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Vanity and Body Shaping Management of Middle School, High School, and College Female Students in Ulsan City*

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ABSTRACT

The purpose of this study was to examine and understand the level of vanity and body shaping management and the relationships among related variables. The data were collected from about 140 middle school girls, 186 high school girls, and 194 college female students in Ulsan City using a self-administered questionnaire. The questionnaire included questions such as general characteristics of the subjects, vanity, and body shaping management. There were statistically significant differences in the 4 vanity sub-scales except physical concern and the body shaping management among the school groups(middle school, high school, college) and socio-economic status groups(low, middle, high). Socio-economic status, physical concern and view, and age were affected significantly on the body shaping management. Moderate vanity and body shaping management can prevent obesity and motivate personal development. A nutrition education program for excessive groups in the vanity and body shaping management needs to be developed. (*J Community Nutrition* 8(3): 134~141, 2006)

KEY WORDS: vanity · body shaping management · female students.

Introduction

In the past few decades, the obesity problem has become a hot issue in Korea. To solve the obesity, many people focused on weight control. Now we clearly live in a consumption-oriented society. As people increasingly identify with consumer culture, their levels of vanity also are likely to change. Marketers advertise products that promote achievement status and physical appearance with attractive spokes people and models. Vanity motivates not a simple thin body, but an idealized body shape.

Means to achieve perfection in one's physical being are found in articles discussing dieting, physical fitness, cosmetic surgery, clothing, and cosmetics. Among these means, women's concerns about body shaping management for marvelous look have been rapidly increased in recent years. The body shaping management is a concept beyond simple weight control for thinness or preventing obesity. It means a total care for an idealized body shape. Psychological studies have reported that women regard appearance management as a kind of achieving behavior(Rodin et al. 1985; Wooley, Wooley 1980). Mass media and marketers encourage body shaping management for idealized body lines(S-shape body line).

Netemeyer et al.(1995) developed vanity scales which were composed of four dimensions, and remarking that a dominant theme in western culture pertains to vanity. Vanity construct has four specific sub-dimensions according to Netemeyer et al.(1995), which were measured as follows: (1) physical concern(an excessive concern for physical appearance), (2) physical view(a positive, and perhaps inflated, view of physical appearance), (3) achievement concern (a concern for personal achievement), and (4) achievement view(a positive, and perhaps inflated, view of personal achievement). They developed vanity scales and employed extensive validation procedures, including assessing the relationships between the vanity scales and numerous consumer related attitudes and behaviors.

Durvasula et al.(2001) examined cross-cultural applica-

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bility of the scale based on data from young adults in China, India and New Zealand. Seo (2004; 2005) examined Korean female college students' trait aspects of vanity and cross-culturally compared Korean and U.S. female college students' vanity traits.

Rampant globalization is spreading the consumer culture throughout the world, particularly in developing economies. As the economy develops and prospers, noteworthy importance is given to vanity in Korea. Preoccupation with vanity may signal significant changes in many respects. Although vanity implicitly has been recognized as affecting many behaviors, very little has been reported in the body shaping management.

Two previous researches suggested that vanity traits are expected to influence the body shaping management among female students. Netemeyer et al. (1995) reported that four vanity subscale is related to the frequencies of diet behaviors. Seo (2005) concluded that the need for aesthetic surgery was influenced by the quantity and quality of vanity. Four vanity subscales were positively correlated with the need for aesthetic surgery. The need for aesthetic surgery among the vanity group was significantly higher than the positive viewer and non-vanity group.

In nutrition fields, weight, body mass index (BMI), and percent ideal body weight (PIBW) were used to explain dietary behaviors. These are very important variables, but psychological variables can influence body shaping management. Psychological variables can motivate various personal and social behaviors. Among psychological variables, many academic fields are focusing on vanity. Seo et al. (2005) reported that overweight students had lower concerns about obesity and diet behaviors than those with both under and normal weights.

The purpose of this study is to investigate the four sub-dimensions of vanity and body shaping management, to identify differences in the four sub-dimensions of vanity and body shaping management by school and socio-economic status, to analyze the relationship between vanity and body shaping management, and to examine the relative importance of the independent variables affecting on the body shaping management. For this purpose, middle school girls, high school girls, and college female students were selected. Female students are more sensitive over physical feelings and changes than male students and set tremendous value on physical attractiveness (Cash et al. 1986). The results of this study provide information that is useful for the development of a school program that contributes to the healthy lifestyles of female students.

