Seppo Suominen

ARTS AUDIENCES IN FINLAND

A survey conducted in 2013 by the Finnish Cultural Foundation studied Finnish views on and thoughts about culture and its consumption. About 30 % in the sample had not visited any cultural attractions or events. The main cultural activities visited or attended were theatre, museum, art exhibitions, pop music concerts and movies at a cinema. In addition to these consumers seem to favour classical music. Opera, folk music and dance events had the lowest attendance figure. Our study contributes to the literature by identifying the determinants of participation level and of each category in arts consumption in Finland. First the overall participation level is studied by employing multiple choice and ordered logit and probit models as well as a bivariate probit model. We show how different socio-economic variables explain cultural consumption in Finland. Some insights into the distribution of state subsidises is discussed.

We examine to what extent standard socio-economic variables influence attendance at different cultural events. How these variables are related to the number of cultural events participated and what are the main differences between univore and omnivore consumers? A standard economic theory assumes that the marginal utility of any consumption diminishes. Is this valid in the case of cultural events consumption? Does the assumption reflect the idea that even if the consumers' incomes increase, still they do not participate all cultural events?

Incomes, education and learning experiences accumulated and associated with age are important factors in the demand for arts, however, there are exceptions in Finland. The demand for folk music cannot be explained by differences in household's incomes. Folk music category is more separated and not very popular among Finnish consumers. Dance events and folk music seem to have the smallest distance and all other categories are more far away

Keywords: Finland, cultural consumption, participation, logit, probit, art audiences

Introduction

The empirical literature on cultural consumption addresses three different dimensions: participation level, the characteristics of participants and the determinants of participation. Participants can be classified into three groups based on their cultural involvement: omnivore, paucivore and inactive. Omnivores are active in all cultural sectors from cinema to classical concerts. Paucivores participate but less frequently than omnivores. Inactive do not participate (Peterson and Simkus 1992). Cultural consumption patterns can be characterised also based on socio-economic background. Performing arts audiences are elite in terms of education and income. The influence of age, educational level, gender and incomes on cultural consumption is supported in many studies, as shown in Seaman's (2006) survey. There are more women than men in the audience. However, differences exist since the labour force participation matters. Women in general are more active in highbrow art. Among people who are not active in labour force, there is no gender difference (Lizardo 2006). A seminal study by Baumol and Bowen (1966) show that audiences from art form to another art form are rather similar, however younger people seem to prefer lowbrow culture whereas older people favour highbrow culture. The highbrow cluster consists of ballet, classical music or theatre attendance and the lowbrow

comprise the following genres: popular music live concert, a movie at the cinema.

Most studies analyse participation as a binary phenomenon and estimate binary decision models. Demand for cultural goods and services seems to depend more on the cultivation of taste than the demand for other goods. The cultivation of taste is processed through experience and the experience is to some extent related to adulthood (McCain 1995). Cultivation of taste is learning-by-consuming. Consumer's tastes are formed by experience which develops from consumer's decisions to participate on the basis of previously existing tastes. Stigler and Becker (1977) highlight the forward-looking behaviour where consumers maximise an intertemporal utility function. Past consumption can expand present and future consumption through rational addiction. Making investments in human capital consumers can sacrifice current utility for future utility. The rational addiction framework has one important implication for the relationship between age and cultural consumption. The human capital approach emphasise the idea that the more performances a person attends, the more enjoyable they become. Participating a performing art event is an active process that requires skills and enough knowledge and these develop through training and participation. These additive processes begin generating positive influence only after an art-specific threshold has been reached. The older a consumer is, the more likely she has reached this threshold and she has accumulated enough human capital. Therefore highbrow and perhaps esoteric performances are more favoured by older consumers. In addition to the above mentioned the household production element of the rational addiction model induces a distinction between shadow-price elasticities linked to arts esteem and market-price elasticities. Furthermore Lèvy-Garboua and Montmarguette (2003) show that the relative shadow-price of arts esteem will usually decline over time with the accumulation of arts-specific (or human) capital. However, an increase in the demand for art appreciation over time does not involve that the demand for art consumption also rise since the cultivation of taste allows consumers to maintain their level of appreciation with a lower level of consumption (Lèvy-Garboua and Montmarguette 2003).

Researchers argue that younger prefer films at a cinema and older favour opera, theatre and classical music. The impact of educational level is similar to the impact of age. Less educated attend less highbrow than those with higher education (for a survey, see Seaman 2006 or Virtanen 2007). Using Finnish data similar results have been presented by Liikkanen (2009), Purhonen, Gronow and Rahkonen (2011) or Purhonen (2014). The income elasticity is positive but it varies among different cultural consumption segments as Seaman (2006) notices. The effect of income on the attendance is essential since the ticket price variation is large among different cultural events. Opera is more expensive than a film at a cinema. Unfortunately, the fact that ticket prices are not available in most cases, the scholars must estimate participation functions with some proxy variables which are expected to correlate with prices.

We examine to what extent standard socio-economic variables influence attendance at different cultural events. How these variables are related to the number of cultural events participated and what are the main differences between univore and omnivore consumers? A standard economic theory assumes that the marginal utility of any consumption diminishes. Is this valid in the case of cultural events consumption? Does the assumption reflect the idea that even if the consumers' incomes increase, still they do not visit all cultural events or categories of culture?

In this study, we follow the conventional literature and ask what determines cultural consumption in Finland. By employing a recent cultural consumption survey carried out in Finland for the year 2013 we evaluate the probability of choosing different cultural consumption segments. We examine to what extent standard socio-economic variables influence attendance at different cultural events. How these variables are related to the number of cultural events participated and what are the main differences between univore and omnivore consumers?

First we classify Finnish consumers who attend performing arts and cultural institutions

according to consumption patterns. This classification is important in order to understand the incidence of state subsidises. Then we estimate the consumption pattern using correlation and cluster analyses. This analysis shows that there are some separate and some overlapping segments in the cultural consumption pattern. However, correlation coefficients do no reveal whether the preferences are dissimilar or similar after controlling age, educational background and incomes. The correlation and cluster analysis results have not been presented in this paper due to limitations in length of the text. The results can be obtained from the author upon request. Then we estimate multiple choice models for each category in culture consumption and show that the above mentioned socio-economic variables do explain cultural consumption. Finally the correlation and dichotomous analyses are combined using a bivariate probit model in order to understand the consumers' preferences after controlling the above mentioned socio-economic variables.

In this study the data were collected in September and October 2013 by using the GallupChannel's Internet panel in Finland. The stratified sample was drawn in each region (NUTS3) with age and gender as strata. 7.859 persons in total responded to the survey.

