

Determinants of Household Food Consumption: Food at Home and Food Away From Home

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가계식생활비 지출의 결정요인

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요 약

본 연구는 우리나라 가계의 식생활비 지출행태에 관한 이해를 꾀하고자 식료품비와 외식비로 나뉘어 각각에 관한 결정요인을 비교, 분석하였다. 연구를 위하여 통계청에서 조사한 1994년 도시가계연보의 원자료를 사용하였으며, 식료품비와 외식비 지출에 대한 관련요인들의 영향력을 고찰하기 위하여 다중회귀분석이 사용되었다. 연구결과에 의하면 식료품비와 외식비 지출 모두 가계소득과 정적 상관관계를 보였으며, 주부가 취업한 경우 식료품비 지출은 비취업주부가가에 비해 적은 반면, 외식비 지출은 도리어 많은 것으로 분석되었다. 가구원수, 교육수준, 계절, 자녀의 존재 변수 등이 식료품과 외식비지출에 대해 유의한 영향력을 미치는 것으로 나타났다. 가구주 나이는 식료품비에 유의한 영향을 미쳤으며, 가구주 직업은 외식비지출에 영향을 미치는 것으로 분석되었다.

I. Introduction

During the last two decades, the Korean economy has experienced a rapid economic growth with an average annual rate of 8.7%, and thus resulted in an increase in overall household income. This has been manifested in a great change of household expenditure pattern as well as an increase in household expenditures. Based on the 1980-1997 Family Income and Expenditure Survey, budget shares of total food had slightly decreased during that period. However, there was a decrease in food at home and a great increase in food away from home(Table 1). Budget shares of food away from home represented 10.4% of total expenditure and 36.3% of total food expenditure in 1997. Average growth rate of food expenditure

away from home was the highest among those of other expenditures. In spite of this rapid change in the pattern of food consumption and of a development of food industry to meet consumers' need for food away from home, relatively few research studies have been undertaken to examine household food consumption pattern.

This paper examines household food consumption pattern. The objective of this study is to determine the effect of selected socio-economic and demographic variables on both food at home and food away from home expenditures. The result of this study will provide knowledge and guidance to consumer educators and policy makers in their search for factors motivating consumer's demand for food as well as to food industry in their efforts predict changes in food

<Table 1> Monthly Expenditures for All Households

(1997 money value, thousand won, %)

	1980	1990	1997 ^a	%Changes in amounts/ year	Changes in budget Share 1997-1980
	Mean(%)	Mean(%)	Mean(%)		
Total Expenditures	483.3 (100.0)	1015.6 (100.0)	1489.5 (100.0)	12.1	0.0
Food	159.0 (43.2)	325.1 (32.0)	427.5 (28.7)	9.9	-14.5
Food at home	202.8 (41.6)	285.3 (25.5)	272.5 (18.3)	2.0	-23.3
Food away from home	7.9 (1.6)	66.4 (6.5)	155.0 (10.4)	109.5	8.8
Housing	22.2 (4.6)	47.2 (4.7)	54.0 (3.6)	8.4	-1.0
Utilities	37.8 (7.8)	45.6 (4.5)	68.0 (4.6)	4.7	-3.2
Furniture & utensils	21.2 (4.4)	57.9 (5.7)	63.4 (4.3)	11.7	-0.1
Clothing	47.8 (9.8)	84.6 (8.3)	97.8 (6.6)	6.2	-3.2
Medical care	30.5 (6.2)	53.2 (5.2)	66.6 (4.5)	7.0	-1.7
Education & recreation	39.7 (8.1)	130.3 (12.8)	239.5 (16.1)	29.6	8.0
Transportation & communication	28.3 (5.8)	85.3 (8.4)	188.2 (12.6)	33.2	6.8
Other expenditures	49.2 (10.1)	186.1 (18.3)	284.6 (19.1)	28.1	9.0

^a The mean and percentage can be different from those in the results of this study due to differences of the sample analyzed. The sample used in this table is all households including both non wage earner's and wage earner's households, on the other hand that used in this study is only wage earner husband-wife households.

market and consumer's future demand.