Subjects and Methods

1. Subject

The sample for this study was composed of 140 middle school girls, 186 high school girls, and 194 college female students in Ulsan City using a self-administered questionnaire. This survey was carried out for 1 month in May 2003. The sampling in middle school and high school students was made by 3 steps: first, considering the characteristics of school and life environment; four middle schools and five high schools were selected. Second, 1 class in the second grade at each selected school was chosen by random sampling. Third, students in the classes were selected. The University of Ulsan is the only university in Ulsan City, so it was selected. College students were selected in the liberal arts classes for sampling in various majors and departments. Finally 522 samples were used for the analyses.

2. Measurement of variables

1) Socio-economic status

The socio-economic status score is composed of monthly household income, education level of father, and occupation of father (Hong 1993). Monthly household income was scored from 1 (less than 1500,000 Won) to 6 (3,000,000–3,500,000 Won). Education level of father was measured from 1 (less than middle school) to 4 (some college or over). Occupation of father was scored from 1 (none) to 5(professional). Socio-economic status score ranges from 3 to 15.

2) Vanity

A vanity scale recently developed and examined (Netemeyer et al. 1995; Durvasula et al. 2001; Seo 2004; 2005) were used. Table 1 describes the items.

All vanity items are scored on the five-point Likert Scale from 'strongly disagree' to 'strongly agree'. To assess internal consistency of the four vanity scales, coefficient alpha were computed and are shown in Table 2. A reliability estimate of .7 is regarded as the minimum necessary value for acceptable scale reliability. An examination of the sample shows that the two reliability estimates (achievement concern and view) are above .7, and the others (physical concern and

Table 1. Items comprising the vanity scale

Physical concern items
1. The way I look is extremely important to me
2. I am very concerned about my appearance
3. I would feel embarrassed if I were around people and did not look best
4. Looking my best is worth the effort
5. It is important that I always look good
Physical view items
1. People notice how attractive I am
2. My looks are very appealing to others
3. People are envious of my good looks
4. I am a very good looking individual
5. My body is sexually appealing
6. I have the type of body that people want to look at
Achievement concern items
1. Professional achievements are an obsession with me
2. I want to others to look up my accomplishments
3. I am more concern with professional success than most people I know
4. Achieving greater success than my peers is important to me
5. I want my achievements to be recognized by others.
Achievement view items
1. In a professional sense, I am a very successful person.
2. My achievements are highly recognized by others.
3. I am an accomplished person.
4. I am a good example of professional success.
5. Others wish they were as successful as me.

Table 2. Internal consistency estimates of vanity scales

Sub-dimension	n of item	Coefficient alpha
Physical concern	5	.80
Physical view	6	.88
Achievement concern	5	.70
Achievement view	4	.74
Vanity	**20**	**.89**

view) are above .8. In summary, the results shown in Table 2 suggest that four vanity scales have acceptable reliability estimates. Physical concern and view subscales have relatively stronger reliability estimates than achievement concern and view subscales. The results of this investigation are conclusive in demonstrating that the vanity scale is directly applicable to Korea.

3) Body shaping management

Prior to item generation, an open ended elicitation procedure was conducted from in-depth interview. Six items were generated to reflect the body shaping management. All items are measured 1 'strongly disagree', 2 'disagree', 3 'so so', 4 'agree', 5 'strongly agree'. The items are shown in Table 7. Alpha coefficient of the body shaping management scale is .79. It is supportive of scale consistency.

Table 3. Socio-economic characteristics of the sample

Variables		n(%)
School	Middle	140(26.9)
	High	186(35.8)
	College	194(37.3)
	Total	520(100.0)
Monthly household income(won)	Less than 1,500,000	96(19.4)
	1,500,000 – 2,000,000	93(18.8)
	2,000,000 – 2,500,000	94(19.0)
	2,500,000 – 3,000,000	111(22.4)
	Over 3,000,000	102(20.6)
	Total	496(100.0)
Education level of father	Less than middle school	44(8.4)
	High school graduate	303(66.6)
	Junior college graduate	41(7.9)
	Some college or over	133(25.5)
	Total	521(100.0)
Education level of mother	Less than middle school	90(17.3)
	High school graduate	314(60.3)
	Some junior college or over	117(22.5)
	Total	521(100.0)
Occupation of father	Professional	151(29.2)
	Office worker	131(25.3)
	Sales and service	73(14.1)
	Production & other	101(19.5)
	None	62(11.9)
	Total	518(100.0)
Occupation of mother	Employed	222(42.8)
	Non-employed	297(57.2)
	Total	519(100.0)