The survey conducted in 2013 by the Finnish Cultural Foundation studied Finnish views on and thoughts about culture and its consumption. The respondents aged 15 or over living in Finland (excluding Åland Islands) were first asked which cultural facilities and events they had visited in the previous 6 months, in the previous 24 months, less often and which facilities and events they had never visited (e.g. theatres, museum, opera, cinema). Background variables included, among others, the respondent's age, municipality of residence, region (NUTS2), gender, education level, household's gross annual income, personal gross annual income. For further analysis education is recoded as follows: Vocational = vocational school, Bachelor = bachelor's degree, Master = master's degree or higher, zero (reference value) = only primary and secondary school. Four area dummies are used: Uusimaa (includes the Helsinki metropolitan area), Southern Finland except Uusimaa region, Eastern Finland, Western Finland, zero (reference value) is Northern Finland. Since Finland is sparsely populated, a long distance to the nearest cultural facility might turn out to be an obstacle to attend as spectator.

Finland is considered as an omnivorous country in the European context (Virtanen 2007). The variety of tastes is large. Finnish citizens seem to consume a large range of cultural activities. Based on theatre attendance Finnish consumers could be classified as heavy-users. However, from the viewpoint of museum, cinema or concert attendance Finland does not belong to European top.

Generally speaking a more time-consuming transportation to the event will have a negative effect on the demand given a constant marginal utility coefficient and other things equal. Family restrictions and social characteristics are usually linked to gender. DiMaggio and Useem (1978) have proposed that arts and cultural consumption is a form of cultural capital and some persons use this capital as a substitute to the ownership of economic capital. If we assume that men have more ownership of economic capital, we would presume that women of lower incomes consume more highbrow culture in order to compensate the deficiency of economic capital.

The capital costs of cultural institutions and facilities are very high compared with the variable costs in terms of number of visitors, therefore most of the cultural events are held in facilities located in bigger cities. The time costs to rural consumers are higher. The effect of time costs is measured with area dummies and with a binary question: "the trips to the venue are too long". Any ticket price is not available in this survey, therefore the effect of ticket price is measured with a dummy variable indicating the personal feeling of the spectator of the ticket price. The binary question in the sample is: "the ticket price is too expensive". The supposition is that high prices, especially expensive opera tickets is an obstacle to participate. If the above reason is mentioned, then yes = 1, and if not, then no = 0. These two binary variables should correlate with unobservable ticket price. The domain specific knowledge necessary for con-

sumption of art is known as "taste" (McCain 2006)

The social characteristics that increase the possibility of attendance as spectator have an interesting consequence on survival. Konlaan, Bygren and Johansson (2000) show that there is a higher mortality risk for those people who rarely visited the cinema, museums or art exhibitions compared with those that visit most often1. A cohort of Swedish individuals aged 25 – 74 years were interviewed in 1982 and 1983. The cohort was followed with respect to survival for 14 year up to 1996. No beneficial effect of attending the theatre, church service or sports events as a spectator was found. Indeed the social capital or cultural capital invested in leisure increases the probability of survival more among those who have a larger variety of cultural participation than among those who have less activities (Hyyppä, Mäki, Impivaara and Aromaa 2005).

If the cultural event is unattainable due to long distance to the venue, consumers are unable to develop their tastes. Typically inhabitants in the countryside attend less than urban consumers since the venues are in larger cities.

To sum up, let us assume that cultural performance attendance depends on the following variables: expensive, distance, education, agei area, incomes, gender, where expensive and distance are dichotomous variables indicating the consumer's personal attitude to the preciousness of the entrance ticket or to the length of the trip to the cultural institution. Education, age, area and gender are socio-economic and demographic variables providing information of the individual. The education level can take three values: vocational, bachelor or master. The reference value is "elementary or secondary school" in the case of education. We use a ten year period in the age variable starting from 15 to 24 years and ending in 65 or higher. The reference value is 35 to 44 years. The annual personal and household income variable is not exact income, only the range with 5000€ intervals is available. In most of the analysis the household incomes are used as explanatory variable.

Preliminary analysis

To get an overview of the Finnish cultural consumption in autumn 2013, some simple statistics are shown below in table 1.

The table 1 above shows that about 30 % have been totally inactive during the last 6 months. They have not attended any cultural activity. The share of univore or rather univore,

n = 7859	# of activities	Share	Theatre	Museum	Art Exh	Classic	Opera	Pop	Folk	Dance	Movie	Horizontal sum
Inactive Univore	Inact., 0	29.4 %										
	1	21.5 %	23.9 %	15.4 %	6.7 %	2.9 %	0.8 %	15.5 %	1.1 %	1.8 %	31.9 %	100 %
	2	17.4 %	38.9 %	38.8 %	21.1 %	7.4 %	3.1 %	31.8 %	3.5 %	7.3 %	46.1 %	200 %
Omnivore	3	12.8 %	56.6 %	64.9 %	48.1 %	13.3 %	4.6 %	39.6 %	6.1 %	12.1 %	54.7 %	300 %
	4	8.7 %	68.3 %	80.8 %	69.9 %	28.5 %	11.0 %	46.8 %	8.4 %	17.9 %	68.4 %	400 %
	5	5.7 %	82.9 %	90.5 %	84.5 %	46.6 %	18.2 %	53.7 %	15.1 %	30.2 %	78.5 %	500 %
	6	2.7 %	88.9 %	94.0 %	93.5 %	66.7 %	35.2 %	61.6 %	25.5 %	49.1 %	85.7 %	600 %
	7	1.1 %	89.8 %	97.7 %	97.7 %	85.2 %	48.9 %	72.7 %	43.2 %	75.0 %	89.8 %	700 %
	8	0.5 %	100 %	100 %	94.7 %	97.4 %	57.9 %	89.5 %	71.1 %	92.1 %	97.4 %	800 %
	All 9	0.2. %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	900 %

Table 1: Descriptive statistics of cultural activities attendance in Finland collected in September – October 2013. I have visited in ( ) within the last 6 months.

who have been attending one, two or three different cultural activities, was a slightly more than 50 % (21.5 % + 17.4 % + 12.8 %). The main cultural activities that they have attended were theatre (56.6%), museum (64.9%), art exhibitions (48.1%), pop music concerts (39.6%) and movies at a cinema (54.7%) in the case of three activities. They have least attended opera (4.6%), folk music concerts (6.1%) and dance events (12.1%). In addition to theatre, museum, art exhibitions, pop music and movies at a cinema, they seem to favour classical music. The share of moderately omnivore, who has been attending four to six different cultural activities within last 6 months, was about 17 % (8.7 % + 5.7 % + 2.7 %). The cultural consumption structure of the less omnivore is similar than the rather univore group. Opera, folk music and dance have the lowest attendance figure among the moderately omnivore consumers. It must be noticed that the growth of the pop music's share in relation to rather univore attenders is substantially lower than the growth of classical music's share. The share of folk music or opera is the lowest among those who are moderately omnivore. Only 13 persons (0.2 % in the sample) have visited all 9 different cultural activities within the last 6 months.

Each category is unique in its own way and may appeal to different audiences. The rough classification does not indicate that the cultural activities should be viewed as alternative segments. For the reasons of data collecting time period these activities should be viewed as complementary or substitutionary depending on cross-price elasticity. Unfortunately the price data is not available and the complementary – substitutionary issue remains open.