II. Review of Literature

Economic theories proposing to explain household food consumption behavior can be divided into those that mainly consider income and those expanded to include cost of time. A traditional economic model of household behavior assumes that a household maximizes utility from food with a fixed level of income and tastes. Any variations in demand for food is attributed to changes in real income, relative price, and tastes. A functional relationship between household income and expenditure on food was initially established by Ernst Engel. A general relationship is embodied in Engel's law, which asserts that the lower the household income, the greater the percentages of that income spent for food (Monroe, 1974). Later Allen and Bowley (1935) postulated that if a group of households has the same composition of preferences and the only variable is income, then the relationship between expenditures on any component of the budget and total expended income is linear (Abdel-Ghany & Schrimper, 1978). According to this model, measured differences in expenditures

between households were assumed to be attributable to differences in income.

Household production theory by Becker (1965) expanded the traditional model by accounting for cost of time in the household utility function. Becker's theory assumes that a household maximizes its utility, subject to money and time constraints in order to get an optimal bundle of commodities, which are produced by means of a production activity combining market goods and services with a household's own time. Hence household expenditure depends not only on income but also on cost of time.

Many of the previous studies examined the effect of income and selected variables associated with cost of time based on the household production theory. Variables often regarded to be associated with cost of time were wage rate, wife's employment, presence of young children, and education. Most studies showed a positive effect of income on food consumption at home and away from home, but somewhat mixed results about the effects of proxy variables of cost of time.

In the study of Prochaska and Schrimper (1973) using the 1965-66 USDA Household Food Consumption Survey, the ordinary least squares (OLS) results for both working-wife and nonworking-wife families showed a positive effect of income, and a negative effect of

number of preschool children and race(black) on the number of meals consumed away from home. However, the magnitude of the effect of cost of time of working wife families was greater compared with nonworking wife families, indicating that working wives have a higher marginal value of time.

Using the 1972-74 Consumer Expenditure Survey, Redman(1980) found that family income had a positive effect on food away from home, however age, race, household size and presence of preschool children had negative effects. Wife's employment had a positive effect on expenditures for prepared foods but no effect on expenditures on meals away from home.

Strober and Weinberg(1980) studied the strategies used by working and nonworking wives to reduce time pressures. Using the 1977 survey of the Market Facts Consumer Mail Panel, they found that working wives prepared significantly fewer breakfasts, lunches, and dinners than did nonworking wives. With respect to the same income class and life cycle stage, however, they showed that working wives and nonworking wives were generally similar with respect to their method of meal preparation.

Bellante and Foster(1984) used the 1972-73 Consumer Expenditure Survey to estimate relationship between wife's employment and expenditures on food away from home. Results of the study showed positive effects of wife's full-time employment and number of weeks worked on food expenditures away from home. Income, education, home ownership were found to have a positive effect, while presence of young children had a negative effect. Household size excluding preschool children had no significant effect. Age also had an impact on food expenditures away from home.

Yang and Magrabi(1989) investigated the relationship between wife's employment status and expenditures on purchased services (including meals in restaurants) using the 1984 Consumer Expenditure Survey interview data. Results showed that expenditures for meals in restaurants were less for the part-time-employed-wife households compared with the full-time-employed-wife households and non-employed-wife households. There was no difference for meals eaten at restaurant between full-time and non-employed wife households. Income, education, and urbanization had a positive effect, however

presence of children had a negative effect on expenditures for meals eaten at restaurant. Household size and age were not found to be significantly affecting expenditure on meals eaten at restaurant.

Food expenditures both at home and away from home were investigated by Nayga(1995). The Diary component of the 1992 Consumer Expenditure Survey was used in the study. Results indicated that presence of children, seasonality, home ownership, region, household size, education, age, employment of spouse, and income had impacts on expenditures on food at home. Expenditures on food away from home were related to presence of children, home ownership, region, household size, race, education and income.

