ASSESSING PATTERNS OF HOUSEHOLD EXPENDITURES
ON RECREATION AND CULTURE IN TURKEY IN 2003

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ABSTRACT

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The rising importance of culture in social cohesion and economic development necessitates the analysis of cultural consumption from an economic point of view. This is important to understand household profiles which provide a certain typology on the socio-economic and demographic patterns of cultural consumption. In this thesis, we identify the households that spend on recreation and culture, the amount they spend and the potential factors that impact households' recreation and culture expenditures in Turkey using the 2003 Household Budget Survey of the Turkish Statistical Institute. The results of a multivariate Tobit analyses suggest that total household expenditures, household size and its composition, age of household head and higher education level and place of residence are significant determinants of a household's expenditures on recreation and culture in Turkey. Our results also indicate recreation and culture to be luxury goods with an estimated income elasticity of 1.55. The multivariate analyses also showed very different expenditure patterns among household residing in different regions of the country. While this result may indicate different tastes and preferences of households residing in different regions it may also be that the supply of cultural goods differ between regions. The impacts of education level together with the socioeconomic factors on household recreation and culture expenditures provide useful insights not only for the suppliers of recreational and cultural goods and services, but also for the policy makers who can influence household consumption behavior (that includes both

participation and spending) through using both demand and supply-side instruments.

ÖZ

2003 YILINDA TÜRKİYE'DE HANEHALKI EĞLENCE VE KÜLTÜR HARCAMA ÖRÜNTÜLERİNİN İNCELENMESİ

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Kültür kavramı sosyal içerme ve kalkınma konularında giderek önem kazanmaktadır. Bu olgu, kültür tüketiminin iktisadi bakış açısından incelenmesini gerekli kılıyor. Böyle bir inceleme hanehalkı profillerini anlamamıza yardımcı olmakla beraber, hanehalklarının kültür tüketimlerindeki sosyoekonomik ve demografik örüntüleri de gösteriyor. Bu tezde, Türkiye'deki hanehalklarının eğlence ve kültür üzerine ne harcadıklarını ve bu harcamaları etkileyebilecek olası faktörleri Türkiye İstatistik Kurumu'nun 2003 Hanehalkı Bütçe Anketi'ni kullanarak saptamaya çalıştık. Tobit çoklu değişken analizlerimizin sonuçları gösteriyor ki; toplam hanehalkı harcaması, hanehalkı büyüklüğü ve yapısı, hanehalkı reisinin yaşı, eğitim düzeyi ve yaşanan bölge Türkiye'de hanehalkı eğlence ve kültür harcamalarını etkileyen önemli faktörlerdir. Engel analizlerinden elde ettiğimiz gelir esnekliği katsayısı (e=1.55) eğlence ve kültür mallarının lüks mal olduğunu gösterdi. Çoklu değişken analizlerinden, farklı bölgelerde yaşayan hanehalklarının çok farklı harcama örüntüleri olduğunu gördük. Bunun nedeni; farklı tüketim tercihlerinin yanısıra, bölgelerin farklı düzeylerdeki eğlence ve kültür arzı da olabilir. Bu tezde incelendiği üzere; eğitim düzeyinin ve sosyoekonomik faktörlerin eğlence ve kültür harcamaları üzerindeki etkileri, sadece bu malları üretenler için değil; aynı zamanda politika yapıcılar için de önemli ipuçları vermekte. Bu tezin, hanehalklarının eğlence ve kültür tüketim (katılım ve harcama) alışkanlıklarını etkileyebilecek talep ve arz yönlü politikalarını tasarlayanlar için yarar sağlayabileceği düşünülmüştür.

Anahtar Kelimeler: Kültür Ekonomisi, Kültür Tüketimi, Hanehalkı Eğlence ve Kültür Harcamaları, Türkiye

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CHAPTER 1

INTRODUCTION

In the last few decades, researchers from different disciplines have shown great interest in analyzing the role of culture in social cohesion and economic development. As culture gained more importance in social and economic development issues, it is no longer a marginal or an add-on topic. Particularly, there is mounting interest in evidence-based policy making within the cultural field. Policy makers are interested in understanding the interaction between culture and social and economic mechanisms. Therefore, there is a great need to collect empirical evidence showing the interplay between culture and its various components and social and economic development.

Let us first begin with what it is understood from the word "culture". Culture is defined in many ways. In some cases, the notion is mentioned under the broader definitions of recreation and leisure when "culture" is considered as a set of activities. It appears under "recreational and cultural activities", as sports, gardening, outdoor activities, gambling, entertainment, cinema, watching dance performances, concerts and the like, which are all activities considered to increase leisure quality. Although there is not "a" definition, The Universal Declaration on Cultural Diversity (2001) by UNESCO[1] provides a holistic definition for culture as "the set of distinctive spiritual, material, intellectual and emotional features of society or a social group, and that it encompasses, in addition to art and literature, lifestyles, ways of living together, value systems, traditions and beliefs". In narrower terms, the intellectual component of culture is materialized as cultural goods and services. Such as the consumption and creation of audiovisual products (CD, DVD, IT software), photographic and data processing equipment, recreational and cultural services (museums, galleries, festivals, outdoor-indoor artistic events), newspapers,

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[1] United Nations Educational, Scientific and Cultural Organization.

books and magazines all fall under the field of cultural or so-called "creative" industries.

The rising importance of culture in studies and in development policy making points to a paradigm shift in development thinking. The shift was mainly triggered by the *Human Development Reports* of United Nations Development Program (UNDP) and the "human capability" approach of Sen (1990) who pointed out that enhancement of the capacities of people would lead the sorts of lives they desire, including their access to cultural resources and cultural participation (Sen 1990:41-58 cited in Throsby 2008:2).

Within this paradigm change in the understanding of sustainable development, culture has played a key role in the discussions of its social and economic impacts. The social and economic outcomes of culture are now being more advocated than ever. As UNDP[2] (2008) states "...*culture provides the social basis that allows for stimulating creativity, innovation, human progress and well-being. In this sense, culture can be seen as a driving force for human development, in respect of economic growth and also as a means of leading a more fulfilling intellectual, emotional, moral and spiritual life...*". More follows by Throsby (2001:124), emphasizing that "culture serves as a catalyst for community identity, creativity and social cohesion and for the economy in terms of cultural industries".

The social impacts of culture has been studied extensively under many themes, such as social cohesion, personal development, civic participation, community empowerment and self determination, health and well-being and building social trust, which all in return increase social capital (See, for example, Matarasso, 1997; Stanley, 2006; Statistics Canada, 2004; Gordon and Beilby-Orrin-OECD 2006). A research funded by the *Canada Council for the Arts* has shown that in Canada there is a positive relationship between attendance in cultural activities and social engagement. The percentage of performing arts attendees volunteering for a non-profit organization (48%) is much higher than the percentage of non-attendees

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(28%). It is found that the more people get involved in cultural activities, the more engaged they become in volunteering, donating, and have more sense of pride (Hill Strategies Research, 2008:36).

The economic impact of culture has also received significant attention. The OECD estimates show that in 2002 and 2003, the economic contribution of cultural industries to national GDP has been around 3.3 to 5.8 per cent in Canada, UK and USA (See Gordon and Beilby-Orrin, 2006). A more recent study in UK shows that creative industries, which combines the creation-production and distribution of goods and services that are cultural in nature and have intellectual property rights, have mounted up to 7 percent of UK's GDP (See UK DCMS *Creative Industries Fact File* estimates (2007)).

What drives culture both socially and economically is not an easy question to answer. There are different players which interact differently and influence the outcome of the cultural sphere. Table 1.1 lists the various players in this sphere and the linkages that lead to social and economic outcomes of culture.

Table 1.1 Players, Linkages and Outcomes in Culture

Players	• Establishments (that make and/or distribute goods and services) • Individuals (consumers/labor) • Government • Service support • Associations, including labor unions
Linkages	• Creative chain (production and supply) • Consumption (participation and demand)
Outcomes	• Social impacts • Economic impacts

Source: Statistics Canada (2004), p. 7

For a better understanding of the role of culture and its end impact necessitates a framework showing all players and outcomes through right linkages. Again, *Statistics Canada* has laid out a comprehensive framework of the cultural sector (see next page):

Figure 1.1 Framework of the Cultural Sector

Figure 1.1 shows the creative chain (that covers creation, production, manufacturing and distribution of cultural goods and services) and consumption of cultural goods and services. The "creative chain" starts with the creation of cultural goods and services, continues with the production and manufacturing, and ends with the distribution of the cultural goods and services. The consumption of cultural goods and services leads to social and economic outcomes. Each stage of the creative chain and the consumption of cultural goods and services are influenced by economic, social and cultural factors and policies (Statistics Canada, 2004:17). Policy makers, for instance, may be interested in establishing the levers in the creative chain that may lead to changes in the behavior of consumers or measures that the government can implement with respect to a specific cultural good or services in order to influence consumer's behavior in the consumption of such goods and services. In addition to policy instruments, education is an important factor. It influences the outcomes of both the creative chain and consumption. For instance, the level of education affects the creation of a cultural good or service. For consumption, it shapes consumer's appreciation on the cultural good or service and hence, affects the social and economic impact (Statistics Canada, 2004:12).

The consumption of cultural goods and services not only play an incentive role for sustaining the production of culture goods and services but also generates important economic and social externalities for the whole society (Statistics Canada, 2004:12). To evaluate the economic and social outcomes that culture can bring in we need to understand the consumption of cultural goods and services together

with the knowledge of the consumers' characteristics and what they spend on cultural goods and services. This last part constitutes the main research area of this thesis.

Cultural consumption is crucial to realize both the economic and social outcomes of culture. Either the purchase of a cultural good or service, or participation in a cultural activity constitutes the 'consumption of culture', in other words 'cultural consumption'. Unlike homogeneous economic goods, cultural goods exhibit heterogeneity. More importantly, they are "experience goods". In other words, the characteristics of what is consumed can only be ascertained after consumption. Consumers are supposed to be unaware of their true taste. Based upon past experience, consumer develops his/her own taste through learning processes (Levy-Garboua and Montmarquette, 2003:207).

Let us say a consumer watches a performance. Once s/he starts to consume/participate, she not only understands whether she likes the performance- the cultural commodity- but s/he develops new tastes. Therefore, after watching a performance (or consuming another cultural good or service) the following outcomes come into being:

1.   **Economic Impact**: Increases monetary return of the performers. Such economic impact encourages the performers to continue doing shows and producing new ones. In return, the incremental effect on production enriches the cultural capital.

2.   **Social Impact**: Consuming cultural goods and services increases the intellectual capacity of an individual. So, s/he socially and culturally benefits. His or her value systems would change; this chain would lead to enhancement of social capital, improved social cohesion and increased knowledge on cultural and social rights (Also see Hill Strategies Research, 2008).