Below in table 2 the female/male ratio as well as the 25th, median and 75th personal and household incomes of the consumption segments based on cultural activity are presented. The female/male ratio is lowest among the inactive (have not visited at all) and most univore (have visited only in one cultural sector) consumers. Also the ultimate omnivore group who attended all 9 different cultural activities during the last 6 months has more men than women but the number of those is very limited (0.2 % in the sample). Female dominance is highest among the moderately omnivore consumers (5 to 7 different cultural sectors). The inactive and

n = 7859			Gender	Personal incomes (1000€), range			Household incomes (1000€), range		
	# of activities	Share	Female/male - ratio	25th percentile	Median	75th percentile	25th percentile	Median	75th percentile
Inactive Univore	Inact., 0	29.4 %	0.67	<10	20 - 25	30 - 35	15 - 20	30 - 35	50 - 55
	1	21.5 %	0.95	<10	20 - 25	30 - 35	20 - 25	35 - 40	55 - 65
	2	17.4 %	1.07	10 - 15	20 - 25	35 - 40	20 - 25	40 - 45	55 - 65
	3	12.8 %	1.30	10 - 15	25 - 30	35 - 40	20 - 25	45 - 50	65 - 75
Omnivore	4	8.7 %	1.42	<10	25 - 30	35 - 40	20 - 25	40 - 45	65 - 75
	5	5.7 %	1.68	15 - 20	25 - 30	40 - 45	25 - 30	40 - 45	65 - 75
	6	2.7 %	1.60	10 - 15	25 - 30	40 - 45	25 - 30	45 - 50	65 - 75
	7	1.1 %	2.03	15 - 20	25 - 30	35 - 40	20 - 25	40 - 45	65 - 75
	8	0.5 %	1.24	10 - 15	25 - 30	40 - 45	25 - 30	45 - 50	55 - 65
	All 9	0.2 %	0.85		25 - 30			45 - 50	

Table 2: Gender and income statistics of cultural attendance groups (within last 6 months), from inactive (0), univore (1) to omnivore (9) groups in Finland.

Ordered Probit											
		Act = 0	Act = 1	Act = 2	Act = 3	Act = 4	Act = 5	Act = 6	Act = 7	Act = 8	Act = 9
	Coeff	MargE	MargE	MargE	MargE	MargE	MargE	MargE	MargE	MargE	MargE
Expensive	0.049*	-0.0164	-0.0031	0.0024	**0.0047**	**0.0048**	0.0040	0.0022	0.0009	0.0004	0.0002
Distance	0.058*	-0.0194	-0.0038	0.0028	**0.0055**	**0.0057**	0.0047	0.0026	0.0011	0.0005	0.0002
Vocational	0.408***	-0.1370	-0.0248	0.0200	**0.0386**	**0.0393**	0.0328	0.0179	0.0079	0.0037	0.0014
Bachelor	0.735***	-0.2099	-0.0714	0.0061	0.0530	**0.0695**	**0.0689**	0.0440	0.0223	0.0120	0.0054
Master	1.025***	-0.2687	-0.1073	-0.0089	0.0586	**0.0898**	**0.0980**	0.0682	0.0374	0.0218	0.0112
Age 15_24	0.491***	-0.1402	-0.0499	0.0036	0.0363	**0.0477**	**0.0470**	0.0296	0.0148	0.0078	0.0034
Age 25_34	0.013	-0.0045	-0.0009	0.0006	**0.0013**	**0.0013**	0.0011	0.0006	0.0003	0.0001	0.0000
Age 45_54	0.021	-0.0070	-0.0013	0.0010	**0.0020**	**0.0020**	0.0017	0.0009	0.0004	0.0002	0.0001
Age 55_64	0.073(*)	-0.0243	-0.0049	0.0034	**0.0069**	**0.0072**	0.0060	0.0033	0.0015	0.0007	0.0003
Age 65>	0.305***	-0.0978	-0.0232	0.0111	**0.0275**	**0.0300**	0.0262	0.0149	0.0068	0.0033	0.0013
Uusimaa	0.356***	-0.1093	-0.0312	0.0088	0.0300	**0.0351**	**0.0321**	0.0190	0.0090	0.0045	0.0018
Southern F	0.130***	-0.0429	-0.0090	0.0057	**0.0122**	**0.0128**	0.0108	0.0060	0.0027	0.0013	0.0005
Eastern F	0.070(*)	-0.0234	-0.0047	0.0032	**0.0067**	**0.0069**	0.0058	0.0032	0.0014	0.0007	0.0002
Western F	0.154***	-0.0506	-0.0107	0.0066	**0.0144**	**0.0151**	0.0128	0.0071	0.0032	0.0015	0.0006
Log HH inc	0.118***	-0.0395	-0.0074	0.0058	**0.0113**	**0.0115**	0.0095	0.0052	0.0023	0.0011	0.0004
Female	0.352***	-0.1179	-0.0218	0.0170	**0.0334**	**0.0341**	0.0284	0.0156	0.0069	0.0032	0.0012
Constant	μ_1= 0.609***	μ_2= 1.099**	μ_3= 1.537***	μ_4= 1.955***							
	μ_5= 2.411***	μ_6= 2.840***	μ_7= 3.226***	μ_8= 3.685***							

Table 3: Cultural attendance activity (within last 6 months) from 0 (inactive) to 9 (extremely omnivore), ordered probit analysis, coefficients and marginal effects of each variable. N = 7859. The two largest marginal effects coefficients are in bold.

most univore consumers seem to have the lowest personal or household incomes. If a person has visited at least two or three different cultural activities, the incomes seem to be higher than among the inactive or most univore consumers. If a person is more active (3 to 9 different activities) the median or incomes seem to remain rather constant.

The annual personal and household income variable is not exact income, only the range with 5000€ intervals is available.

The ordered probit analysis (below in table 3) seem to strengthen the role of gender (female) and household incomes (log HH inc), as well as the importance of education and age. The reference group is the analysis (below) is elementary school, age between 35 and 44, living in Northern Finland. The variable to be explained is formed in the following way: if a consumer has visited only one event (say opera) within the last 6 months, the variable gets value one, and if a consumer has visited three events (say opera, classical music event and museum), the variable gets value 3 and so on. Participation within 24 months but not within 6 months is not included.

Income is one of the most important determinants of cultural activities attendance identified in numerous studies. When attendance is a normal good, incomes increase attendance. However, this positive influence might be offset by the high opportunity cost of time. The effects of income on attendance reflect the net outcome of joint influences of pure income effect and a leisure-price substitution effect (Withers 1980). The leisure-price substitution effect is important in time-intensive activities (Zieba 2009 or Wen and Cheng 2013).