Jensen and Yen(1995) used the 1989-90 Consumer Expenditure Diary Surveys to examine effects of selected variables on expenditures on breakfast, lunch, and dinner away from home. Results showed that wife's employment had only a positive and significant effect on lunch composition; the effects on all other meals were not significant. Income, education, region, seasonality, race, and home ownership had impacts on food expenditures away from home.

Paulin(1995) explored how tenure is related to consumer expenditures using data from the 1989-90 Consumer Expenditure Survey. The study found that total expenditure, age, and household size were positively related to expenditures on food at home for both homeowners and renters, however the magnitude of the impact differed among the variables. Number of earners had a negative impact on food at home for only homeowners. Education was positively related to the expenditure for renters. Race, family type, urbanization, region, and working status had different impacts for owners and renters. In that study, food away from home was estimated in the category of recreation and related expenditures.

These previous findings are helpful, however, not related to measuring the economic and demographic variables on household expenditures for food at home and food away from home. Food consumption patterns have been mostly examined regarding the trend in budget share and the estimation of income elasticities(Kang, 1988; Kim & Han, 1988; Bae, Han, & Kim, 1990; Yang, 1991; Kim, 1992). There has been no research effort to investigate related variables of food

consumption.

III. Methodology

Empirical model of this study was based on Becker's household production theory(Becker, 1965). The theory implies that income and cost of time will influence demand for both food at home and food away from home. Food away from home can be regarded as a less time intensive(or less labor intensive) and more goods intensive commodity relative to food at home. Cost of time is, therefore, positively related to food away from home because of a need to reduce time spent for meal preparation. Income is positively related to normal goods, and hence will have a positive impact on demand for food at home and food away from home.

For the analysis, the basic form of expenditure equation for food was specified as a linear function as Allen and Bowley(1935)suggested:

$$\text{exp}_i = b_0 + b_1 Y + b_2 T + b_3 Z, \quad i=1,2,\dots,n,$$

where exp_i = i th household's food at home
 i th household's food away from home
 Y = income
 T = proxy variables of cost of time
 Z = proxy variables of taste

Proxy variables of cost of time include wife's employment status, age, education, and presence of children. Z represents other control variables such as household size, housing tenure, occupation, and seasonality, which are expected to influence taste and general life styles, and therefore demand for food at home and food away from home.

In the equation, income and age were included in a quadratic form because their relationships with food expenditures were expected to be non-linear. Family size was expected to be positively related to the food expenditure with diminishing rate of change, due to its economy of scale. This study therefore used the logarithm form of family size. An interaction term of age and housing tenure was included in the model to account for tenure difference by age. Other variables were included in the equation as dummy variables.

Several studies(Yang & Magrabi, 1989; Nayga, 1995; Jensen & Yen, 1995) employed a tobit or a probit procedure in order to prevent inconsistent estimation

from selectivity bias due to zero observations. Less than 10% of the sample used in this study, however, had zero expenditure for food away from home, and thus this study employed ordinary least squares(OLS) procedure for the analysis. The OLS was performed for food at home and food away from home separately.

IV. Data

The data for this study were taken from the 1994 Family Income and Expenditure Survey collected by Korea National Statistical Office. Non wage earner's households were excluded because of lack of information on their income. Also, this study considers only husband-wife households in order to examine the influence of wife's employment on food consumption. Households with missing information for the variables in the model were excluded. The final sample used in this study consisted of 23,695 urban wage earner's households.

Sample characteristics are presented in <Table 2>. Households spent, on monthly average, 222,092won (approximately \$280) for food at home, and 86,730won (approximately \$110) for food away from home. Budget share of food at home of total household expenditure was 21.2%, and 8.2% for food away from home. Expenditures on food away from home were almost 40% of expenditures on food at home.