3.   **The Combined Impact** of the two leads to increased social cohesion and wealth.

Therefore, the overall impact of cultural consumption is mainly driven by participation and by expenditures made by various actors; individuals, households, private sector and government. "What determines expenditures in culture?" and "What determines cultural participation?" are critical questions to ask in order to capture the level of the impact. There is an effort in the discipline of economics to answer these questions.

Regarding the first question, the literature shows a positive association between income and cultural expenditures. Cross-country analysis shows that countries with higher GDP per capita tend to spend more on cultural goods and services. Figure 1.2 shows this relationship graphically. For instance, while Hungary with a GDP per capita of 16,000 US$ spent 4% of its GDP on recreation and culture, the corresponding figure for the United States was 6% with a higher GDP per capita of 37,000 US$. However, as shown in the figure, some countries fail to demonstrate a clear positive relationship between income and cultural expenditures.
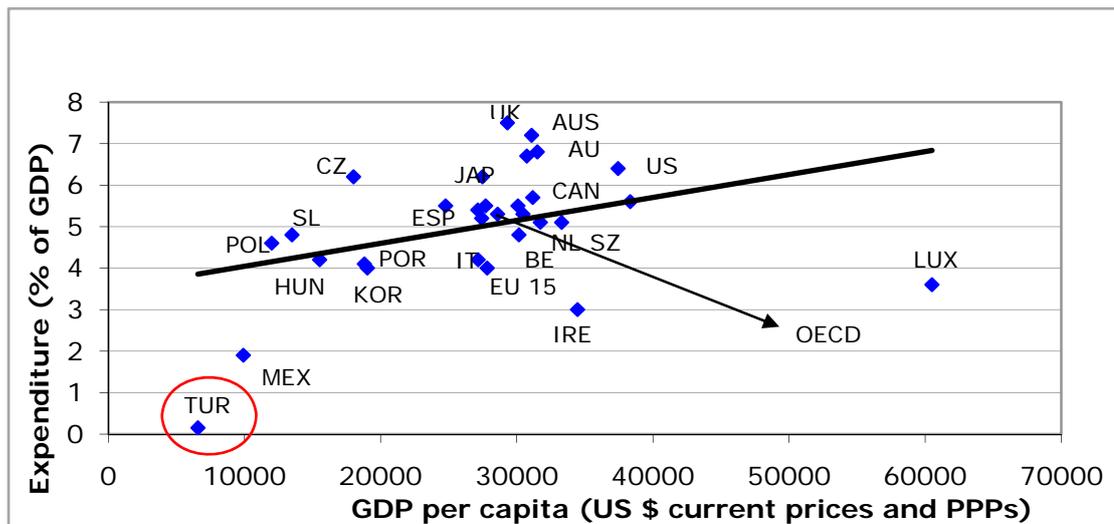
Source: OECD Factbook 2008 and Author's calculations

Figure 1.2 Household Recreation and Culture Expenditures in Countries, 2003

For instance, Luxembourg has the highest GDP per capita but not the highest levels of expenditure in recreation and culture. Another striking pattern can be seen in Mexico and Turkey. Although the GDP per capita of these two countries are close to each other, there is a huge discrepancy in terms of household recreation and culture expenditures. Therefore, besides income there are diverse factors which

need to be taken into account while analyzing the determinants of recreation and culture expenditures of households. It also remains to be seen whether the positive relationship ascertained at the macro level holds at the micro level-across households-within countries. Part of this thesis attempts to find an answer to this question.

Different social disciplines, such as economics and sociology, approach the cultural consumption analysis with different research questions and apply different definitions of culture. Those who aim to conduct quantitative analyses use the narrower definition of culture, in which culture is mostly considered as an industry combining cultural activities, cultural goods and services. Depending on the subject matter and approach pursued getting reliable measurements on culture is often not that easy. The household budget and time surveys are the two mostly used data sources in cultural consumption analyses. Household budget surveys provide detailed information on expenditure figures, socioeconomic characteristics of households over a certain period of time; whereas time-use surveys reveal the time-use patterns of individuals, including recreational and cultural activities. The former survey is much more suitable in analyzing the recreation and culture expenditure patterns, whereas the latter serves better for cultural participation issues. One pitfall of the household budget survey is that it only captures cultural activities, goods and services which are purchased. Those without a price, such as watching a free concert, are not captured by household budget surveys.

The analysis of cultural consumption from an economic point of view is important to understand who spends on what and to what extent households consume cultural goods and services. Such an analysis helps put together household profiles showing the basic demographic and socio-economic characteristics of households that spend on recreation and culture. Examining these profiles not only provides insight about the demand for recreation and culture, but also helps to better assess the potential social and economic impact of cultural consumption. Moreover, assessing expenditure patterns is important in the context of cultural policy. The profiles provide a certain typology on the socio-economic and demographic patterns of cultural consumption. This helps cultural policy makers to see the potential impact

of a planned policy and to evaluate whether the planned policy will be effective or not.

This study aims to determine the extent of recreation and culture expenditures in Turkey, the profile of households that spend and do not spend on recreation and culture, and finally the factors that determine who spends what on recreation and culture.

The objectives of this study can be enumerated as follows:

1. To identify the factors which determine recreational and cultural expenditure by using multivariate analysis.

2. To determine the income and expenditure elasticity of demand for recreational and cultural expenditures through Engel curve analysis.

3. To assess impacts of various socio-economic and demographic factors on household cultural spending and see if there is divergence across regions.

4. To invite discussion on future economic and cultural policies regarding cultural demand and consumption issues.

5. To present this study as an input for further studies on recreation and culture.

As this study aims to establish the different consumption patterns of households – i.e, carry out a cross-sectional analysis, it will use the 2003 Household Budget Survey (HBS), which records monthly expenditures of households on various items including cultural consumption expenditures at the regional level. In line with the objectives enumerated above, the study seeks to answer the following specific questions:

▪ What do households spend on recreation and culture? In which sub-group these expenditures mount up?

- What are the characteristics of the households that spend on recreation and culture?
- How do various socio-economic, demographic factors and region of residence affect recreation and culture expenditures of households?
- Are recreation and culture items luxuries?
- What are the implications of the findings drawn from the multivariate analysis?

From the objectives and research questions set above it is apparent that the study neither poses a "why" question to capture households' tastes nor seeks to establish a social stratification model for the cultural consumption in Turkey. Instead, it employs multivariate analyses in order to establish a sound relationship between recreation and culture expenditures and various socio-economic and demographic variables.

The uniqueness of this study stems from its scope. The Turkish literature consists of very few studies on household recreation and culture expenditures. None of the previous studies in the Turkish literature have analyzed the patterns of recreational and cultural expenditures of households on a multidimensional basis. Analyses on household recreational and cultural expenditures only appeared in the Turkish literature as side products of generic expenditure studies, which failed to capture the socioeconomic and demographic characteristics of households.

This present study aims to be of use to people in industries of cultural goods and service, government analysts, policy makers and researchers. Both the household profiles and the determinants of recreation and culture expenditures would be a useful source for those actors involved in the creation and production chain of the cultural goods and services to understand their potential consumer's profile, as well to policymakers to evaluate future decisions on cultural investment and so forth. Besides, regional level information provided in this research would be of use to local authorities.

This study is organized as follows. After the introduction chapter, in Chapter II the thesis continues with the conceptualization of the terms recreation, culture and

leisure and a literature review of previous household expenditure, cultural and leisure demand studies. After specifying the model used, Chapter III explains the household socioeconomic and demographic variables used in the study as potential determinants of cultural expenditures and presents the research methodology. Chapter IV presents the descriptive statistics for both households which have spent and not spent on recreation and culture. After the impacts of the independent variables are analyzed through series of multivariate regressions, Chapter V continues with an Engel-curve analysis and present scenario analyses. Finally, Chapter VI concludes the study.

CHAPTER 2

CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW

This chapter conceptualizes the key themes used throughout the thesis. It describes the common definitions of the notions related to recreation, culture and leisure in detail. And further on, it provides a theoretical basis for the household consumption demand (expenditure) analysis and reviews the empirical studies on household demand specific to leisure, recreation and culture.

2.1 Definition of Concepts: Leisure, Culture and Recreation

The terms leisure, culture and recreation have been mostly studied together and defined under the same discourse which is related to quality of living. In line with the increase in wealth, people started to have more leisure time and sought activities that would increase their quality of living. Leisure, which is defined in Downward (2004:371) as activities that take place in "non-obligated" time for a sporting, recreation, or tourism purpose was related by Veblen (1925) to the rise in affluence of certain classes following industrialization (Downward, 2004:378). Today, leisure quality and time allocation have become an important concern in people's life. Many societies have come to understand that leisure activities, including all recreational, cultural and artistic activities increase the quality of living.

Culture and recreation became two important fields within the discourse of use of leisure time. Researchers had the interest to understand what determinants were driving individuals to engage in recreational and cultural activities and hence, their choice for allocating leisure time. The way they defined these notions in their analyses were mainly driven by methodological purposes.

Although there is not a single definition of culture, a narrow and a broad definition exists: (1) in a narrower sense, all sorts of cultural activities, cultural goods and

services form culture as an industry and (2) in a wider sense, ethnic components, traditions and its social connotations constitute culture.

In line with our research objectives, this study will use the narrow definition of culture, where quantifiable information on cultural goods and services is made available. Although drawing the boundaries of the cultural sector is difficult, using the narrow definition will enable the study to track the patterns of cultural consumption.

A frequently used concept in the conversation of culture is "cultural consumption". This term has been defined in various ways in various disciplines including anthropology and sociology. However, here in the interest of measurement this thesis needs to be confined to a definition where quantitative analysis can be easily conducted. Therefore, we follow the definition by Foote (2002) and use cultural consumption to refer to the value of financial transactions in purchasing, subscribing to, or renting cultural goods and services (Foote, 2002: 215). The coverage of cultural goods and services are as in the UNESCO's Web Portal of Culture Sector[3]:

> "**Cultural goods** generally refer to those consumer goods convey ideas, symbols, and ways of life. They inform or entertain, contribute to build collective identity and influence cultural practices. The result of individual or collective creativity - thus copyright-based -, cultural goods are reproduced and boosted by industrial processes and worldwide distribution. Books, magazines, multimedia products, software, records, films, videos, audio-visual programs, crafts and fashion design constitute plural and diversified cultural offerings for citizens at large.
>
> **Cultural services** are those activities aimed at satisfying cultural interests or needs. Such activities do not represent material goods in themselves: they typically consist of the overall set of measures and supporting facilities for cultural practices that government, private and semi-public institutions or companies make available to the community.