3. Data analysis

SPSS PC+ program 12.0 has been used to analyze the statistics. For the general description of the socio-economic characteristics, the frequencies and percentages were computed. The means and standard deviations were used to analyze the vanity traits and body shaping management in the samples. The ANOVA and Duncan Test were applied to analyze the mean differences on the vanity and body shaping management across school and socio-economic status. Pearson's correlations were computed to analyze the relationships among four vanity sub-scales and body shaping management. The multiple regression analysis was used to an-

alyze the independent effect of major independent variables affecting body shaping management.

Results and Discussion

1. General characteristics of the subjects

Table 3 shows the socio-economic characteristics of the sample. For the sample, high school students comprised 35.8% and college 37.3% of the total. For the monthly household income, 19.4% were 1,500,000 won or less, and 20.6% were 3,000,000 won or more. For the education levels of the fathers, 66.6% were high school graduates and 25.5% had some college, or more. For the education of the mother, 60.3% were high school graduates, and 22.5% had some college, or more. For the occupation of the father, 29.2% were professionals, 25.3% office workers. The rate of the employed mother(42.8%) was lower than that of non-employed(57.2%). The sample showed roughly normal distribution. The distribution of socio-economic status shown was adequate to analyze its effects on vanity and body shaping management.

2. Vanity

Table 4 shows the mean and standard deviation of the four vanity sub-scales. Physical concern scores(17.68) are the second highest level, achievement concern(15.05) and view scores(12.07) are medium level, and physical view scores (15.89) are the second lowest level in 5 point Likert Scale. The results of this study agree with those of some previous research that was studied in the U.S., New Zealand, India, and China for cross-cultural comparison of vanity scale mean But the levels of vanity subscales demonstrate definite differences among the countries. Compared to the past, it is easy for students to show greater interest in vanity. The variations of vanity may be due in part to the dynamics of economic development(Durvasula et al. 2001).

Table 4. Vanity level of the sample

Vanity dimension	Mean	SD
Physical concern	17.68	3.44
Physical view	15.89	4.45
Achievement concern	15.05	3.72
Achievement view	12.07	3.06

Results of ANOVA and Duncan Test for vanity by school and socio-economic status are presented in Table 5. For the physical concerns, there were no significant differences among socio-economic status groups, but there were significant differences among school groups. Middle school students rather than high school and college students had lower levels of physical concern. There was no significant difference between high school and college students in physical concerns.

For the physical view, there were significant differences by school and socio-economic status. Middle school students were the lowest and high school students were the highest levels of the physical view. The high socio-economic status group was the highest and the middle group was the lowest level of the physical view. There were significant differences between high and middle groups, but no significant differences between high and low groups and between middle and low group in the physical view.

For achievement concerns and view, there were significant differences by school and socio-economic status. Middle school students had less achievement concern and view level than high school and college students. There were no significant differences between high school and college students. The high socio-economic status groups were highest and the middle groups were the lowest level of the achievement con-

Table 5. Vanity by school and socio-economic status

		N	Physical concern		Physical view		Achievement concern		Achievement view	
			M	Duncan	M	Duncan	M	Duncan	M	Duncan
School	Middle	140	16.93	a	14.53	a	14.15	a	11.23	a
	High	186	18.30	b	16.87	b	15.26	b	12.46	b
	College	191	17.66	b	15.90	c	15.49	b	12.35	b
F ratio			6.421**		11.538***		5.830**		7.723***	
Socio-economic status	High(11 – 15)	146	18.24		16.91	b	16.15	b	12.71	b
	Middle(8 – 10)	186	17.39		15.42	a	14.42	a	11.55	a
	Low(3 – 7)	148	17.62		15.94	ab	15.11	ab	12.19	ab
F ratio			2.652		4.686*		9.364***		6.051**	

*: $p<0.05$, **: $p<0.01$, ***: $p<0.001$

cern and view. There were significant differences between high and middle groups, but no significant differences between high and low groups, and between middle and low groups in the achievement concern and view.