Data for food expenditures were collected on a monthly basis. Food at home is defined as food, and non-alcoholic beverages bought at grocery stores, convenience stores or other food stores, and food prepared by consumer unit on trips. Food away from home includes all meals at restaurant (including alcoholic beverages), carryouts, and vending machines, school lunch, and meals away from home on trips(Korea National Statistical Office, 1995).

V. Results and Discussion

<Table 3> shows Analysis of Variance results for food expenditures by household characteristics. Income and education were positively related to expenditures on food at home and food away from

<Table 2> Sample Characteristics

	Sample Size	Mean or % (S.D.)
Total Expenditures	23,695	1,047,465(891,308)
Food at home		222,092(111,058)
- % of Total Expenditure		21.2
Food away from home		86,730(90,313)
- % of Total Expenditure		8.2
Income	23,695	1,601,181(905,737)
Household Size	23,695	3.57(0.89)
Age	23,695	37.34(8.21)
Housing Tenure : Owned	9,123	38.5
Rented	14,572	61.5
Wife's Employment status : Employed	7,149	30.2
Non-Employed	16,546	69.8
Education : College Degree	5,638	23.8
No College Degree	18,057	76.2
Occupation : Professionals, Managers	2,277	9.6
Technicians	3,514	14.8
Clerks	4,335	18.3
Service Workers	1,246	5.3
Blue Colors	12,323	52.0
Season : Spring	5,777	24.4
Summer	5,999	25.3
Fall	6,063	25.6
Winter	5,856	24.7
Presence of Children : Preschool	10,601	44.7
School & over	9,786	41.3
No Child	3,308	14.0

home of the households. Food at home expenditure of the highest income group is 2.21 times of that of the lowest income group, while food away from home expenditure is 2.88 times. There was a positive association between household size and food expenditures at home. Expenditures on food at home and food away from home increased with age of the head of the household up to a point, then decreased. Households with owned homes spent more on both food at home and food away from home, compared with those that did not. Households with employed wives spent 23,097won more on food away from home than households with non-employed wives. Occupation, seasonality, and children also had significant effect on both food at home and food away from home expenditures.

Results of the OLS are presented in <Table 4>.

Consistent with prior expectations according to the household production theory and previous studies findings, income effect was significantly positive on expenditures for food at home and away from home. This indicates that if income increases, demand for normal goods will increase, and so the expenditures for food at home and away from home. The study results showed that, when controlling for other variables, food expenditures were positively related to household income, but with a decreasing rate of change.

Household size had a positive effect on food at home expenditures, which is consistent with findings by Redman(1980), Nayga(1995), and Paulin(1995). An additional person to the household, resulted in an increase in the expenditure by 23,097won (approximately \$29) a month. In contrast, household size was negatively related to food away from home expenditures. This result was consistent with the results of Redman(1980), Bellante and Foster(1984), and Nayga(1995). This may indicate that larger households usually incur more costs than smaller households when eating out.

Age was significantly related only to food at home expenditures of household in a quadratic form. This indicates that after taking into account other related variables such as income, housing tenure, and presence of children, age has no independent effect on food expenditures away from home. This effect may reflect that more spendings on food at home occur due to frequent family events during the middle ages.

The effects of housing tenure on food at home and food away from home expenditures were not significant, which were not consistent with Nayga's(1995) result. This indicates that when holding other factors constant, there is no difference in household's food expenditures at home and away from home between homeowners and renters. Interaction effect of age and housing tenure, however, was significant and positive for food at home expenditures. Previous findings by Paulin(1995), which indicated significantly different effects of age and age squared across tenure on food at home expenditures, support the possibility of this effect. In his study, age effect was greater for homeowners than renters.