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[3] http://portal.unesco.org/culture/en/ev.php-URL_ID=18669&URL_DO=DO_TOPIC&URL_SECTION=201.html, retrieved on February 12, 2008

Examples of such services include the promotion of performances and cultural events as well as cultural information and preservation (libraries, documentation centers and museums). Cultural services may be offered for free or on a commercial basis."

"Recreation", on the other hand, in a broad sense refers to activities, goods and services that help strengthening health and stimulate people's social well being. These three concepts; leisure, culture and recreation seem to overlap in many ways, which makes the situation harder for researchers to distinguish among them when they intend to carry out a specific analysis. Especially, the major difficulty appears when one wants to conduct a quantitative study.

Despite the difficulties in defining what constitutes culture and recreation, nevertheless, there is a standardized classification that allows researchers to classify which goods and services fall under recreation and culture. This classification is the United Nations COICOP or "The Classification of Individual Consumption According to Purpose". Within the household consumption context, COICOP is a system used in clustering consumption expenditures into groups. In this classification, the most detailed group is a four-digit classification. The system distinguishes twelve main groups of household expenditure. 'Recreation and Culture' is enlisted as the ninth group in 1-digit classification.

Table 2.1 shows the two, three and four-digit classification of Recreation and Culture within COICOP. At the two digit-level, there are six groups: (i) Audiovisual, photographic and data processing equipment and accessories; (ii) Other major durable for recreation and culture, including repair; (iii) Other recreational items and equipment; flower, gardens and pets; (iv) Recreational and cultural services; (v) Newspapers, books and stationery; and (vi) Package Holidays. Each group disaggregates into different branches which includes recreational goods and services, and cultural goods and services. If only "cultural expenses" are of concern, EUROSTAT (2002) has marked these expenses in white shaded cells under the COICOP group of recreation and culture expenditures. Except for the grey shaded cells which cover optical instruments (HE 9122), equipment for sports and recreation (HE 9212), other recreation items and equipment, flowers, gardens and

pet (HE 93), recreational and sporting services (HE 941), games of chance (HE 943), package holidays (HE 96) and miscellaneous printed matter (HE 953); the rest are considered as "cultural expenses". To put it differently, the items shaded in grey are considered as not having a creative content or not a form of cultural practice. Therefore, they are recreational but not cultural activities.

The cultural classification of EUROSTAT matches with the definitions of UNESCO (See previous page). In Table 2.1, the recreational items shaded in grey, do not have a creative content or not considered as a form of cultural practice.

Table 2.1 Division 09 of COICOP, Recreation and Culture

HE09: RECREATION AND CULTURE					
2-digit	Description	3-digit	Description	4-digit	Description
HE091	Audiovisual, photographic and data processing equipment and accessories	HE0911	Equipment for the reception, recording and reproduction of sound and pictures	HE09111	Equipment for the reception, recording and reproduction of sound
				HE09112	Television sets, video-cassette players and recorders
		HE0912	Photographic and cinematographic equipment and optical instruments	HE09121	Photographic and cinematographic equipment
				HE09122	Optical instruments
		HE0913	Data processing equipment	HE09131	Data processing equipment
		HE0914	Recording media for pictures and sound	HE09141	Recording media for pictures and sound
		HE0915	Repair of audiovisual, photographic and data processing equipment and accessories	HE09151	Repair of audiovisual, photographic and data processing equipment and accessories
HE092	Other major durable for recreation and culture, including repair	HE0921	Other major durables for recreation and culture	HE09211	Musical instruments
				HE09212	Equipment for sports and recreation
		HE0922	Repair of other major durables for recreation and culture	HE09221	Repair of other major durables for recreation and culture
HE093	Other recreational items and equipment; flowers, gardens and pets	HE0931	Games, toys and hobbies; equipment for sport camping and open-air recreation	HE09311	Games, toys, hobbies
				HE09312	Equipment for sport, camping and open-air recreation
		HE0932	Gardens, plants and flowers	HE09321	Gardens, plants and flowers
		HE0933	Pets	HE09331	Pets
HE094	Recreational and cultural services	HE0941	Recreational and sporting services	HE09411	Recreational and sporting services
		HE0942	Cultural services	HE09421	Cinemas, theatres, concerts
				HE09422	Museums, zoological gardens, etc.
				HE09423	Television and radio taxes and hire of equipment
				HE09424	Other services
		HE0943	Games of chance	HE09431	Games of chance
HE095	Newspapers, books and stationery	HE0951	Books	HE09511	Books
		HE0952	Newspapers and periodicals	HE09521	Newspapers and periodicals
		HE0953	Miscellaneous printed matter	HE09531	Miscellaneous printed matter
		HE0954	Stationery and drawing materials	HE09541	Stationery and drawing materials
HE096	Package holidays	HE0961	Package holidays	HE09611	Package holidays

Source: EUROSTAT (2002), p.28

There also exists an OECD definition of recreation and culture which is in line with the COICOP definition. The household expenditures on recreation and culture include:

- Purchases of audio-visual, photographic and computer equipment,
- CDs and DVDs,
- Musical instruments,
- Camper vans, caravans, sports equipment,
- Toys, domestic pets and related products,
- Gardening tools and plants,
- Tickets to football matches, concerts, museums, cinemas and theatres,
- Service charges on lottery tickets and other forms of gambling,
- Newspapers, books and package holidays while excluding expenditures on restaurants, hotels, travel and holiday homes.

The household budget surveys in Turkey also follow the COICOP framework. This framework shapes our analysis and helps us see in which sub-groups the household expenditures on recreation and culture fall. The cultural categorization of EUROSTAT also helps us to distinguish between recreational and cultural goods and/or services.

2.2 Theoretical Background

What affects demand for recreation and culture? What drives the consumption of recreational and cultural goods? The answers to these questions lie in the consumer demand theory.

Expenditure is resulted from consumers' behavior. The reason why we consume is to maximize our utility given our income or the budget set. We purchase good and services that provides us satisfaction. Prices and income level, set by outside factors, and tastes and preferences, which determine the benefits or satisfaction a person receives (See Deaton and Muellbauer,1980), are the main forces that defines consumption behavior.

Utility is a representation of preferences, the existence of which depends on a set of assumptions formally called axioms of choice (Deaton and Muellbauer, 1980:26).

There are six axioms of choice that allow the existence of utility function (Deaton and Muellbauer, 1980: 26-29):

- ○ **Reflexivity**,

  For any bundle q, $q \geq q \rightarrow$ q is as good as itself

- ○ **Completeness**,

  For any two bundles q^1 and q^2, either $q^1 \geq q^2$ or $q^2 \geq q^1$; the two bundles are comparable.

- ○ **Transitivity**,

  If $q^1 \geq q^2$ and $q^2 \geq q^3$, then $q^1 \geq q^3$. This axiom is important in setting the preference ordering.

- ○ **Continuity**

  For any bundle q^1, where $A(q^1)$ represents the "at least as good as q^1" set and $B(q^1)$ represents the "no better than q^1" set by $A(q^1)=\{q/q \geq q^1\}$, $B(q^1)=\{q/q^1 \geq q\}$. So $A(q^1)$ and $B(q^1)$ contain boundaries for any q^1 in the choice set.

- ○ **Non-satiation**

  The utility function $u(q)$ is non-decreasing and for all q in the choice set is increasing in at least one of its arguments.

From the axioms above, it is correct to say that the utility function $u(q)$ represents an ordering in preferences. This means that if $q^1 \geq q^2$ then, $u(q^1) \geq u(q^2)$

- ○ **Convexity**

  If $q^1 \geq q^0$ then for $0 \leq \lambda \leq 1$, $\lambda q^1 + (1-\lambda)q^0 \geq q^0$

Utility and Demand

There are certain rules for the utility function to make the demand analysis feasible. From the axioms of choices, a utility function should satisfy the following properties,

$$u = u(x_1, x_2, \ldots, x_n) = \sum_{i=1}^{n} f_i(x_i) \qquad (1)^{4}$$

$f_i'(x_i) > 0$, as u is an increasing function and $f_i''(x_i) < 0$

Given that a utility function exists that represents the preference ordering of the consumer, the consumer's problem reduces to constraint maximization: Given the price and income level, the consumer seeks to choose a bundle of commodities that maximizes her/his utility.

The utility maximization problem is defined as:

Max $u(q)$ subject to $\sum p_k q_k = m$ (2)

     p_k= Price of the kth good

     q_k= Quantity of the kth good

     m= Total income (expenditure)

where $\sum p_k q_k = m$ shows the linear budget constraint.

The solution to this problem gives Marshallian demand functions, $q_i = g_i(m, p)$, where the quantity demanded q_i is a function of income (m) and prices (p).

There are some desirable properties that a demand function should satisfy for a consistent preference ordering, which in turn allows us to construct utility functions and then derive demand functions. Deaton and Muellbauer (1980:19) have summarized them as follows,

1. Adding up (aggregation)

As abovementioned, the simple linear budget constraint was defined as

$m = \sum_k p_k q_k$ and the demand function was $q_i = g_i(m, p)$,   (3)

When q is inserted into the budget constraint, we have

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[4] This property is also stated as the additive rule of the utility function. See Pollak, 1971:401

$$m = \sum_k p_k g_k(m, p),$$

The equation states that expenditures on each of the commodities must add up to the total expenditure.

2. Homogeneity

Since the budget constraint is linear and homogenous of degree zero in m and p, if total expenditure (m) and prices (p) increase by a proportion θ, the constraint remains the same, so would the demand:

$$g_i(\theta m, \theta p) = g_i(m, p) = q_i, \quad (4)$$

The demand theory provides a background for consumption analyses. Several functional forms are used in the literature to estimate demand functions in an attempt to understand the effect of independent variables (*price, income)* on demand. As Deaton and Muellbauer (1980:18) point out; "in cross-sectional analysis where behavioral differences between households are examined, it is usually assumed that all households face identical prices so that explanations of behavioral differences are sought in differences in total expenditure (income) and in household characteristics, particularly those concerned with family composition". The literature has developed considerable interest in understanding household consumption choices using cross-sectional data. By assuming constant prices, capturing the relation between income and particular categories of expenditure is modeled by the renowned approach called "Engel (1957) Curve Analysis".

As this present study seeks to carry out a cross-section analysis assuming constant prices, the demand function would reduce to (Deaton and Muellbauer, 1980:19);

$$q_i = g_i^*(m) \qquad (5),$$

instead of

$$q_i = g_i(m, p)$$

In this framework, understanding the relation between income and consumption – the income elasticity of demand - is of particular importance.

The logarithmic derivative of the demand function $q_i = g_i^*(m)$,

$$e_i = \partial \log g_i(m) / \partial \log m \qquad (6)$$

gives the *income elasticity* of the ith good.

Engel curves – showing the relationship between q and m - are used to classify goods as *luxuries, necessities* and *inferior goods*. Normal goods, having a positive elasticity of income ($e_i > 0$), can be either a luxury ($e_i > 1$) or a necessity ($0 < e_i < 1$). For inferior goods, the case is different. The income elasticity is negative ($e_i < 0$), and quantity demanded decreases as income (m) increases.

