 가

<Table 7>.

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(t = 2.07, p<.05).

<Table 8>.

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<Table 8> Differences of Reasons for Tub-bath by Health Status

Health status	Reasons for tub-bath		Means	t
Physical functioning	Relieving pain	yes	67.09	7.74**
		no	82.41	
	Maintaining health	yes	72.43	3.09**
		no	78.95	
Role limitation due to physical health	Alleviating disease	yes	64.52	3.91**
		no	78.28	
	Relieving pain	yes	55.77	5.90**
		no	78.74	
Bodily pain	Alleviating disease	yes	51.61	2.68*
		no	72.52	
	Relieving pain	yes	68.08	5.59**
		no	79.24	
General health perception	Maintaining health	yes	72.22	1.98*
		no	76.64	
	Alleviating disease	yes	66.05	2.73**
		no	76.25	
General mental health	Relieving pain	yes	32.58	6.16**
		no	52.09	
	Alleviating disease	yes	39.03	2.49*
		no	48.58	
Role limitation due to emotional problems	Relieving pain	yes	58.20	2.48*
		no	62.57	
	Relieving stress	yes	58.28	2.76**
		no	69.73	
Social functioning	Relieving pain	yes	59.33	2.07*
		no	68.14	
	Maintaining health	yes	65.38	4.28**
		no	74.65	
Vitality	Alleviating disease	yes	68.00	2.10*
		no	72.77	
	Relieving pain	yes	62.50	2.56*
		no	72.26	
Vitality	Relieving pain	yes	52.06	2.92**
		no	57.89	

*:p<.05, **:p<.01

Note. The higher score means more good health status.
 All non significant variables were omitted.

<Table 9> Correlations between Health Status and Frequency of Bathing

	PF	RP	BP	GH	MH	RE	SF	VT
Frequency of shower	.22**	.17**	.12*	.20**	.10*	.10*	.10*	.12**
Frequency of tub-bath	-.17**	-.15**	-.09	-.08	-.07	-.13**	-.11*	-.06

*:p<.05, **:p<.01

PF: physical functioning; RP: role limitation due to physical health; BP: bodily pain; GH: general health perception; MH: general mental health; RE: role limitation due to emotional problems; SF: social functioning; VT: vitality

<Table 10> Correlations between Attitudes toward Bathing and Health Status

	PF	RP	BP	GH
Health maintenance effect of bathing	.10*	.06	-.02	-.06
Physical effect of bathing	-.16**	-.19**	-.10*	-.12*
Psychological effect of bathing	.21**	.10**	.14**	.22**
Hygenic effect of bathing	.10*	.10*	.10*	.10*

*p<.05, **p<.01

Note. Non significant variables were omitted.

PF: physical functioning; RP: role limitation due to physical health; BP: bodily pain; GH: general health perception

가 가 .30
 (r = -.17, p < .01),
 (r = -.15, p < .01), (r =
 -.11, p < .01), (r = -.13,
 p < .01) <Table
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2)

가 <Table 10>.

가 <Table 7>.
 (Lee & Choi, 2002)
 (r = -.16,
 (r = -.19,
 p < .01), (r = -.10, p < .05)
 (r =
 -.12, p < .05)
 가
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References