Wife's employment was negatively related to food at home and positively related to food away from home

<Table 3> Analysis of Variance Results for Food Expenditures by Household Characteristics

		Food at home		Food away from home	
		Mean(Won)	F-Value	Mean(Won)	F-Value
Income	under 1,000,000	177,244	683.08**	51,940	701.47**
	1,000,000 ~ 1,500,000	206,878		74,288	
	1,500,000 ~ 2,000,000	234,550		94,022	
	2,000,000 ~ 2,500,000	257,483		112,247	
	2,500,000 & Over	392,759		149,752	
Household Size	2 Persons	169,688	510.58**	88,094	16.75**
	3 Persons	198,464		91,344	
	4 Persons	238,023		82,359	
	5 Persons	279,627		95,806	
	6 & Over Persons	272,324		81,612	
Age	under 30	167,817	411.63**	84,601	22.37**
	30 ~ 39	216,671		87,332	
	40 ~ 49	256,948		89,959	
	50 ~ 59	253,839		86,511	
	60 & Over	230,095		54,826	
Housing Tenure	Owned	252,140	1138.05**	90,067	20.26**
	Rented	203,281		84,641	
Wife's Employment Status	Employed	222,397	0.08	102,858	331.06**
	Non-Employed	221,961		79,761	
Education	College Degree	240,400	202.77**	118,233	935.71**
	No College Degree	216,376		76,894	
Occupation	Professionals, Managers	260,202	98.80**	116,206	255.74**
	Technicians	232,765		113,164	
	Clerks	221,264		94,963	
	Service Workers	210,314		90,410	
	Blue Colors	213,490		70,477	
Season	Spring	205,079	151.75**	85,783	4.22**
	Summer	224,277		89,297	
	Fall	245,343		87,914	
	Winter	212,565		83,808	
Presence of Children	Preschool	211,774	795.13**	81,965	28.45**
	School & over	250,985		91,430	
	No Child	169,688		88,094	

* P< .05 ** P< .01.

expenditures. This result is consistent with the previous findings by Bellante and Foster(1984), but in contrast to the results of Redman(1980) and Yang and Magrabi(1989). According to the household production theory, it is suggested that if homemaker's opportunity cost of time increases, the demand for less time intensive goods such as food away from home will increase and the demand for more time intensive goods such as food at home will decrease. In previous

studies, wage rate or estimated wage rate using such variables as age, education, labor force experience, and presence of children, and hours of work were employed for a measure of value of time. The evidence by Prochaska and Schrimper(1973) indicates that working wives have a higher marginal value of time compared with nonworking wives, hence working wives respond more sensitively to the change in their opportunity cost of time. Therefore, wife's

<Table 4> Regression Results for Household Food Expenditures: Coefficients(t-value)

Explanatory Variables	Food at home	Food away from home
Income	0.050(35.778)**	0.043 (36.119)**
Income ²	-2.61E-9(15.444)**	-2.02E-9 (13.978)**
Household Size (log)	91747(21.012)**	-20093 (5.387)**
Age	4103(5.772)**	-878 (1.445)
Age ²	-29.004(3.508)**	2.695 (0.382)
Housing Tenure (Owned=1)	-5780(0.818)	-9298 (1.540)
Age*Housing Tenure	510(2.832)**	116 (0.756)
Wife's Employment Status (Employed=1)	-28732(18.810)**	7566 (5.798)**
Education (College Degree=1)	3762(1.942)	14938 (9.030)**
Occupation (Professionals, Managers=1)	3493(1.267)	5395 (2.290)*
(Technicians=1)	1605(0.758)	19946 (11.023)**
(Clerks=1)	3021(1.556)	8821 (5.316)**
(Service Workers=1)	-3251(1.111)	12472 (4.989)**
Season (Spring=1)	-866(0.476)	8532 (5.488)**
(Summer=1)	13932(7.759)**	7352 (4.793)**
(Fall=1)	31486(17.583)**	3984 (2.604)**
Presence of Children (Preschool=1)	-10368(3.194)**	2642 (0.953)
(School & over=1)	-2260(0.652)	12926 (4.362)**
Intercept	-78106(5.865)**	57143 (5.023)**
R ²	0.227	0.147
Adjusted R ²	0.227	0.147

* P< .05 ** P< .01.

employment can be expected to have a positive effect on food away from home and a negative effect on food at home, but previous studies yielded inconsistent results for this. Findings of this study, however, indicate that working wife's households spend less on food at home and more on food away from home than do households with nonworking wives.