Many functional forms of Engel curves have been explored in the literature. In many of those, certain criteria were sought. Originating from the principles of utility, forms consistent with the *adding-up, non-negativity* (that the component expenditures predicted by the model should be *non-negative)* and *saturation restriction* (for a commodity there is a finite level that the consumer saturates) were generally preferred (See Deaton and Brown 1972, Deaton and Muellbauer 1980, Bewley 1982). Applied consumption expenditure studies have shown that linear and addi-log forms do not satisfy the criteria, whereas the best fitting models of Engel curves which satisfy adding-up, non-negativity of the component expenditures and also allow saturation are the Double-log and the Working (1943)-Leser (1963) models (Deaton and Brown 1972, Deaton and Muellbauer 1980, Bewley 1982, Tansel 1986, Şenesen and Selim 1995). In particular, the Working-Leser model has proved a better fit to data in cross-sectional studies.

The functional form of the Working-Leser is,

$$w_i = \alpha_i + \beta_i \log m + u_i \ , \qquad (7)$$

where α_i and β_i are parameters and w_i is the budget share defined as $w_i = p_i q_i / m$.

The adding-up criterion requires $\sum w_i = 1$, when $\sum \alpha_i = 1$ and

$$\sum \beta_i = 0 \qquad (8) \qquad \text{(Deaton and Muellbauer, 1980:19).}$$

When (7) is estimated by the ordinary least squares, the parameter estimates $\hat{\alpha}_i$ and $\hat{\beta}_i$ will satisfy (8). The model allows luxuries ($\beta_i > 0$), necessities ($\beta_i < 0$) and inferior goods (Deaton and Muellbauer, 1980:19).

The use of double-log model was found convenient especially in terms of obtaining income elasticity estimates. From the estimations of the double-log model below:

$$\log q_i = \alpha_i + e_i \log m + u_i, \qquad (9)$$

The estimate of e_i gives the income elasticity.

2.3 Empirical Evidence and Specification

The literature on recreation and culture expenditures consists of various studies on different aspects of leisure, recreation and culture. Leisure studies in general elaborate on either trends or patterns in time allocation of households. Be it changes over a period or at a point of time, research of this nature are mostly concerned with how social and economic factors affect the allocation of leisure time. Such changes in leisure patterns lead to shifts in expenditure patterns as well. Using time-use surveys, changes in the allocation of leisure time can be easily tracked. In a recent study, Aguiar and Hurst (2007) examine the changing trends in leisure by gender, education level and occupational status between 1965 ad 2003 in the United States. By defining different measures of leisure time, such as uses of household time, including time spent in market work, time spent in nonmarket production, time spent obtaining human capital, and time spent in heath care; Aguiar and Hurst (2007) found out that over the forty-year time period leisure time for men have exceeded women's leisure in the United States. Moreover, retired couples have enjoyed more leisure and less educated men experienced much greater increase in their leisure time. It was also stated that over the mentioned forty-year time period gender discrepancy in leisure time widened and became mostly in favor of men.

A good number of studies focusing on patterns of household expenditures in recreation and culture have been undertaken either by national statistical offices, intergovernmental organizations or by other national entities. Institutions like OECD, EUROSTAT, UNESCO and the European Commission have set up new

establishments in the cultural field in order to gather reliable statistics and assemble new indicators through the support of foreign governments. Their findings of these studies (See EUROSTAT 2002, 2007; OECD 2006, 2007) suggest that income level plays an influential role on recreation and culture expenditures of households. Also a Canadian study (Ogrodnik, 2000) finds out that income, household size, household composition and geographic location are highly influential on cultural consumption in Canada. Above all, these studies concede on the importance of developing improved measurements for the cultural field, as they do also acknowledge the economic and social importance of culture in our contemporary world.

Other than the intergovernmental studies on culture, there are studies in the field of sociology and economics. As it was stated before, the qualitative studies undertaken in sociology had a different set of questions of interest than economic studies. They mostly developed social stratification models in order to classify cultural consumers according to their social status and attempt to obtain characteristics of consumers whether they are consuming "high" or "low" culture. In addition to acknowledging the influential variables such as education and income, those studies go beyond and assert that social classes are highly influential on cultural consumption (Torche 2007, Chan and Goldthorpe 2006).

The most common way of analyzing recreational and cultural consumption is to look at patterns of household expenditure in this defined group. There is a substantial literature exploring expenditure patterns of households with respect to variables such as income level, age and education. In these studies, Ernst Engel's (1857) work on the relation between income and expenditure on food constitutes the main reference point.

Engel curves are used in order to depict the change on expenditure as income changes, in other words to derive income (expenditure) elasticities, while keeping other variables constant. Vast number of empirical studies[5] use advanced econometric tools to estimate expenditure elasticities for different countries.

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[5] See Bewlet (1982), Blundell and Ray (1984), Hampton and Giles (1988), Banks et al. (1997)

The reason why Engel curve analyses are intensively used in understanding household expenditure patterns is that they provide policy implications for taxation and pricing, and income distribution and other social matters (See Çınar 1987, Doğan 1995). As a matter of fact, utilizing an Engel-curve analysis, this study also attempts to provide economic and cultural policy makers with information to aid in their policy making. By showing "who's spending on recreation and culture" one can understand the distribution of cultural spending and explore the socioeconomic and demographic factors that affect the outlay in recreation and culture. For instance, a variance in cultural spending for similar income groups but in different regions could point to supply-side issues besides demand-driven factors.

In Turkey, many studies have implemented Engel-curve analysis to investigate trends and patterns of household expenditures. Most of these studies conducted Engel-curve analysis for all groups of expenditure, whereas only a few of these studies looked at specific expenditure items such as food, alcohol and recreation and culture. The generic studies worked on group data formed on the basis of income/expenditure quintiles. Therefore, they did not consider socioeconomic and demographic characteristics of households. To begin with generic studies, Tansel (1986) carried out Engel curve analysis of household expenditures in Turkey for the period 1978-79. She employed 1978-79 data collected from the household consumption income and expenditure survey[6], the so-called HBS today. Under several different functional forms of Engel curves, Tansel estimated the effects of household size and total expenditure on all expenditure groups. Tansel's (1986) choice in using total expenditure level instead of total disposable income as an independent variable was due to the fact that income figures were subject to errors of measurement and total expenditure was a better indicator of permanent income[7]. The findings of this study indicated that; food, clothing, furniture and housing expenditures were positively affected by household size. On the contrary, restaurant, health, personal care, transportation, cultural and other expenditures were negatively correlated with household size. Regarding the estimates drawn from Engel-analyses, cultural goods were found to be luxury goods. Formally said,

[6] In 2002, Household Consumption Income and Expenditure Survey was changed into "Household Budget Survey".

[7] See also, Klein (1962), Çınar (1987)

the elasticity was found to be greater than one **(e>1)**. Similar to Tansel (1986), a study by Şenesen and Selim (1995) classified cultural goods as luxuries according to the 1987 HBS data. In this study, the urban-rural distinction was added as a new dimension to what Tansel had done. Similarly, they estimated multiple functional forms of Engel curves on all expenditure groups defined by the HBS and tested whether the urban and rural distinction was significant for all those groups. Contrary to the expectations of the authors, the estimation results yielded that the urban-rural distinction was statistically significant only for personal care expenditures. Apart from this, furniture, house services, transportation and cultural goods were found as *luxuries*; whereas food was found as *necessity*. The household expenditure studies specific to Turkey have no evidence suggesting culture as a *necessity*. Interestingly, in Günlük-Şenesen (1987) and Kasnakoğlu (1991) expenditure elasticity of demand for culture was found to be as unity, **(e=1)**. This might be due to the different classification of the cultural expenditure group.

Studies that have used household level data were able to capture the effects of socioeconomic and demographic variables besides income/expenditure on different expenditure groups. Among those studies, the only study in Turkey that looked specifically at recreation and culture expenditures was by Üçdoğruk et al. (2001). However, the primary objective of the study was not to determine the socioeconomic and demographic factors that influence recreation and culture expenditures but rather to make comparisons among the OLS, Tobit and Probit models, using household recreation and culture expenditures as a case study. Household income, household size, gender, age, education level, employment (job) status of household head, dwelling type, house ownership and the development status of streets where the households live were used as the predictors of household recreation and culture expenditures. Regressions ran by OLS, Tobit and Probit models yielded that an increase in income, household size and education level of the household head increases the recreation and culture expenditure. However, it was found that age of household head affected the recreation and culture spending negatively. Besides, indicators regarding household type and street type were found to be statistically insignificant.

The literature on leisure expenditures also provides important insights as to what factors determine recreational expenditure. Although these studies were conducted in different countries within different social fabrics and economic dynamics, it is probably still possible to draw general conclusions on variables affecting outlays of leisure. Amongst these studies, Dardis et al. (1994) provides much insight into the understanding of relations between household income level, education and age of household head, and leisure expenditures, in the United States. In their cross-sectional analysis on households, Dardis et al. (1994) initially categorizes the leisure expenditures into three groups: Active leisure, passive leisure and social entertainment. The main predictors of these three group of leisure expenditures are defined as income level, family life cycle which is distinguished by six different age groups, number of children, and gender of household head and location of the household. The major findings show that level of income and education, having a male household head and living in urban dwellings all positively affect leisure expenditures. In particular, younger members of households are likely to increase social entertainment spending whereas older members tend to spend more on passive leisure[8]. On the other hand, evidence was found on the negative effect of aged household heads on recreational spending. Similar findings were noted in studies preceding Dardis et al. (1994). Thompson and Tinseey (1978), Dardis et. al (1981) and Juster (1985) concluded that people in higher income invested more time in all three leisure activities defined in Dardis et al. (1994). A study (Chen, 1982) focusing merely on the effect of age of household head on household expenditures indicates that recreational spending decreases for the 55-64 age group but slightly increases for the 65+ age group. Besides, studies based on the age composition of households have overlapping results. Findings of Stafford and Duncan (1985) and Hill (1985) on the positive relationship between younger household members and active leisure activities confirm the findings of Dardis et al. (1994). However, a study by Deaton et al. (1989) puts forward an important demographic detail in the analysis of the effect of age on household expenditures. In their study, they propose a concept of demographic separability which formalizes the idea that there are groups of goods with little or no relationship to a specific set of demographic variables (Deaton et al. 1989:180). The demographic vector, a set

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[8] See also Hamermesh (2006)

of demographic variables, used in an Engel-curve model may contain a wide range of information; whereas Deaton et al. uses seven age categories. The estimates from a large Spanish household survey state that every additional child up to age 13 has a negative effect on entertainment expenditure in Spain. It is therefore important to bear in mind that more detailed the age composition of the household is, the more reliable the results are. Regarding the gender of household head, the tendency of males spending more than female household heads was noted by Becker (1981), Hill (1985) and Mattingly and Bianchi (2003) as well. Studies of time use and leisure expenditures have shown that leisure time has risen over the studied period and this has influenced household expenditure patterns.