- 100 . (1999, Feb. 5).
The Hankyoreh newspaper.
- . (1997. Aug. 20).
KyungHyang newspaper.
- Adderley-Kelly, B., & Green, P. M. (2000). Health behaviors of undergraduate African American nursing students. *ABNF J*, 11(1), 7-12.
- Choi, C. W. (1999). *A study on the health status and health behavior of dentists by Todai Health Index(THI)*. Unpublished masrer's thesis. School of Public Health, Graduate School, Seoul National University, Seoul.
- Choi, H., Lee, E., Kim, I., & Kim, B (2002).
:
. Proceeding of Korean Academy of Nursing Conference, 63-64
- Cohen, D. A., Scribner, R. A., & Farley, T. A. (2000). A structural model of health behavior: A pragmatic approach to explain and influence health behaviors at the population level. *Prev Med*, 30, 146-154.
- Denny, C. H., & Taylor, T. L. (1999). American Indian and Alaska native health behavior: findings from the behavioral risk factor surveillance system, 1992-1995. *Ethn Dis*, 9(3), 403-409.
- Ettner, S. L. (1999). The relationship between continuity of care and the health behaviors of patients: does having a usual physician make a difference? *Med Care*, 37(6), 547-555.
- Friedman, R. H. (1998). Automated telephone conversations to assess health behavior and deliver behavioral interventions. *J Med Syst*, 22(2), 95-102.
- Hannuksela, M., L., & Ellahham, S. (2001). Benefits and risks of sauna bathing. *Am J Med*, 110, 118-126.
- Hartmann, B. R., Drews, B., & Bassenge, E. (1998). Venous function in patients with venous disease and healthy controls before and after a bathing procedure and subsequent cold stimulus. *Int J Angiol*, 7(3), 252-254.
- Huffman, G. B. (2000). Is sauna use detrimental in patients with stable CAD? *Am Fam Physician*, 61(4), 1112-1113.
- Keast, M. L., & Adamo, K. B. (2000). The Finnish sauna bath and its use in patients with cardiovascular disease. *J cardiopulm rehabil*, 20(4), 225- 230.
- Kim, H. S. (1998). *Model Development of Affecting Factors on Health Behavior and Juvenile Delinquency of Adolescents*. Unpublished doctoral thesis. School of Public Health, Graduate School, Seoul National University, Seoul.
- Kulbok, P. A., Carter, K. F., Baldwin, J. H., Gilmartin, M. J., & Kirkwood, B. (1999). The multidimensional health behavior inventory. *J Nurs Meas*, 7(2), 177-195.
- Laforge, R. G., Velicer, W. F., Richmond, R. L., & Owen, N. (1999). Stage distributions for five health behaviors in United States and Australia. *Prev Med*, 28, 61-74.
- Lantz, P. M., House, J. S., Lepkowski J. M., Willians, D. R., Mero, R. P., & Chen, J. (1998). Socioeconomic factors, health behaviors, and mortality: results from a nationally representative perspective study of Us adults. *JAMA*, 279(21), 1703-1708.
- Lee, B., Chung, S., Jun, T., & Jang, C. (1996). Effects of bath and gymnastics on fatigue recovery. In *96 International Conference on Sports Science: Vol 2*. The

Korean Alliance for Health, Physical Education (pp. 852-859).

Lee, E. O., & Choi, H. (2002).

. Manuscript submitted for publication.

McDowell, I., & Newell, C. (1996). *Measuring health: A guide to rating scales and questionnaires* (2nd Ed.). New York Oxford: Oxford University Press.

Markkola, L., Mattila, K.J., & Koivikko, M.J. (1989). Sauna habits and related symptoms in Finnish children. *Eur J Pediatr*, 149(3), 221-222.

Michael, Y. L., Colditz, G. A., Coakley, E., & Kawachi, I. (1999). Health behaviors, social networks, and healthy aging: cross-sectional evidence from the Nurses' health study. *Qual Life Res*, 8(8), 711-722.

Perasalo, J. (1988). Traditional use of the sauna for hygiene and health in Finland. *Ann Clin Res*, 20(4), 220-3.

Shi, L. (1998). Sociodemographic characteristics and individual health behaviors. *South Med J*, 91(10), 933-941.

Sorri, P. (1988). The sauna and sauna bathing habits--a psychoanalytic point of view. *Ann Clin Res*, 20(4), 236-239.

Sudakov, K. V., Sinitchkin, V. V., & Khasanov, A. A. (1988). Systemic responses in man exposed to different heating and cooling treatment in sauna. *Pavlov J Biol Sci*, 23(3), 89-94.

Valtakari, P. (1988). The sauna and bathing in different countries. *Ann Clin Res*, 20(4), 230-235.

- Abstract -

The Relationship between Bathing and Health Status

Choi, Hee-Jung*. Lee, Eun-Ok**

Purpose: The purpose of this study was to test the relationship between health status and bathing.

Method: The population of this study consisted of females, above age 20 in urban areas in order to control the effects of extraneous variables, resident areas, gender, and age. Four hundred and twenty-eight (428) women were interviewed with a structured questionnaire. Medical Outcomes Study Short Form (SF)-36 Health Survey assessed individual health status. Bathing behavior and attitudes toward bath have been measured with questionnaires designed by the authors.

Result: The most popular bathing type was shower (46.8%). The preferred type of bath was related to health status. A common purpose of the tub-bath was relieving fatigue and hygiene, but the other purposes were different on the subjects health status. Persons with low health status took frequently tub-baths for health. Attitudes toward bath were related to health status. Women with low scores in physical health recognized more physical effects of bath than psychological effects or hygienic effects.

Conclusion: Bathing included physical and psychological dimensions and was related to health status.

Key words : Bathing, Attitudes toward bath, Health status, Health behavior

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