Consistent with most previous studies (Bellante & Foster, 1984; Yang & Magrabi, 1989; Jensen & Yen, 1995; and Nayga, 1995), education was positively related to food at home and food away from home expenditures. Education enhances nonmarket productivity as well as market productivity, thereby raise real income (Michael, 1973), and therefore may reflect income effect as well as cost of time effect. This result suggests that income effect dominates cost of time effect in terms of education, showing that households headed by an individual with a college degree spend more on food at home and food away from home than do households headed by an individual with less than a college degree. Although education effect is positive for both food at home and food away from home, parameter

estimates suggest that food expenditure away from home is more responsive to education than food expenditure at home.

Occupation was significantly related only to food away from home expenditure. Households headed by technicians spent the most on food away from home, than did service workers, clerks, professionals or managers, and blue-collar workers. Differences of food away from home expenditures by occupation could be due to differences in lifestyles among occupations.

Seasonal variables had significant effects on food at home and food away from home expenditures. In particular, food at home expenditures during the summer and the fall were greater than expenditures during the winter. Similarly food away from home expenditures during the spring, the summer, and the fall were greater than expenditures during the winter. This results is in contrast to the findings by Nayga(1995), which indicated that expenditures on food at home for the winter was the greatest because of the spending during the holiday season of the U.S.A. This difference may reflect cultural differences between

countries. Seasonal effect may be accounted for by price differences across seasons or simply by effect of temperature.

Presence of children had some effects on food expenditures at home and away from home. Inconsistent with most previous studies (Redman, 1980; Bellante & Foster, 1984; Yang & Magrabi, 1989), however, presence of preschool children did not have any significant effect on food away from home. Generally preschool children are regarded to need mother's time relatively more, thereby raise mother's time value at home compared with her time value in the market, and therefore make less demand for household production such as food at home than for food away from home. In addition, inconvenience of eating out for households with young children is also recognized. However, in the present study, this was not confirmed. Only households with preschool children spent less on food at home, and households with school children spent more on food away from home compared with households without children.

VI. Conclusion

Due to the lack of relevant empirical evidence regarding consumption patterns of Korean households, an understanding of the effects of socio-economic and demographic variables on the expenditure patterns of food at home and away from home is needed. Based on the household production theory and the findings of the previous studies, the present study investigated the effects of selected variables on food expenditures at home and away from home. Results of this study partially support the household production theory. Along with positive income effects, positive effect of wife's employment on food away from home expenditures and its negative effect on food at home were consistent with Becker's theory, which accounts for income and cost of time effects on the demand for food. Positive effects of education on food away from home expenditure suggest that income effect dominates cost of time effect in terms of education. These findings suggest that it is reasonable for food service retailers to consider the time-saving and convenience aspect of food away from home to be

important.

Presence of preschool children did not have significant effect on the demand for food at home and away from home, however, inconsistent with most previous studies and the household production theory. Only the presence of school age children or older does matter on affecting the demand for food at home and away from home. The lack of effect of preschool children on food away from home may be due to the similar preferences for food away from home of the households at the beginning stage and those with preschool children in the family life cycle. Further investigation may be needed to clarify possible reasons.

According to the result of this study, one could expect that larger households tend to consume more food at home than do smaller households, but consume less food away from home. This has important implications for consumer educators and food service retailers. For example, in an education program regarding economic considerations related to fertility, consumer educators might emphasize the possible increase in food at home expenditures with an additional member of a household. Food service retailers might have to offer service packages that is less expensive to large households, in order to attract them to eat away from home.