The literature on the economics of recreation and culture boasts a vast number of studies on specific aspects of demand for recreation and culture such as demand for cinema, demand for performing arts or demand for music[9]. A study by Garboua and Montmarquette (2002) looking at the demand for art goods finds that demand for art goods are price and income elastic, implying that art goods are to be luxury goods. However, there are few studies that estimate income elasticities of art goods less than one (see Gapinski 1986, cited in Garboua and Montmarquette 2002). Such a situation is said to be a consequence of the cost of time. Attending live performances is a time intensive consumption and Withers (1980) has shown that a large full-income effect may be partially offset by a negative leisure-price effect. He found a "pure" income elasticity of about unity (Becker 1965, cited in Garboua and Montmarquette 2002:12).

More importantly, what Garboua and Montmarquette (2002) suggest is that demand for arts is not only dependent on income and education but also taste formation plays a significant role together with emotions and feelings. They make a distinction between the art goods and other economic goods. According to Garboua and Montmarquette (2002) it is the endogenous factors that have more influence rather than other exogenous factors -i.e. education, income, price- on demand for arts. Another specific study within the cultural field is on demand for music. A discrete choice model used by Favaro and Frateschi (2007) demonstrates that the effects of

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[9] See respectively, Blanco and Pino (1997), Dewenter and Westermann (2005), Garboua and Montmarquette (2002), Favaro and Frateschi (2007)

income, education, gender and age are significant in demand for music. It is also found that these effects differ across different genres of music.

The Turkish literature also contains studies on specific aspects of demand for recreation and culture. A study by Akdede and Oğuş (2006) looked the determinants of attendance in Turkish state theater plays in 2002-2003. They disaggregated the attendance type as single tickets, discounted tickets and free pass, by cities which had state theatres. Their results showed that preferences of single and discounted ticket buyers differed significantly. Variables like number of performances, price, whether it was a domestic play, capacity of venue, free passes for senior citizens and government officials were found to be influential on different ticket buyers but in different ways. Another study specific to demand for art goods, was by Atukeren and Seçkin (2006). They examined the Turkish Market for Paintings and assessed the returns on Turkish paintings by using the Capital Asset Pricing Model (CAPM).

The findings of the international and Turkish literature on household expenditure are in line with demand theory. As the theory puts forward, income is a major determinant of consumption. Also, socioeconomic and demographic characteristics affect household consumption. Cross-sectional analyses have tried to find out the determinants that influence household consumption expenditures. Those studies confirm the consumption demand theory. As it is likewise for leisure and recreational and cultural consumption, the empirical findings of these consumption studies show that income is the main driving force and constraint in determining what to spend on. Moreover, regarding household consumption specific to recreation and culture, it is concluded that variables such as income, household size, age composition-family cycle-, total expenditure, and regional differences (geographic location) of households together with education, age, gender, marital and occupational status of household head are all influential on recreation and culture expenditures. In the light of these findings, the present study investigates the impacts of all these various socioeconomic and demographic household characteristics on household recreation and culture expenditures using data from the Turkish Household Budget Survey of 2003.

Based on theoretical foundations and previous empirical studies, the Working-Leser model is used in this study to estimate the effects of expenditure/income and other household level variables on recreational and cultural expenditure of households in Turkey. The simple form of the model is specified as,

$$w_i = \alpha_i + \beta_i \ln(x) + \delta_i \ln(s) + u_i \quad (10)$$

Here, w is the budget share of the ith good. α is the intercept, β and δ are the coefficient parameters of variable x and variable s which refer to total household income/expenditure and household size respectively. The variable s is added to the model because a given household income/expenditure is shared by s number of members. Another clarification should be made on the use of total expenditure rather than income. Especially in Engel curve estimations, using income data in household consumption analyses may not be accurate due to measurement errors and the common belief that total expenditure better reflects permanent income of households (Tansel 1986, Houthakker 1957).

Based on the findings of the extensive literature on the impact of socioeconomic and demographic household factors on both leisure, and recreation and culture expenditures, the extended model we use through out this study includes the following variables:

Dependent variable

Share of recreation and culture expenditure in total expenditure (w_i)

Independent variables

Total expenditure (x) / Annual disposable income (y)

Household size (s)

Composition of household (a)	Members at age 0-6
	Members at age 7-17
	Members at age 18-24
	Members at age 25-44
	Members at age 45-64
	Members at age 65 and above
Area (r)	Urban (0)
	Rural (1)
Region (reg)	1 Istanbul
	2 West Marmara
	3 Aegean
	4 East Marmara
	5 West Anatolia
	6 Mediterranean
	7 Central Anatolia

	8 West Black Sea
	9 East Black Sea
	10 North East Anatolia
	11 Central East Anatolia
	12 South East Anatolia
Age of household head (*a_hhh*)	
Gender of household head (*sex*)	Female (1)
	Male (0)
Education level completed of household head (*e_hhh*)	Illiterate or incomplete basic education
	Basic education
	Secondary education
	Tertiary education
Marital status of household head (*m_hhh*)	Married (1)
	Non-married (0)
Employment status of household head (*emp_hhh*)	Employed
	Retired
	Not-employed
Work status of household head (work_*hhh*)	Regular
	Casual
	Employer
	Self-employed

Thus, the extended model is:

$$w_i = \alpha_i + \beta_1 \ln(x_i) + \beta_2 \ln(s_i) + \beta_3 (r_i) + \beta_4 (reg_i) + \beta_5 (a_i) + \beta_6 (sex_i) + \beta_7 (a\_hhh_i)$$
$$+ \beta_8 (e\_hhh_i) + \beta_9 (m\_hhh_i) + \beta_{10} (emp\_hhh_i) + u_i$$

The dependent variable is the share of household expenditures on recreation and culture in total household expenditures. The share is shown as **w** and is conditional on independent variables. Its value is estimated in Chapter V by running Tobit regressions. While running the Probit regressions again in the same chapter, the dependent variable will refer to the probability of spending on recreation and culture and will take values of 1 and 0.

The independent variables examined in the extended model include various socioeconomic and demographics variables drawn on (i) household characteristics such as household expenditure (income), area of household dwelling, region of household, household size and age composition; (ii) household head characteristics such as age, gender, level of education, marital status, employment and work status.

Total Household Expenditure: This continuous variable is defined as the logarithmic expression of total monthly household expenditure in 2003. In order to eliminate

the regional price differences, we have corrected all the expenditure and income related figures by using regional CPIs reported by TURKSTAT. Based on the empirical findings (See for instance, Tansel 1986, Thompson and Tinseey 1978, Dardis et al. 1981, 1994 and Juster 1985) household expenditure is expected to have a positive impact on recreational and cultural spending.

Household Size: This continuous variable is used only in the simple model. According to the empirical findings of Üçdoğruk et. al (2001) and Ogrodnik (2000), a positive relation is expected between household size and the share spent on recreation and culture. Some previous studies showed that recreation and culture expenditures increase as households expand, whereas Tansel (1986) found a negative relationship between household size and household expenditure on recreation and culture.

Household Age Composition: Six age categories are used to identify household composition. These are aged at 0-6, 7-17, 18-24, 25-44, 45-64, 65 and above. Based on the family life cycle theory and empirical evidence, family life cycle affects family members' economic behaviors and hence, consumer spending. Households adjust expenditure to demands of growing children, to the education needs of family members, to retirement and physical needs of old age and financial status (Chen, 1982:3). Therefore, the impact of household is expected to vary by age. Based on Dardis et al (1994), Stafford and Duncan (1985), Hill (1985) we expect younger adults (15-24) to have positive impact on recreation and culture expenditures. Whilst based on Deaton et al. (1989) findings, children at small ages-below 13- are expected to negatively affect recreation and culture expenditures. Since Chen (1982) has found that recreational and cultural spending decreases within the 55-64 age groups but slightly increases for the 65+ age group- for high-income groups-, we anticipate that additional elderly members pushes down the recreation and culture expenses.

Area and Region of Household Dwelling: We used these two geographic variables to proxy the supply-side of recreational and cultural goods and services, since we did not have the exact supply-side figures of recreational and cultural goods and services, such as number of book stores, theatres etc. The first distinction is

between urban and rural. TURKSTAT defines rural areas as settlements with a population of 20,000 or less. This dummy variable takes "1" for rural and "0" for urban. Literature shows that households living in rural areas spend less than urban households. Controlling for income, due to richer provision in recreational and cultural goods and services, households living in urban settlements are expected to spend more on recreation and culture than rural households (See Dardis et al. 1981, 1994; Thompson and Tinseey 1978; Juster 1985; Ogrodnik 2000).

TURKSTAT defines 12 NUTS-1 level regions. These 12 regions are:

NUTS-1 Classification

1	Istanbul
2	West Marmara
3	Aegean
4	East Marmara
5	Western Anatolia
6	Mediterranean
7	Central Anatolia
8	Western Black Sea
9	Eastern Black Sea
10	North Eastern Anatolia
11	Middle Eastern Anatolia
12	South Eastern Anatolia

Households living in Istanbul and other Western parts of the country are expected to spend more on recreation and culture than households living in eastern regions, since these regions might have lower supply of recreational and cultural goods and services.

Age of Household Head: The theory suggests that age of household head influences household consumption decisions and this is supported by empirical evidence (See Chen 1982, Deaton et al. 1989, Dardis et al. 1994). It is found that as household heads age they become less mobile and have less desire to do outdoor activities (Chen, 1982), they tend to spend more on expenditures involving passive leisure activities such as watching TV, but less on active leisure and social entertainment activities, such as cycling, going to sports events. Based on Dardis et al. (1994) and Üçdoğruk et al. (2001) studies, an aging household head has negative impact on household recreation and culture expenditures. On the other hand, Ogrodnik (2000) states that older members have more leisure time and financial means to participate

in culture-related activities. Therefore, this variable may have either positive or negative impact on household spending on recreation and culture.

Gender of Household Head: This dummy variable takes "1" for female heads, and "0" for male heads. Empirical findings (Dardis et al. 1994, Becker 1981, Hill 1985, Mattingly and Bianchi 2003) indicate that male heads tend to spend more than female heads on recreation and culture due to having relatively more leisure time. Since it is also important to set the conditions in which we are shaping our expectations, when we speak of arts and other high-culture fields like classical music and ballet, women who are both educated and well-off might be in favor of spending more on these areas (See Favaro and Frateschi, 2007:217). Therefore, we expect that the impact of gender of household head on recreation and culture expenditures to be either positive or negative.