In our sample women are more active than men and household incomes have a positive impact on the number of different activities visited. The youngest (15 – 24 years) and oldest (more than 65) age group in the sample seem to be the most active and people living in the Uusi-

Multivariate Logit	Share = 29.4%		Share = 21.5%		Share = 30.2%		Share = 14.4%		Share = 4.5%	
	Act = 0		Act = 1		Act = 2 or 3		Act = 4 or 5		Act = 6, 7, 8, or 9	
	Coeff	MargE	Coeff	MargE	Coeff	MargE	Coeff	MargE	Coeff	MargE
Expensive		-0.042	0.159*		0.285***	0.044	0.178*		-0.115	-0.009
Distance		-0.043	0.141*		0.299***	0.047	0.190*		-0.068	-0.008
Vocational		-0.147	0.506***		0.703***	0.059	1.033***	0.069	1.128***	0.022
Bachelor		-0.243	0.651***	-0.047	1.152***	0.094	1.973***	0.149	2.151***	0.047
Master		-0.320	0.758***	-0.084	1.536***	0.131	2.650***	0.203	3.068***	0.071
Age 15_24		-0.192	0.672**		0.833***		1.571***	0.119	1.340***	0.024
Age 25_34		-0.043	0.255(*)		0.262*	0.035	0.117		-0.145	
Age 45_54			0.007		-0.137	-0.036	0.070		0.229	
Age 55_64			-0.109		-0.239*	-0.060	0.208	0.034	0.614**	0.024
Age 65>		-0.072	0.058	-0.045	0.278**		0.838***	0.078	1.098***	0.031
Uusimaa		-0.128	0.470**		0.489***		1.037***	0.078	1.370***	0.033
Southern F		-0.058	0.235*		0.245**		0.444***	0.032	0.403(*)	
Eastern F			0.129		0.012		0.259(*)	0.023	0.401(*)	
Western F		-0.062	0.252*		0.233*		0.466***	0.033	0.645**	0.016
Log HH inc		-0.059	0.238***		0.324***	0.037	0.301***	0.012	0.284***	
Female		-0.118	0.319***	-0.022	0.545***	0.041	0.951***	0.071	1.162***	0.027
Constant			-1.682***		-2.048***		-4.080***		-5.675***	
Reference group: Elementary school, age between 35 – 44, living in Northern Finland										

*Table 4: Cultural attendance activity (within last 6 months) from 0 (inactive) to 6, 7, 8 or 9 (omnivore), multivariate logit analysis, coefficients and marginal effects of each variable. Only the statistically (at least 10%) significant marginal effects are shown. ***, **, *, (*) significant at 0.1, 1, 5, 10 % level. The share of inactive (act = 0) is 29.4 % in the sample, and so on, n = 7859.*

maa region (including the capital city, Helsinki) are substantially more active cultural attenders. The effect of education is as expected clear, the more educated persons are more active than less educated.

In table 3 both the ordered probit model coefficients of each variable and the marginal effects are shown. For example the marginal effect of a person having a master's degree instead of having only elementary school education increases the probability of going to five different activities by 9.8 %. Equivalently a master's degree instead of having only elementary school decreases the probability of being inactive (act = 0) by 26.87 %. Surprisingly the dichotomous variables' coefficient measuring the distance ("the trips to the venue are too long") or ticket price ("the ticket price is too expensive") are positive. These indicate that even though consumers say that the distance to the cultural activity venue is too long, they yet attend. Moreover, consumers, who claim that culture is too expensive, still participate.

The leisure-price substitution effect can be verified from the marginal effects of household incomes. The effect is largest if the consumer attends four or five different activities. With a lower or a higher number of activities the marginal effect of household incomes is lower. The positive influence is seen with a lower number of activities and the negative leisure-price effect is valid with a higher (than five) number of activities. This result is in line with the proposition that marginal utility is diminishing.

The regional differences are substantial. In comparison to Northern Finland, where the residential density is low and distances long, people living in the more populated parts of Finland, especially Uusimaa region, or Southern or Western Finland, seem to participate more. In order to draw a more detailed point of view to the effects of these socio-economic variables on cultural consumption, a multivariate analysis is made. Due to computational reasons the analysis is multivariate logit. The results are shown below.

The coefficients and marginal effects of each variable are mainly similar in table 4 (multivariate logit) and table 3 (ordered probit) except that the marginal effects of age cohorts 45 – 54 and 55 – 64 are negative in the multivariate logit analysis and the number of activities visited is 2 or 3 and positive in the ordered probit analysis. The effect of consumers saying that the cultural participation is too expensive or the distance is too long are negative if a consumer is inactive (act = 0) or omnivore (act 6 to 9). Otherwise the effect is positive. Hence, the rather univore (act 2 or 3) do not feel that cultural consumption is too expensive or it is too far away. For robustness reasons the ordered logit analysis results are shown below in table 5. The role of human capital in terms of education is important.

The results in table 5 (ordered logit) and table 3 (ordered probit) are similar except that in the previous table the number of alternatives is higher due to more detailed separation.

In short, wealthier and highly educated women are omnivore in relation to less wealthy and less educated men. The youngest (15 – 24 years) and the oldest (more than 55) age cohorts in this sample are more omnivore than those consumers whose age is between 25 and 54. The results are in line with Cantell (1998), Laihiala (2009) or Purhonen (2014).

Since cultural consumers in this sample have 9 different alternatives where to go, it is important to see how any participation is correlated with the other alternatives. The Spearman correlation coefficient table is not shown due to length limitations of the paper but can be obtained from the author upon request.

Based on correlation coefficients it turns out that there are four separate groups: 1) popular music and movies at a cinema 2) dance and folk music, 3) museum and art exhibitions and 4) opera and classical music. The attendance to popular music events and movies at a cinema are positively correlated and these two are negatively correlated with all other categories. The same is true with other groups: mutual correlation positive and outside negative. The four groups are less interrelated.

Ordered Logit						
		Act = 0	Act = 1	Act = 2 or 3	Act = 4 or 5	Act =6, 7, 8 or 9
	Coeff	MargE	MargE	MargE	MargE	MargE
Expensive	0.100*	-0.0198	-0.0051	**0.0108**	**0.0106**	0.0036
Distance	0.119**	-0.0234	-0.0062	**0.0127**	**0.0126**	0.0043
Vocational	0.680***	-0.1353	-0.0329	**0.0727**	**0.0711**	0.0244
Bachelor	1.244***	-0.2038	-0.0897	**0.0748**	**0.1536**	0.0652
Master	1.767***	-0.2624	-0.1302	0.0584	**0.2219**	**0.1123**
Age 15_24	0.851***	-0.1378	-0.0654	**0.0514**	**0.1073**	0.0444
Age 25_34	0.044	-0.0086	-0.0023	**0.0047**	**0.0046**	0.0016
Age 45_54	0.008	-0.0016	-0.0004	**0.0009**	**0.0009**	0.0003
Age 55_64	0.081	-0.0159	-0.0043	**0.0086**	**0.0086**	0.0029
Age 65>	0.499***	-0.0938	-0.0299	**0.0481**	**0.0558**	0.0199
Uusimaa	0.601***	-0.1068	-0.0410	**0.0500**	**0.0710**	0.0267
Southern F	0.243***	-0.0471	-0.0135	**0.0251**	**0.0263**	0.0091
Eastern F	0.131(*)	-0.0255	-0.0071	**0.0137**	**0.0141**	0.0048
Western F	0.277***	-0.0535	-0.0156	**0.0284**	**0.0302**	0.0105
Log HH inc	0.205***	-0.0408	-0.0104	**0.0224**	**0.0216**	0.0073
Female	0.589***	-0.1169	-0.0292	**0.0630**	**0.0619**	0.0212
Constant	-1.107***					
	μ_1= 1.004*** μ_2= 2.561*** μ_3= 4.231***					

Table 5: Cultural attendance activity (within last 6 months) from 0 (inactive) to 6, 7, 8 or 9 (omnivore), ordered logit analysis, coefficients and marginal effects of each variable.