The significant relationship between occupation and food away from home expenditures implies possible differences in lifestyles due to occupations. Explanatory power of the OLS equations were somewhat low (adjusted R^2 was .23 and .15 for food at home and food away from home, respectively), which may indicate that demand for food at home and away from home could be related to other factors not included in the model. One important variable that was not available for inclusion in the model is place of residence. This study found seasonal differences in the demand for food at home and away from home, which might be due to seasonal price effects. Hence, the inclusion of region and price in the analysis may increase the explanatory power of the model. Further research including other possible cultural factors is needed for more clarification.

Effects of some variables, such as season and presence of children, were not consistent with most previous findings. The discrepancies might be due to

cultural differences between countries or differences in research methodology and data. Unlike most previous studies, the data for food away from home used in this study include expenditures on alcoholic beverages, and therefore future research should account for this factor.

■ References

- 1) Abdel-Ghany, M., & Schrimper, R.A.(1978). Food consumption expenditures and education of the homemaker. *Home Economics Research Journal*, 6(4), 283-292.
- 2) Allen, R.G.D., & Bowley, A.L.(1935). *Family Expenditure*. London: Staples Press.
- 3) Bae, Y.S., Han, J.S., & Kim, J.S (1990). A Study on a functional form of Engel Curve in household analysis. *Journal of Korean Home Economics Association*, 28(4), 87-101.
- 4) Becker, G.S. (1965). A theory of the allocation of time. *Economic Journal*, 75, 493-517.
- 5) Bellante, G.S.,& Foster, A.C.(1984). Working wives and expenditures on services. *Journal of Consumer Research*, 11, 700-707.
- 6) Jensen, H.H., & Yen, S.T.(1995). Wife's employment and food expenditures away from home. *Consumer Interests Annual*, 41, 90-97.
- 7) Kang, Y.J.(1988). An investigation on consumption patterns in terms of change of discretionary consumption expenditures. *Journal of Korean Home Economics Association*, 26(4), 113-127.
- 8) Kim, J.S.(1992). An analysis of consumption expenditure of urban wage earner's household. *Journal of Korean Home Management Association*, 10(2), 19-36.
- 9) Kim, M.H., & Han, J.S.(1988). An analysis of food consumption pattern : 1975-1985. *Journal of Korean Home Economics Association*, 26(1), 109-122.
- 10) Michael, R.T.(1973). Education in nonmarket production. *Journal of Political Economy*, 81, 306-327.
- 11) Monroe, D. (1974). Pre-Engel studies and the work of Engel: The origins of consumption research. *Home Economics Research Journal*, 3, 43-64.
- 12) National Statistical Office of Republic of Korea (1995). *1994 Annual Report on the Family Income and Expenditure Survey*.
- 13) Nayga, R.M.(1995). Presence of children and household food expenditures at home and away from home. *Journal of Consumer Studies and Home Economics*, 19, 235-245.
- 14) Paulin, G.D.(1995). A comparison of consumer expenditures by housing tenure. *Journal of Consumer Affairs*, 29(1), 164-198.
- 15) Prochaska, F.J., & Schrimper, R.A.(1973). Opportunity cost of time and other socioeconomic effects on away from home food consumption. *American Journal of Agricultural Economics*, 55, 595-603.
- 16) Redman, B.J.(1980). The impact of women's time on expenditures for meals away from home and prepared foods. *American Journal of Agricultural Economics*, 62, 234-237.
- 17) Ryu, J.S., & Park, H.R. (1996). Setting poverty line of food away from home by comparing of consumption patterns among different social classes: with a focus on the 1993 urban wage earner's family. *Journal of Korean Home Management Association*, 14(2), 277-288.
- 18) Strober, M.H., & Weinberg, C.B.(1980). Strategies used by working and nonworking wives to reduce time pressures. *Journal of Consumer Research*, 6, 338-348.
- 19) Yang, S.J.(1991). A study on the change in expenditure patterns of urban wage earner's households. *Consumption Life Research*, 8, 54-67.
- 20) Yang, S.J., & Magrabi, F.M. (1989). Expenditures for services, wife's employment, and other household characteristics. *Home Economics Research Journal*, 18, 133-147.