Marital Status of Household Head: There are two categories used for this dummy variable. "1" represents married, and "0" is not-married which includes single-never married-, divorced, widowed, separated, and living together. Since there was not any conclusive information found on the impact of the marital status of the household on recreation and culture expenditures, the impact of this variable is not predicted.

Education Level of Household Head: TURKSTAT defines 11 categories for education. We clustered some of them and reduced it to four categories. The first category "illiterate or incomplete basic education" includes heads who are either illiterate (1) or are literate but have not completed basic education (2). The second category is "complete basic education" which includes heads that have completed either primary school (3) or 8-year primary education[10] (4). Thirdly "complete secondary" includes general junior (5), vocational junior (6), general upper (7) and vocational upper (8) secondary education. The forth and last category includes "tertiary education" which includes heads who have completed 2-year-vocational faculty (9), 4-year undergraduate (10) or post-graduate level (11). Based on Dardis et al. (1994) and Üçdoğruk et al. (2001), this variable is hypothesized as one of the strongest variables that positively impact the recreation and culture expenditure.

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[10] Only 0.02 % of the household heads went to 8-year primary school. That is why we kept it under the "complete basic education" category.

Especially, when we consider that cultural goods are experience goods, education helps the individual to form a taste on these goods and hence, we expect a positive impact on recreation and culture expenditures (See Dardis et al 1994, Garboua and Montmarquette 2002, Favaro and Frateschi 2007).

Employment and Work Status of Household Head: Employment status is defined according to TUIK's definition. Those who are employed within the reference month are considered as "employed" and this variable takes the value "1". On the other side, "not-employed" which includes either inactive or unemployed takes "0". We have also identified "Retired" individuals among those who do not work. Work status variable is in line with TUIK's classification: (1) Regular employee (2) Casual Employee (3) Employer (4) Self-employed. We hypothesize that households headed by members who hold regular jobs might have more recreation and culture expenditures for the reason that regular jobs imply regular income which is important for the continuity on spending on recreation and culture (See Üçdoğruk et al. 2001). On the other hand, those heads who are working regularly devote much time to market work and hence, have less leisure time to spend on recreation and culture. Therefore, a priori it is not clear whether households headed by regular employees will have more or less recreation and culture expenditures compared to others.

After explaining our extended model with its dependent and independent variables, the next step is to determine the best method in order to carry out multivariate analyses. The choice of the method is closely linked to the data source and the sample characteristics that it exhibits, which we explain next.

CHAPTER 3

DATA AND METHODOLOGY

The main source used for quantitative analyses on household consumption expenditure is initially household budget surveys. These surveys are household based and report various household characteristics such as household expenditures, income levels, socioeconomic strata and various demographic characteristics. The major source of micro data used in this cross-sectional study is the household budget survey (HBS) undertaken by the Turkish Statistics Institute (TURKSTAT) between 1st January and 31st December 2003 in Turkey. The HBS provides data at the national level, at the NUTS-1 and NUTS-2 level with an urban and rural distinction[11]. During a twelve-month period, 1,512 urban and 648 rural households changing are interviewed each month with a total of 25,764 households.

The household consumption expenditures on goods and services in HBS 2003 are categorized in the spirit of the COICOP. As mentioned in the second chapter, The Classification of Individual Consumption According to Purpose (COICOP) is a system used in clustering consumption expenditures under certain groups and breaking down consumption expenditures up to 5-digit classifications. For household consumption, the system distinguishes twelve main groups of expenditure as:

1. Food and non-alcoholic beverages
2. Alcoholic beverages, cigarette and tobacco
3. Clothing and footwear
4. Housing and rent
5. Furniture, houses appliances and home care services
6. Health
7. Transportation
8. Communication

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[11] TURKSTAT, Official Statistics Program 2007-2011, pp.24

9. Recreation and Culture
10. Educational services
11. Restaurant and hotels
12. Various good and services

Recreation and culture is enlisted as the ninth group in this system. Expenditures on culture are mainly listed under the "recreation and culture" group.

One limitation to the COICOP is that when cultural expenditures are considered in particular, the 5-digit level remains too general to treat cultural goods and services separately. For instance, it is impossible to extract the exact amount of spending solely made to museums. Under the 5-digit level subgroup (09422) "museums, zoological gardens and etc.", households' expenditure on museums are considered together with zoological gardens which is a recreational item rather than cultural.

The difficulty in working with recreation and culture expenditure data is the infrequency in the expenditures on recreation and culture and their seasonal nature. The expenditure pattern on recreation and culture differs dramatically from the pattern on food expenditures. For instance, individuals do not constantly spend on audiovisuals or books, as they do for food. Besides, within recreational and cultural expenditures, package holidays are less frequently spent items when compared to books or newspapers and they usually take place over the summer months or during winter holidays. We get around the problem of seasonality and infrequency by using the HBS data which provides household data collected every month over a period of a year.

Another difficulty in working with recreation and culture expenditures is the significant number of zero observations they have. Indeed, in the Turkish HBS 2003 data 11,477 out of 25,764 households reported zero spending on recreation and culture. The zero observations in recreation and culture expenditure could be either a result of misreporting or the deliberate decision of the consumer not to consume (Lee, 2001:661). We get around this zero problem by employing the Tobit model in our analysis.

Using standard econometric techniques such as the Ordinary Least Squares (OLS) regression analysis on non-zero expenditures can lead to biased and inconsistent parameter estimates (Maddala 1983; Judge et al. 1988; Greene 1997 cited in Chi and Chang, 2004; Lee (2001)). In such cases, the Tobit model found by Tobin (1958) has been used by researchers to deal with the problem of zero expenditure in cross-section data (Chi and Chang, 2004:92). This study employs the Tobit model, given that the sample of Household Budget Survey-2003 contains observations with reported zero expenditure on recreation and culture. Although the interpretation of coefficient estimates is not as straightforward as it is other models, it allows also estimating the conditional marginal effects of the independent variables on the dependent variable.

Different than the OLS estimates, Tobit estimates are not chosen to maximize an *R-squared*. They maximize the log-likelihood function whereas OLS estimates produce the highest *R-squared* (Woolridge, 2002:545). Besides, the *R-squared* in the Tobit model is not identical with the one in OLS. It is the square of the correlation coefficient of the dependent variable and its fitted values (Wooldridge, 2002:545).

The Maximum Likelihood (ML) estimation in the Tobit model assumes that residuals have normal distribution and equal variances. Maddala and Nelson (1975) have shown that if the assumption above is violated, then, the ML estimates for the Tobit model end up with high deviation and inconsistency. There are two measures to avoid such kind of situation. First, the Breusch-Pagan test must be checked to see if there are any unequal variances. If so, second, then the robust ML and robust Tobit models must be used. Here, we use the robust variances of the ML.

Due to censored sample it would be also possible to use the Probit model and compare the results derived from Tobit to check the appropriateness of the Tobit model.

To understand whether Tobit model is appropriate to estimate a Probit model, there are three ways to check (Woolridge, 2002:546):

1. If the Tobit model holds, then the probit estimate (for the independent variables), $\hat{\gamma}_j$, should be close to $\dfrac{\hat{\beta}_j}{\hat{\sigma}}$, where $\hat{\beta}_j$ is the Tobit estimate (for the independent variables) and $\hat{\sigma}$ is estimated standard error of the Tobit regression.

2. If $\hat{\gamma}_j$ is significant and negative but $\hat{\beta}_j$ is positive, then the Tobit model might not be appropriate.

3. If $\hat{\gamma}_j$ and $\hat{\beta}_j$ are the same sign but $\left|\dfrac{\hat{\beta}_j}{\hat{\vartheta}}\right|$ is much larger or smaller than $\left|\hat{\gamma}_j\right|$, again Tobit might have problems.

First, the significance level of the estimates should be checked before checking all these steps. If all of the coefficient estimates are found to be insignificant, then there is no need to go through all the other steps.

Before employing the Tobit and Probit models to find the determinants of recreation and culture expenditures, we provide bivariate analyses in the following chapter. By using the computer software STATA for in depth data analysis, the descriptive statistics and bivariate analysis are derived from cross-tabulations. Described in Section II.III Empirical Evidence and Specification, all the independent variables are tabulated together with expenditures on recreation and culture. Following these analyses, multivariate analyses are carried out in order to estimate the impact of socioeconomic and demographic variables on recreational and cultural spending of households.

CHAPTER 4

DESCRIPTIVE STATISTICS

The 2003 Household Budget Survey estimates 16,744,000 households in Turkey. Of these households, 10,686,800 (64%) live in urban areas. At the regional level, the estimates show that Istanbul has the largest number of households among the twelve regions, with 2,868,000 households (17%). Whereas, Northeastern Anatolia appears to be the least populated with 466,402 (7%) region in terms of number of households. The 2003 HBS estimates an average household of four members. Regarding the household head estimates, 15,135,000 (90.4%) and 1,609,000 (9.6%) households have male and female heads respectively, and 14,915,000 households (89%) have married heads.

In 2003, the disposable income and total consumption expenditure[12] level of all 16,744,000 households in Turkey was at monthly average of 15 billion New Turkish Liras-YTL and 12.4 billion YTL, respectively. Per household, the monthly average of disposable income was 898 YTL while for consumption expenditure it was 738 YTL.

Within the total consumption expenditure of households, recreation and culture expenditures accounted for 272 million YTL at monthly average, which constituted 2.2% of the whole consumption basket in 2003 in Turkey.

Amongst all households, 57% (9,528,000) have made recreational and cultural spending with a monthly average of 28.5 YTL per household. Of this, 19.2 YTL was on cultural goods and services and 9.3 YTL was on recreational goods and services. Within cultural spending[13], 80 percent was made solely on cultural goods[14].