Probit	Visited theater				Visited museum				Visited Art Exhibition			
	The6		The24		Mus6		Mus24		ArtE6		ArtE24	
	Coeff	MargE	Coeff	MargE	Coeff	MargE	Coeff	MargE	Coeff	MargE	Coeff	MargE
Expensive	0.060$^{(*)}$	0.022	0.063*	0.023	0.015		0.082**	0.031	-0.030		0.017	
Distance	0.107***	0.039	0.110***	0.041	0.075*	0.028	0.111***	0.042	0.094**	0.030	0.161***	0.064
Vocational	0.245***	0.088	0.309***	0.116	0.346***	0.126	0.392***	0.149	0.404***	0.128	0.463***	0.183
Bachelor	0.456***	0.172	0.593***	0.203	0.656***	0.252	0.784***	0.267	0.744***	0.264	0.888***	0.335
Master	0.592***	0.225	0.896***	0.286	0.960***	0.367	1.087***	0.345	1.101***	0.398	1.247***	0.443
Age 15_24	0.182$^{(*)}$	0.068	0.490***	0.164	0.255**	0.097	0.443***	0.155	0.346***	0.121	0.427***	0.167
Age 25_34	-0.145*	-0.051	-0.025		-0.104$^{(*)}$	-0.037	-0.076		-0.110$^{(*)}$	-0.034	-0.165**	-0.065
Age 45_54	0.200***	0.074	0.199***	0.073	0.064		0.050		0.188***	0.062	0.060	
Age 55_64	0.422***	0.158	0.430***	0.152	0.157**	0.058	0.150**	0.057	0.400***	0.136	0.304***	0.121
Age 65>	0.813***	0.305	0.874***	0.292	0.375***	0.141	0.439***	0.161	0.630***	0.216	0.594***	0.233
Uusimaa	0.228***	0.085	0.323***	0.114	0.404***	0.155	0.425***	0.152	0.232***	0.078	0.273***	0.108
Southern F	0.284***	0.105	0.362***	0.131	0.189***	0.070	0.212***	0.080	-0.003		0.025	
Eastern F	0.101***	0.037	0.179***	0.065	0.013		0.036		-0.065		-0.050	
Western F	0.344***	0.127	0.406***	0.145	0.180***	0.067	0.158***	0.060	-0.036		-0.031	
Log HH inc	0.141***	0.051	0.217***	0.081	0.030$^{(*)}$	0.011	0.090***	0.034	-0.000		0.029	
Female	0.455***	0.163	0.573***	0.212	0.203***	0.074	0.222***	0.085	0.370***	0.118	0.414***	0.164
Constant	-1.88***		-1.48***		-1.38***		-0.935***		-1.741***		-1.271***	
McFadden pseudo R^2	0.081		0.114		0.054		0.070		0.076		0.090	
Fit measures:												
- Efron	0.100		0.145		0.068		0.090		0.089		0.119	
- McFadden	0.081		0.114		0.054		0.070		0.076		0.090	
- Ben-Akiva /Lerman	0.596		0.598		0.577		0.565		0.642		0.560	

*Table 6: Probit results, legend: The6 = visited theater within last 6 months, The24 = visited theater within last 24 months and so on. N = 7859. Only the statistically significant (at least 10%) marginal effects are shown. ***, **, *, (*) significant at 0.1, 1, 5, 10 % level.*

Probit	Visited classical music concert				Visited opera				Visited Pop music concert			
	Cla6		Cla24		Ope6		Ope24		Pop6		Pop24	
	Coeff	MargE	Coeff	MargE	Coeff	MargE	Coeff	MargE	Coeff	MargE	Coeff	MargE
Expensive	-0.144***	-0.024	-0.089**	-0.027	-0.181***	-0.015	-0.211***	-0.041	0.062$^{(*)}$	0.019	0.088**	0.034
Distance	-0.048		0.055		-0.095$^{(*)}$	-0.008	0.063		0.070$^{(*)}$	0.021	0.053$^{(*)}$	0.021
Vocational	0.387***	0.067	0.384***	0.117	0.290**	0.025	0.386***	0.077	0.363***	0.107	0.342***	0.133
Bachelor	0.734***	0.165	0.839***	0.293	0.541***	0.062	0.796***	0.204	0.601***	0.199	0.666***	0.261
Master	1.106***	0.279	1.183***	0.421	0.849***	0.116	1.080***	0.298	0.580***	0.192	0.625***	0.245
Age 15_24	0.336*	0.070	0.345***	0.117	0.289$^{(*)}$	0.031	0.241$^{(*)}$	0.054	0.309***	0.101	0.435***	0.172
Age 25_34	-0.138		-0.155*	-0.045	-0.122		-0.020		0.138*	0.043	0.138*	0.054
Age 45_54	0.240***	0.045	0.233***	0.071	0.168$^{(*)}$	0.016	0.169*	0.036	-0.180***	-0.051	-0.099*	-0.039
Age 55_64	0.510***	0.104	0.490***	0.163	0.374***	0.038	0.404***	0.091	-0.443***	-0.118	-0.426***	-0.161
Age 65>	0.921***	0.205	0.897***	0.306	0.724***	0.085	0.796***	0.194	-0.891***	-0.219	-0.884***	-0.316
Uusimaa	0.225**	0.043	0.260***	0.085	0.547***	0.067	0.725***	0.192	0.222***	0.070	0.233***	0.092
Southern F	-0.049		0.007		0.178*	0.016	0.213***	0.045	0.083		0.097*	0.038
Eastern F	0.052		-0.007		0.337***	0.035	0.240***	0.052	0.017		0.049	
Western F	0.011		-0.001		0.240**	0.023	0.146*	0.030	0.091$^{(*)}$	0.027	0.090$^{(*)}$	0.035
Log HH inc	0.028		0.037$^{(*)}$	0.011	0.043		0.108***	0.022	0.087***	0.026	0.143***	0.056
Female	0.366***	0.063	0.406***	0.124	0.279***	0.024	0.368***	0.074	0.035		0.044	
Constant	-2.443***		-1.987***		-2.832***				-1.126***		-0.707***	
McFadden pseudo R^2	0.111		0.110		0.089		0.118		0.086		0.098	
Fit measures:												
- Efron	0.098		0.129		0.046		0.107		0.092		0.129	
- McFadden	0.111		0.110		0.089		0.118		0.086		0.098	
- Ben-Akiva /Lerman	0.806		0.666		0.905		0.775		0.667		0.572	