These results are consistent with some previous research, except the school variable. Seo (2004) reported that the older, the higher monthly allowance and monthly household income had high levels of vanity except physical concern. Kim, Kim (2000) reported that the higher monthly household income had more physical and achievement concern. In this paper, middle school students had less achievement concern and view levels than high school and college students. But Kim, Kim (2000) reported that less than their twenties had more achievement concern than any other age group. Thus it can be explain that the level of achievement concern increases from middle school to twenties, and decreases over twenties. Longitudinal studies of various segments are needed to explain the relationships between age and vanity more exactly.

Table 6 shows correlations among four vanity subscales. All correlations were positive and significant ($p < .001$). The correlation between achievement concern and achievement view was the strongest, the correlation between achievement view and physical concern were weakest. The results of this study agree with those of two previous researches that developed vanity scale and examined cross-cultural applicability (Netemeyer et al. 1995; Durvasula et al. 2001). These results can be empirical evidence that traditional ideology and physical appearance are negatively related with achievement is changed to modern ideology that prefers beautiful and competent women.

3. Body shaping management

Table 7 shows the mean and standard deviation of the six questions about body shaping management for middle and high school girls, and female college students in Ulsan City. The level of the body shaping management has slightly lower than medium. The mean of the fast or self-starvation was highest (mean = 2.73, SD = 1, 35), the attention to calorie was second highest (mean = 2.59, SD = 1.11), the exercise (mean = 2.46, SD = 1.18), diet food (mean = 2.43, SD = 1.25), fatness clinic was second lowest (mean = 2.29, SD = 1.74), liposculpture was lowest (mean = 1.74, SD = 1.03).

Table 6. Correlations among vanity subscales

	Physical concern	Physical view	Achievement concern
Physical concern	1.00		
Physical view	.38***	1.00	
Achievement concern	.45***	.48***	1.00
Achievement view	.35***	.48***	.67***

***: $p < 0.001$

These results are consistent with those of previous research. In Kim and Yoon's study (2000), self reported weight control methods included skipping or reducing meals (64.8%), special dieting such as eating an increased amount of juice or vegetables (20.1%), and exercise (36.6%). Kim, Kong reported that 38.2% of female adolescents had experienced weight control behaviors like the restraint of foods exercise, laxative using and so on. Yoo, Jung (2002) reported that fitness behaviors and liposculpture were used for ideal body shape.

Results of ANOVA and Duncan Test for body shaping management by school and socio-economic status are presented in Table 8. For the body shaping management, there were significant differences among socio-economic status and school groups. Middle school students were the lowest and high school students were the highest levels of the body

Table 7. Body shaping management of the sample

Item	Mean	SD
I pay attention to calories when eating food	2.59	1.11
I intend to purchase diet food for weight control	2.43	1.25
I have attempted weight control like a fast or self-starvation	2.73	1.35
I take exercise for body shaping everyday	2.46	1.18
I attended or intend to attend fatness clinic	2.29	1.32
I performed or have a plan to have liposculpture	1.74	1.03
Body shaping management	**14.28**	**5.09**

Table 8. Body shaping management by school and socio-economic status

		N	Body shaping management	
			M	Duncan
School	Middle school	140	11.94	a
	High school	186	17.05	c
	College	191	13.28	b
	F ratio		55.971***	
Socio-economic status	High (11 – 15)	148	16.48	b
	Middle (8 – 10)	183	13.57	a
	Low (3 – 7)	145	13.56	a
	F ratio		17.525***	

***: $p < 0.001$

shaping management. There were significant differences between high and middle socio-economic status groups, and high and low groups, but no significant differences between middle and low groups in the body shaping management. The high socio-economic status group had higher levels of the body shaping management than middle and low groups.

These results are consistent with those of the 1998 National Health and Nutrition Survey(1999) by the Korean Institute for Health and Welfare. It was reported that the higher educational level and the higher the household income had high probability of weight control. The variations may be due to the high aspiration levels in wishing to join the modern consumption lifestyles. The lifestyle can be attainable in the high socio-economic status group easily.

4. Vanity and body shaping management

Correlation coefficients between four vanity sub-scales and body shaping management are presented in Table 9. There were significantly positive relationships between physical concern, physical view, achievement concern and body shaping management, but there was no significant relationship between achievement view and body shaping management. Especially, the correlation coefficient of physical concern was larger than that of the physical view and the achievement concern. It can be interpreted that the achievement view is not easily extroverted and not significantly related to the body shaping management.