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[12] All income and expenditure figures are corrected for regional price differences

[13] Cultural spending covers spending on cultural goods and services

When average recreation and culture expenditures of total households are broken down in Figure 4.1, at the 2-digit level of COICOP "Audiovisual, photographic and data processing equipments" own the biggest share (29%). Then, this is followed by "Newspapers, books and stationery" and "Recreational and cultural services" with a share of 26% and 22% respectively.
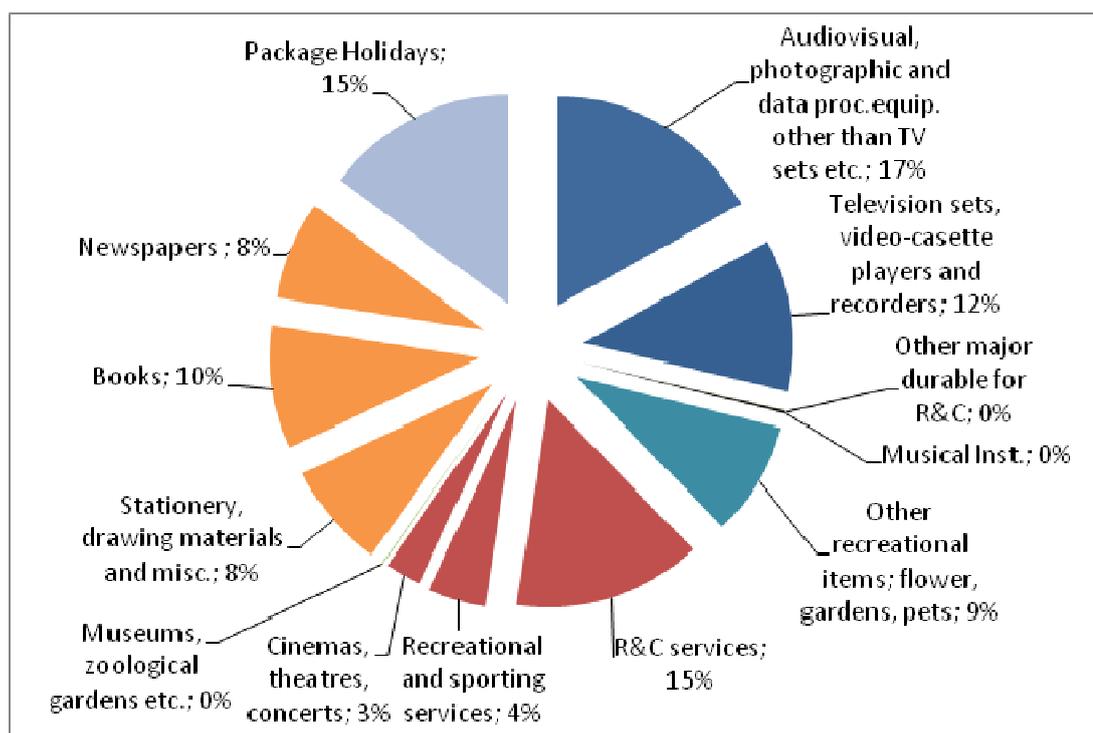
Source: TUIK Household Budget Survey (2003) and Author's calculations

Figure 4.1 Distribution of Average Recreation and Cultural Expenditure of Total Households in Turkey in 2003

At the 4-digit level of COICOP (See Table 2.1), package holidays recorded the largest share (14.8%) in recreation and culture spending. Followed by television sets (11.8%), books (9.6%), stationery (7.6%) and newspapers (7.6%) and other recreational and cultural services (6.3%), museums happen to have one of the lowest shares (0.1%) in recreation and culture expenditures (See Annex-1 for detailed breakdown). It is important to note that the figures here only capture expenditures of specific recreational and cultural items which are priced. As mentioned previously there are some cultural activities, which are not priced and

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[14] Other than Cultural Services (cinemas, theatres, concerts, museums, zoological gardens, television and radio taxes and hire of equipment, other recreational and cultural services)

hence, show low levels of spending. For instance, the low shares that museums have in Turkish households' expenditures can be mostly attributed to the fact that most of the museums are publicly subsidized and have very low entrances fees. Therefore, such low shares of cultural spending do not necessarily show cultural participation or exact levels of demand.

4.1 Household Income and Recreation and Culture Expenditures

Among households which have spent on recreation and culture, the average monthly disposable income and total expenditure per household were 1,102 YTL and 917 YTL. There has been a positive correlation found between household income and household expenditures on recreation and culture. As it was depicted in the introductory chapter, the cross-country analysis showed that countries with higher GDP per capita have tended to spend more on recreation and culture. Although Turkey stood as an outlier among other countries, Figure 4.2 demonstrates a similar but weaker relation between household income and household expenditure on recreation and culture within Turkey. As income of households increases, spending on recreation and culture slightly goes up.

Therefore, similar to international cases, the relation between household income and cultural spending is found to be positive in Turkey. Given the outliers and the disproportionate relation, there must be other factors—socioeconomic and demographic- that shape this relation.
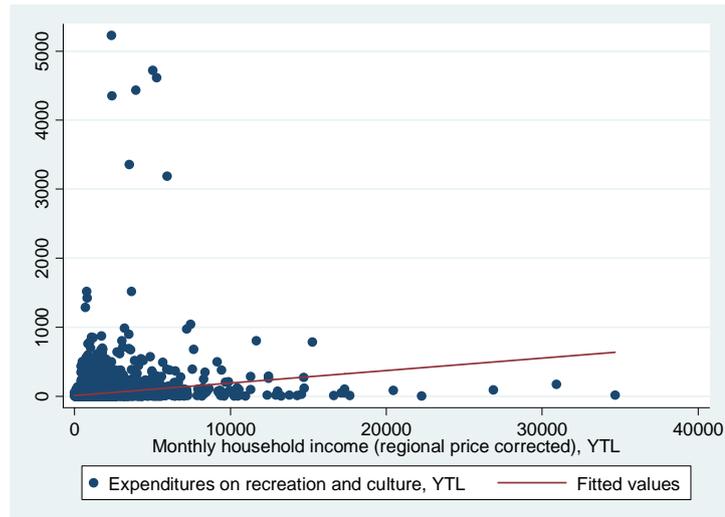
Source: TUIK Household Budget Survey (2003) and Author's calculation

Figure 4.2 Expenditures on Recreation and Cultural Expenditure by Households in Turkey in 2003 (Monthly Average)

4.2 Recreation and Culture Expenditures by Characteristics of Households

Before getting into rigorous multivariate analyses on the determinants of household recreation and culture expenditures, setting out the profile of spenders and non-spenders in recreation and culture would be useful.

4.2.1 Geographic Location

Of households which have spent on recreation and culture, 73% live in urban settlements and have spent more than in rural. The average monthly spending on recreation and culture per household in urban areas is 32 YTL, whereas in rural areas it is 19 YTL. The difference in recreation and culture expenditures among urban and rural households is found to be statistically significant at 1% significance level (p<0.000).

Amongst the regions; the largest share of cultural spenders (21.6%) lives in Istanbul and is higher than the city's population share (17%). Apart from Istanbul, other regions that are home to a greater share of cultural spenders than their population shares are Western Anatolia with 11% to 9% and the Mediterranean with 14% to 13% respectively (See Figure 4.3).

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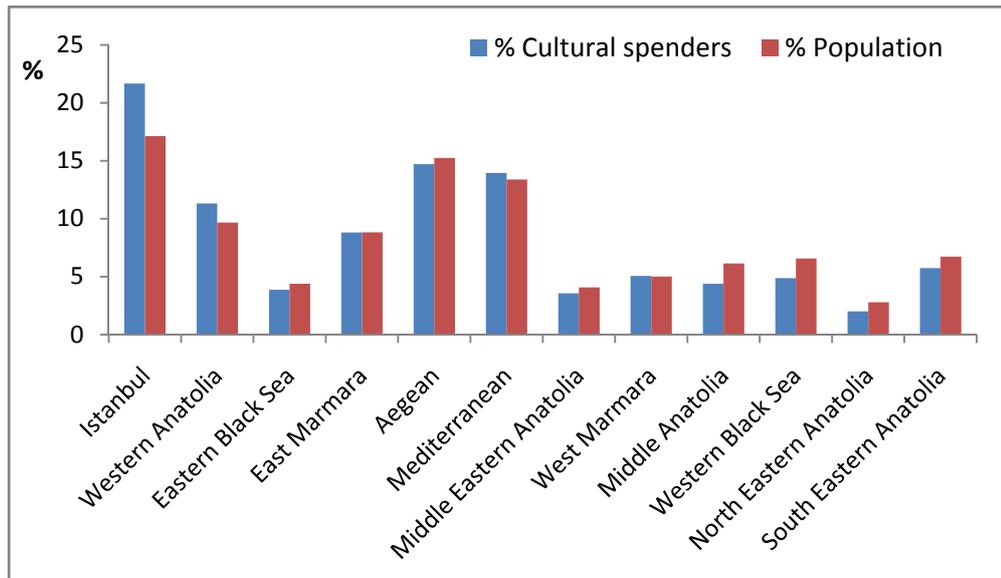
Figure 4.3 Shares of Cultural Spenders by NUTS-1 Level Regions, (2003)

In terms of expenditures on recreation and culture, Istanbul again takes the lead among households that have made some expenditure on recreation and culture with a monthly average of 44 YTL per household. The recreation and culture expenditures by NUTS 1 level illustrated in Figure 4.4 shows that Istanbul is followed by Western Anatolia and Eastern Black Sea regions with 32 YTL and 31 YTL spent on recreation and culture, respectively. Whereas, having its share of cultural spenders (5.7%) less than its population share (6.7%), South Eastern Anatolia spends the least on recreation and culture with a monthly average per household of 14 YTL. The results of a two-tailed test indicate that among cultural spenders, there is a statistically significant difference between the mean recreation and culture expenditures of households in Istanbul and in the South East (p<0.000) at the 1% significance level.
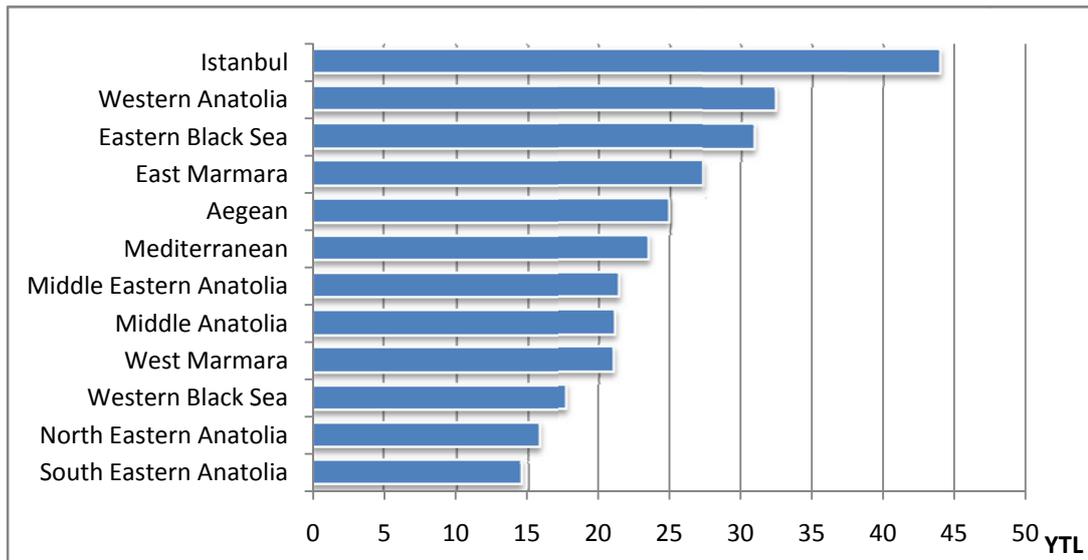
Figure 4.4 Breakdown of Monthly Average Recreation and Cultural Expenditure per Household by NUTS-1 Level Regions, (YTL, 2003)