*Table 7: Probit results, legend: Cla6 = visited classical music concert within last 6 months, Cla24 = visited classical music concert within last 24 months and so on. N = 7859. Only the statistically significant (at least 10%) marginal effects are shown. ***, **, *, (*) significant at 0.1, 1, 5, 10 % level.*

Theatre attendance is a uniform species. However, without ticket price data, it is difficult to interpret whether these cultural attractions are substitutes or complements in consumption. The other separate group of visitors seem to favour classical music and opera. The mutual attendance correlation is positive while the correlation is negative with any other cultural event or attraction. The third separate group seem to go to dance or folk music events. The fourth separate group consist of pop music and movies at a cinema attenders. The dendrogram of a cluster analysis2 supports the results of the correlation analysis. The cluster analysis is based on the original3 (and not recoded). First classical music and opera visitors have the shortest distance and secondly museum and art exhibition visitors are closest. The distance between pop music and classical music event participants seems to be the longest.

Since the audiences of different cultural events are notably separated, it is useful to make a probit analysis according to the cultural type.

Analysis according to the cultural event type

Each cultural event type is unique on its own way and appeal to different audiences. In tables 6, 7 and 8 the bivariate probit analysis results of each category is presented. In each table there are two probit results for every category, first the results if the consumer had visited within the last 6 months and second if the consumer had visited within the last 24 months (including the within the last 6 months).

At first glance, a binary approach to participation may seem a quite crude procedure. It does not take into account the frequency of participation but a binary measure avoids the possible measurement error due to mistakes in respondents' recall.

Probit	Visited folk music concert				Visited dance event				Visited movies at a cinema			
	Folk6		Folk24		Dan6		Dan24		Mov6		Mov24	
	Coeff	MargE	Coeff	MargE	Coeff	MargE	Coeff	MargE	Coeff	MargE	Coeff	MargE
Expensive	0.009		0.037		0.075$^{(*)}$	0.012	0.073*	0.023	0.141***	0.053	0.126***	0.045
Distance	0.144**	0.014	0.165		-0.014		0.016		-0.113***	-0.042	0.008	
Vocational	0.128		0.127*	0.037	0.047		0.151**	0.047	0.262***	0.097	0.335***	0.121
Bachelor	0.211*	0.022	0.305***	0.028	0.125		0.386***	0.129	0.481***	0.185	0.631***	0.204
Master	0.310**	0.035	0.318***	0.073	0.302***	0.054	0.379***	0.126	0.640***	0.247	0.708***	0.224
Age 15_24	0.186		0.157	0.077	0.248*	0.046	0.409***	0.142	0.778***	0.303	0.825***	0.232
Age 25_34	-0.154		-0.079		-0.114		-0.004		0.281***	0.108	0.295***	0.100
Age 45_54	-0.038		0.062		-0.069		0.025		-0.138**	-0.051	-0.190***	-0.070
Age 55_64	0.138$^{(*)}$	0.014	0.218***	0.050	-0.046		0.073		-0.309***	-0.111	-0.478***	-0.180
Age 65>	0.249**	0.026	0.404***	0.097	0.096		0.180***	0.057	-0.349***	-0.125	-0.443***	-0.166
Uusimaa	-0.235*	-0.019	-0.320***	-0.061	0.082		0.128*	0.041	0.437***	0.169	0.456***	0.150
Southern F	-0.375***	-0.031	-0.351***	-0.070	0.001		0.047		0.132**	0.050	0.175***	0.062
Eastern F	-0.131$^{(*)}$	-0.012	-0.162**	-0.033	0.177*	0.030	0.154**	0.049	0.107*	0.040	0.188***	0.066
Western F	-0.255***	-0.022	-0.221***	-0.046	0.081		0.010		0.126**	0.047	0.158***	0.056
Log HH inc	0.089		0.031		0.120***	0.019	0.109***	0.034	0.144***	0.054	0.216***	0.078
Female	0.084$^{(*)}$	0.008	0.060		0.324***	0.052	0.372***	0.115	0.183***	0.068	0.169***	0.061
Constant	-1.876***		-1.385***		-1.921***		-1.489***		-1.088***		-0.469***	
McFadden pseudo R^2	0.026		0.030		0.028		0.032		0.077		0.091	
Fit measures:												
- Efron	0.010		0.024		0.017		0.035		0.099		0.109	
- McFadden	0.026		0.030		0.028		0.032		0.077		0.091	
- Ben-Akiva /Lerman	0.908		0.761		0.834		0.642		0.583		0.596	

*Table 8: Probit results, legend: Folk6 = visited folk music concert within last 6 months, Folk24 = visited folk music concert within last 24 months and so on. N = 7859. Only the statistically significant (at least 10%) marginal effects are shown. ***, **, *, (*) significant at 0.1, 1, 5, 10 % level.*

The respondents were asked about the costs: "the ticket price is too expensive". In tables above the binary question is titled "expensive". It is significantly negative only in the cases of opera and classical music. Otherwise the coefficient is positive (theater, pop music event, dance event or movies at a cinema) or insignificant. It must be recalled from table 1 that among the rather univore consumers – who have visited one, two or three different cultural activities within the last 6 months - the share of opera or classical music is fairly small. The ticket price of a concert by Helsinki Philharmonic Orchestra varied from 17.50€ to 5€ in autumn 2007. The average ticket price in Finnish National Opera was 33.19€. The average ticket price in all subsidised by law theatres (n = 56) was 15.09€. In drama theatres the average ticket price was 16.49€ while in dance theatres it was only 4.46€. The second binary question in tables 6, 7 and 8 is about the length of the trip to the culture place ("distance"). It is significantly negative only in the cases of opera or movies at a cinema. In Finland there is only one permanent opera house in Helsinki but there are more than 10 area operas. These local operas are not funded by the law. The groups received discretionary state subsidies from the lottery funding. The network of area operas is more scattered than the network of theatres. The coefficient of distance is, however, positive in most cases. It seems that the two binary questions about ticket price and distance to the venue do not form a barrier to participate most of cultural events.

The effect of education is, as expected, positive. A higher education seems to have a more positive impact on visiting or attending cultural activities. The marginal effect of education for folk music or dance event seem to be milder than for any other event. Age has a considerable influence on participation. In most of the cultural events, the effect is saucer-shaped (see figure 1 below).

The reference age group, 35 – 44 years, has been set zero, in the estimation. All other marginal effects must be valued in relation to this reference age cohort. The age cohort 25 – 34 year old seem to have a lower museum, art exhibition and theater attendance. The marginal effect of age is falling in the case of pop concerts or movies at a cinema. Elderly people, especially older than 65 seem to have plenty of time to visit all events, however, they do not go to dance events, pop concerts and movies at a cinema.