Table 10 shows multiple regression analyses to examine the relative importance of the independent variables affecting on the body shaping management. Correlation coefficients among four vanity sub-scales were larger than those of the four vanity sub-scales and the body shaping management. In these cases, problem of the multicollinearity can exist in the multiple regression analysis. To solve the problem, four regression analyses models were computed. In each model, only one vanity subscale, school, and socio-economic status were included. In the regression model that physical concern included, the relative importance of the variables affecting on the body shaping management is in the order of, socio-economic status, physical concern, and age. In the regression model that physical view included, the relative importance of the variables affecting on the body shaping management is in the order of, socio-economic status, age, and physical view.

In the regression models that achievement concern and view included, the relative importance of the variables affecting on the body shaping management is in order of, socio-economic status and age. The positively correlated va-

Table 9. Correlation coefficient between vanity and body shaping management

	Body shaping management
Physical concern	.25***
Physical view	.12**
Achievement concern	.14**
Achievement view	.05

**: $p<0.01$, ***: $p<0.001$

Table 10. Multiple regression analysis examining variables on the body shaping management

	Body shaping management
	B(β)
Physical concern	.34(.23)***
Age	.10(.14)**
Socio-economic status	.45(.24)***
Constant	2.60
F	24.522***
R^2	.130

	Body shaping management
	B(β)
Physical view	.10(.09)*
Age	.09(.12)**
Socio-economic status	.05(.24)***
Constant	7.164
F	16.038***
R^2	.093

	Body shaping management
	B(β)
Achievement concern	.11(.08)
Age	.08(.11)*
Socio-economic status	.47(.25)***
Constant	7.13
F	16.180***
R^2	.094

	Body shaping management
	B(β)
Achievement view	.03(.04)
Age	.08(.12)**
Socio-economic status	.50(.25)***
Constant	8.39
F	14.690***
R^2	.080

*: $p<0.05$, **: $p<0.01$, ***: $p<0.001$

riable, achievement concern and view were not effective variables in the multiple regression models controlling the effects of socio-economic status and age.

Our society is still in a man's world in many respects. A woman's physical appearance may be viewed as an instrument of career achievement in this circumstance. Kuh, Lee (1994) report that many women felt that being goodlooking was a form of accomplishment, and 61 percent of them said that looking attractive made them feel more successful in their careers. Many researchers feel that these images of wealth and physical perfection are likely to be attainable for the general populace (Netemeyer et al. 1995).

Recent studies in consumer behavior and clinical psychology (Cash et al. 1986; Cash, Brown 1987; Bloch, Richins 1992; Brownell 1991) also suggest that an over concern for physical appearance and the perfect body image projected by some of the media influence young women to engage in unhealthy eating habits that can lead to anorexia nervosa and bulimia. Television and internet may teach from children to elders a desire for thinness, beauty, and youth. This can make them involve vanity and body shaping management.

Summary and Conclusion

This study investigated the vanity and body shaping management with a sample of 522 middle, high, and college female students in Ulsan. The results of vanity levels indicated that physical concern was the second highest level, the achievement concern and view were medium level, and physical view was the second lowest level. Thus there were no worries about the levels of three vanity sub-dimensions, except physical concern. Middle school students rather than high school and college students had lower levels of the physical concern, achievement concern and view. Middle school students were the lowest and high school students were the highest levels of the physical view. But physical concern was not differentiated by the socio-economic status. The high socio-economic status groups were highest and the middle groups were lowest level of the achievement concern and view.

The level of the body shaping management was slightly lower than medium. The mean of the fast or self-starvation was the highest, the attention to calorie was second highest, and liposculpture was the lowest. The higher the socio-economic status level, the higher the physical concern level, and being older had the high probability of body shaping management. The results indicated that socio-economic status was the most influential variable affecting on the body shaping management. This means that body shaping become one of the important symbols of socio-economic status. Vanity subscales were positively correlated with each other. But after controlling the effects of socio-economic status and age, their effects disappeared.

The findings of this study have implications for consumer education and nutrition education. Excessive vanity can be harmful, so appropriate and effective consumer educational materials for the high vanity group should be developed. Moderate body shaping management can prevent obesity and motivate personal development. Education for health, proper exercise, and correct diet methods are necessary, especially for high economic status, high vanity, and college students group. The adolescent period is important because it is the time for a person to grow rapidly in physical and mental health.

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