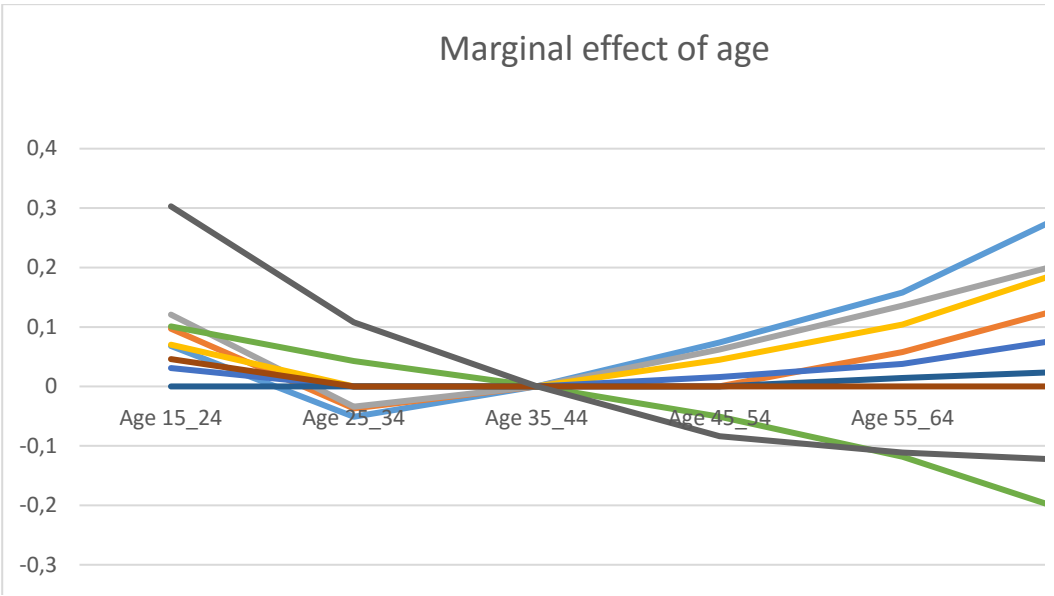

Figure 1: The marginal effect of age on cultural consumption

The life-cycle of a consumer has typically three stages: 1) entering into the labour market (ages 15-24 and/or 25-34 depending on the length of the education), 2) childcare, and 3) health problems and lower mobility (ages 55 and over). If childcare is connected to ages 25-34, it seems to have a restrictive effect on each cultural activity attendance based on the marginal effects of age. On the other view, if a person's human capital increases with age and we have a learning-by-consuming effect, elder consumers have more experiences and they indeed show this with attending more opera and classical music performances and art exhibitions as seen in figure 2. Since it seems that person is better off through experience consuming a good or through a process of learning-by-consuming. The explanatory power (McFadden pseudo R2) is weak indicating that the process of the taste cultivation is mainly random. The decision to participate is hardly explained by gender, income, education and the place of residence variables.

Women are more active in cultural participation in all categories except pop music concerts. There are no gender differences in pop music concert participation. Visiting theater seems to have the strongest marginal effect of gender. Household incomes have a positive effect on participation in all cultural events except art exhibitions and folk music events. The coefficient of household incomes is not significant in the case of visited classical music concert or opera within last 6 months. In the case of visiting these events within last 24 months the effect of households is positive.

The reference area in the estimations is Northern Finland (FIA1 in the map). The results show that in other large areas (NUTS 2) the cultural participation is higher than in the Northern Finland except for folk music events. The most important annual folk music festival is held at Kaustinen which is located in the reference area, FI1A. The population density and also the cultural institutions density in the Northern Finland is lower than elsewhere. The Western (FI19) or Eastern (FI13) or Southern (F118 excluding Uusimaa region) do not differ from Northern Finland in the following categories: Art exhibition or Classical music. Pop music concert visitors in the Western Finland or Uusimaa region are significantly different from the rest of Finland.

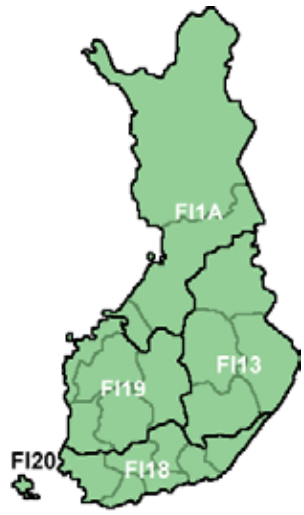

Figure 2: NUTS2 areas in Finland, Uusimaa region is the Capital region in FI18

The probit analyses above reveal that folk music events' participation appears to be quite different from the other categories. Although highly educated women seem to fairly omnivore, the folk music people seem to be rather univore. Since 50 % in the sample have decided to participate at least two different cultural events or have visited at least two different cultural institutions, it is useful to estimate the participation decision using a bivariate probit model. In some contexts the sample averages of the marginal effects are interesting since the characteristics of the audience affects the entire pattern of multivariate outcomes. The bivariate probit approach for the possibility that attitudes towards two cultural events are jointly determined, rather than a result of independent processes. With bivariate probit analysis, we get an estimate of the interrelatedness of the two decisions considered. A statistically significant error covariance estimate indicates that the participation decisions are interrelated, and the coefficient estimates are describing better the

behaviour than those generated by the use of traditional binomial approach.

Using a bivariate probit approach to the data yields some interesting results. The results for museum attendance together with art exhibition attendance are presented below in the left side of the table. Only the statistically significant marginal effects are shown. The total marginal effect can be divided into direct and indirect marginal effect. For example, the visitor's education has a positive impact on museum attendance but simultaneously also a positive impact on art exhibition attendance reducing the overall impact. If a person has a bachelor's degree then the person is more probable (0.276) than a person without any formal education except comprehensive school to visit a museum but he/she is also more probable to visit art exhibition (0.195). The overall effect is the difference of these (0.082). This result does not, however, indicate that museum and art exhibition attendance are substitutes in consumption since the price data is not available. Museum and art exhibition attendance can also be complements. Anyway the marginal effects of education show that museum and art exhibition attendance are interrelated. The correlation coefficient of error terms (ρ) is positive in all estimations in which museum attendance is considered together with some other cultural event indicating that all cultural events are interrelated. The largest positive correlation coefficient of error terms is in the case of museum and art exhibition attendance (ρ = 0.758). These are nearest in the dendrogram of a cluster analysis. Ignoring the interrelated decision making might lead to false interpretations when some socio-economic variables or conditions change in the region.

The other bivariate probit analysis results can be obtained from the author. If ρ equals zero, the bivariate model consists of two independent probit equations, which can be estimated separately (Greene 2008, 820). In table 10 (below) all correlation coefficients of each bivariate probit models are presented. They are all significantly positive indicating that the

Bivariate probit										
	Mus06	Total	direct	indirect	ArtE06	Mus06	Total	direct	indirect	Cla06
	Coeff	MargE	MargE	MargE	Coeff	Coeff	MargE	MargE	MargE	Coeff
Expensive	0.013				-0.028	0.015	0.025		0.019	-0.127**
Distance	0.078*		0.033	-0.027	0.104**	0.075*	0.035	0.030		-0.032
Vocational	0.342***	0.041	0.145	-0.105	0.399***	0.345***	0.082	0.139	-0.057	0.383***
Bachelor	0.651***	0.082	0.276	-0.195	0.743***	0.655***	0.155	0.264	-0.109	0.735***
Master	0.955***	0.117	0.405	-0.288	1.099***	0.960***	0.224	0.387	-0.164	1.103***
Age 15_24	0.255**		0.108	-0.089	0.341***	0.254**		0.102	-0.053	0.360**
Age 25_34	-0.103(*)		-0.044	0.032	-0.121(*)	-0.103(*)		-0.042	0.023	-0.157(*)
Age 45_54	0.065			-0.048	0.183***	0.064			-0.036	0.244***
Age 55_64	0.159***	-0.036	0.068	-0.104	0.396***	0.156**		0.063	-0.075	0.509***
Age 65>	0.376***		0.160	-0.165	0.628***	0.375***		0.151	-0.137	0.924***
Uusimaa	0.402***	0.110	0.171	-0.060	0.230***	0.404***	0.130	0.163	-0.033	0.224**
Southern F	0.183***	0.080	0.078		-0.007	0.189***	0.084	0.076		-0.053
Eastern F	0.010				-0.065	0.012				0.047
Western F	0.177***	0.086	0.075		-0.041	0.180***	0.072	0.073		0.003
Log HH inc	0.030(*)	0.012	0.013		0.002	0.031(*)		0.012		0.031
Female	0.204***		0.087	-0.098	0.374***	0.204***	0.028	0.082	-0.054	0.366***
Constant	-1.377***				-1.742***	-1.383***				-2.454***
ρ	0.758***					0.436***				
McFadden pseudo R^2										
Fit measures:										

*Table 9: Bivariate probit results. Legend: Muso6 = visited museum within last 6 months, ArtEo6 = visited art exhibition within last 6 months. Clao6 = visited classical music concert within last 6 months. N = 7859. Only the statistically significant (at least 10%) marginal effects are shown. ***, **, *, (*) significant at 0.1, 1, 5, 10 % level.*

ρ	The6	Mus6	ArtE6	Cla6	Ope6	Pop6	Folk6	Dan6	Mov6
The6	1	0.416	0.364	0.368	0.380	0.320	0.266	0.357	0.394
Mus6		1	0.758	0.436	0.343	0.283	0.282	0.322	0.346
ArtE6			1	0.503	0.387	0.293	0.330	0.384	0.334
Cla6				1	0.614	0.248	0.387	0.349	0.283
Ope6					1	0.152	0.207	0.306	0.219
Pop6						1	0.460	0.342	0.322
Folk6							1	0.576	0.213
Dan6								1	0.323
Mov6									1

Table 10: Correlation coefficient of the error terms in bivariate probit models.

decisions to participate any cultural event are interrelated and any attendance is determined jointly. A multivariate probit model might be in principle useful here, but due to difficulties of efficient estimation procedure it is not used. A multivariate probit model is an extension to more than two outcome variables by adding equations.

After having controlled for other factors, people in all categories tend to have similar participation motivations since the correlation coefficients of the error terms in bivariate probit models are all positive and significant. Some of the Spearman correlation coefficients are negative but the correlation coefficients of the error terms in bivariate probit models are all positive indicating that after controlling the impacts of gender, household incomes, education and the place of residence the motivations to visit cultural events or institutions are similar. This result seem to suggest that although the McFadden pseudo R2 is low the socio-economic factors explaining cultural participation are indeed important in classifying participants into active (or omnivore) and inactive groups.

Conclusions

We show significant and positive correlations across different cultural categories using a bivariate probit model indicating that the internal motivation to attend these events is similar among consumers but only after the socio-economic factors have been taken into account. However, the distribution of state subsidises is far from equal. Highly educated women in southern Finland seem to receive a larger share of subsidises in the form of lower ticket prices. Nevertheless, the theater network in Finland is wide and the incidence of state subsidises is therefore more equal across different regions in Finland. Visits to theater and movies at a cinema are among the most popular cultural events that should be subsidised more equally since theater is favoured by elderly citizens while movies have a younger audience. Most arts and cultural policies have been validated by the assumption that attendance is deterred by high prices. Such policies are aiming at keeping prices low through subsidises in the form of state support to the organising institution. This is important when the fixed costs of the institution are high. Yet, the support channel directly to customers by giving them a voucher might turn out to be more equal.

Incomes, education and learning experiences accumulated and associated with age are important factors in the demand for arts, however, there are exceptions in Finland. The demand for folk music cannot be explained by differences in household's incomes. Folk music category is more separated and not very popular among Finnish consumers. Dance events and folk music seem to have the smallest distance and all other categories are more far away. Perhaps participation in the folk music events is a deeply social phenomenon as Upright (2004) points out.

While there are significant differences and similarities in the audience composition of different cultural events, we cannot argue that different arts compete for audiences since the ticket price is anyway rather low and not deterring attendance. The data available does not enable us to study the complementarity or substitutability issue. However, highly educated wealthy women are more omnivore than less educated men who more frequently belong to

the univore or inactive group. Roughly half of the consumers in the sample have visited only one cultural event or no events at all during the last 6 months. This inactive or univore group is dominated by male consumers. This is in line with the results of Cantell (1998). This observation is in line with the presumption of DiMaggio and Useem (1978) who argue that women use cultural consumption as a substitute for the ownership of economic capital.

Cultural consumption is a substitute for television watching is time constraints are likely to occur. However, the human capital and taste development approaches suggest that several cultural activities are complements if consumers engage in one activity and this increases human capital and taste needed for other activities. The substitution effect due to time constraints and the complementary effect due to taste development are likely opposite and therefore more demanding cultural activities like opera performances and classical music concerts are probably complements. Moreover, movies at a cinema and opera performances seem to be exclusionary.

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Endnotes

1. Cultural stimulation has an influence on prolactin and blood pressure levels (Konlaan, Björby, Bygren, Weissglas, Karlsson and Widmark, 2000). They argue that the results could be interpreted as demonstrating the effect of selecting people enjoying cultural events or their social networks.

2. Unweighted pair group method with arithmetic mean method. At each step, the nearest two clusters are combined into a higher-level cluster. The distance between any two clusters "Museum" and "ArtExh" is taken to be the average if all distances between pair of objects of *x in Museum* and *y in ArtExh.* The distance in cluster analysis can be measured in many ways, for example Euclidean distance , Mahalanobis distance where S the covariance matrix, of Cosine similarity . The dendrogram or hierarchical tree shown reflects the structure in a pairwise similarity matrix (for example Chatfield and Collins 1980).

3. Coded: visited within 6 months = 1, visited within 24 months = 2, less often = 3, never = 4. In probit analysis: visited within 6 months = 1, visited within 24 months = 0, less often = 0, never = 0. The dendrogram is not shown here but can be obtained from the author.