The discrepancy among regions is also seen among the categories of recreation and culture. As seen in Figure 4.5 below, package holidays is the item that is most spent at by cultural spenders in Istanbul (~12 YTL), whereas in the South East cultural spenders have spent nothing on this item. The reason could be that most of the package holiday providers are clustered in Istanbul. Another peculiarity in this figure is that, the monthly average amount spent on sound recording equipment in South East (~3 YTL) triples Istanbul (~1 YTL).
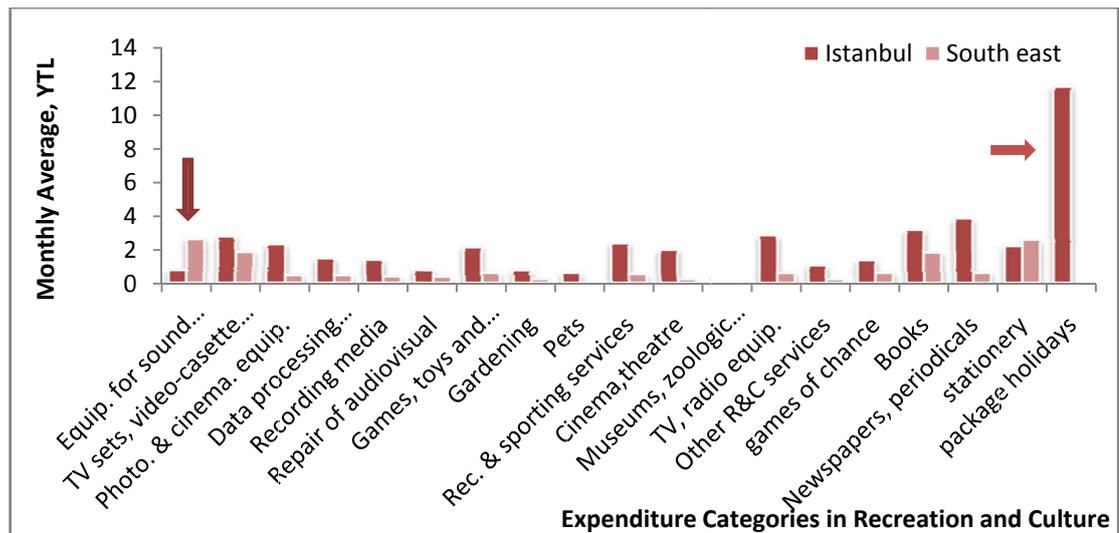
Source: TUIK Household Budget Survey (2003) and Author's calculations

Figure 4.5 Recreational and Cultural Expenses of Female and Male Household Head (Monthly average-YTL) (2003)

4.2.2 Household Size and Composition

The family characteristic of the cultural spenders show that the majority (30%) of the households spending on recreation and culture are made by nucleus families, consisting of 4 family members. This figure is larger than the population share of nucleus families (26%). Among those who have spent on recreation and culture, the amount spent by nucleus families is total 29 YTL per month on average. As seen in Figure 4.6, households that have more than two members tend to spend less on recreation and culture. However, as households grow towards becoming more than 7 people, their average expenditure per month on recreation and culture shows huge discrepancies, which one cannot easily interpret. Knowing that households with more 13 members own an extremely small share (0.23%) in the overall population, their high expenditure levels in recreational and cultural goods does not allow for a sound analysis.
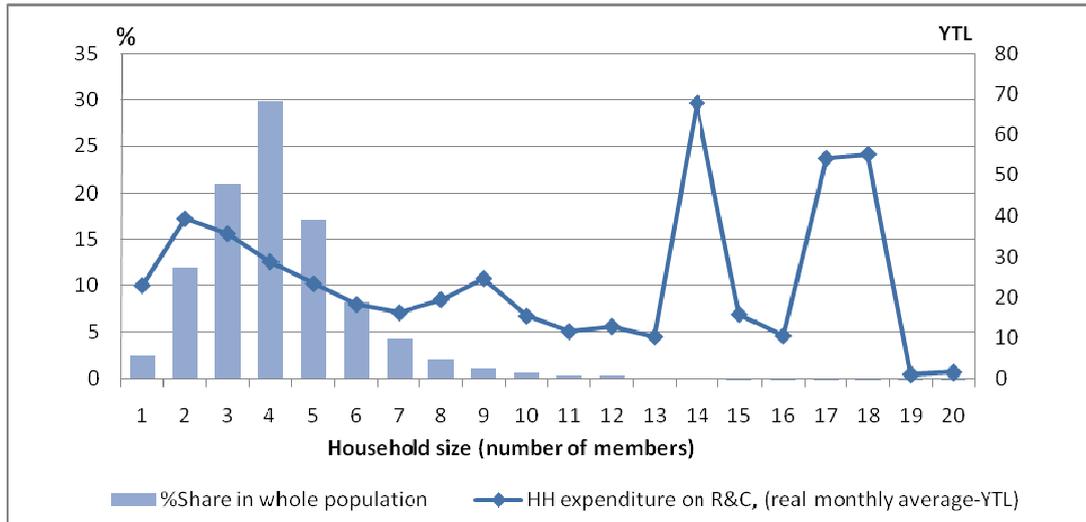
Source: TUIK Household Budget Survey (2003) and Author's calculations

Figure 4.6 Household Expenditures on Recreation and Culture by Household Size (monthly average-YTL) (2003)

Besides the household size, the age composition of the households may influence spending decisions on recreation and culture. The household estimates show that households having children aged 0-6 constitute 36% of the cultural spenders which is close to their population share (35%). Similarly, households without children aged 0-6 have close shares in cultural spenders (64%) and in the population (65%). Among cultural spenders, households without children aged 0-6 have spent more (32 YTL) on recreation and culture per month than households with children aged 0-6 (22 YTL) (p<0.000) (See Table 4.1). This situation may show that households with children up to age 6 could be involved in passive leisure activities as they need to take care of their children at home. Therefore, they tend to spend less on outdoor activities. Regarding older household members, households having members at age 65 and above constitute a lower share in cultural spenders (15%) than in the population (19%). In contrast, households without aged members over 65 constitute a higher share in cultural spenders (85%) than in the population (81%). On recreation and culture, households having older members aged 65 and above have spent more per month on average (34 YTL) than households without aged members over 65 (27 YTL) (See Table 4.1). However, the t-test statistics show that among cultural spenders, the average spending on recreation and culture per month for households with members aged 65 and above is not statistically

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significantly different from households without members aged 65 and above (p< 0.265)

4.2.3 Characteristics of Household Head

As indicated in Table 4.1, among households that have spent on recreation and culture, only 9 percent of the households have female household head. Additionally, their shares in cultural spenders are not too different than their population shares (See Table 4.1). Male household heads (29 YTL) have spent slightly more than female household heads (25 YTL) on recreation and culture per month. However, the results of the t-test suggest that there is no statistically significant difference in recreation and culture expenditures between female headed and male headed households (p<0.3914). Among households that have spent on recreation and culture, we observe different tastes of female heads and male heads in spending on recreation and culture. As seen in Figure 4.7, female headed households have spent mostly on books (3.2 YTL, monthly average) and newspapers and periodicals (2.7 YTL, monthly average), while male headed households have mostly spent on package holidays (4.5 YTL, monthly average) and television and video sets (3.4 YTL, monthly average). Indeed, our cross-tabulations also show that those female heads whose household have spent on recreation and culture have the highest rates (30%) of reading habit compared to male heads of cultural spenders (26%) and to female heads of non-spender families (0.66%). When compared to package holidays, buying books and newspapers are much more frequently done whereas package holidays are not frequently purchased.
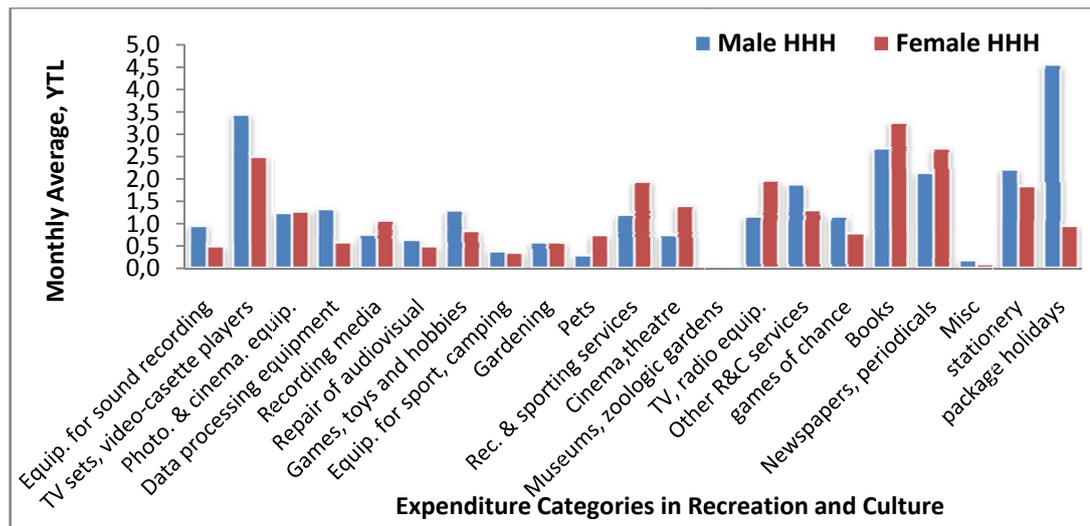
Figure 4.7 Recreational and Cultural Expenses of Female and Male Household Head (monthly average-YTL) (2003)

Regarding the marital status of household heads, 90% of them are married. While non-married heads of those households which made cultural spending have spent 38 YTL, households with married heads have spent 28 YTL on average per month. However, the difference in recreation and culture expenditures between households with married and non-married heads is not found to be statistically significant (p<0.2512).

The educational background of household heads appears as an important determinant of recreation and culture spending. From Table 4.1, we observe that when compared with their population shares, household heads with lower levels of education such as incomplete basic or basic education constitute a lower share among cultural spenders. However, household heads with complete basic education still holds the largest share (45%) among cultural spenders. Nevertheless, heads with tertiary or secondary diploma constitute a larger share among cultural spenders (14.8% and 32.8%) than in population (9.5% and 27.4%).

Figure 4.8 shows that the more educated the household head is, the more s/he spends on recreation and culture. Among those households spending on recreation and culture, households with a head owning a tertiary degree, spent almost 5 times more than those households with heads that have completed basic education degree (p<0.000). This may be related to the fact that higher levels of education

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are positively correlated with higher income and the holding of regular jobs as well as change in tastes towards cultural goods with higher levels of schooling.
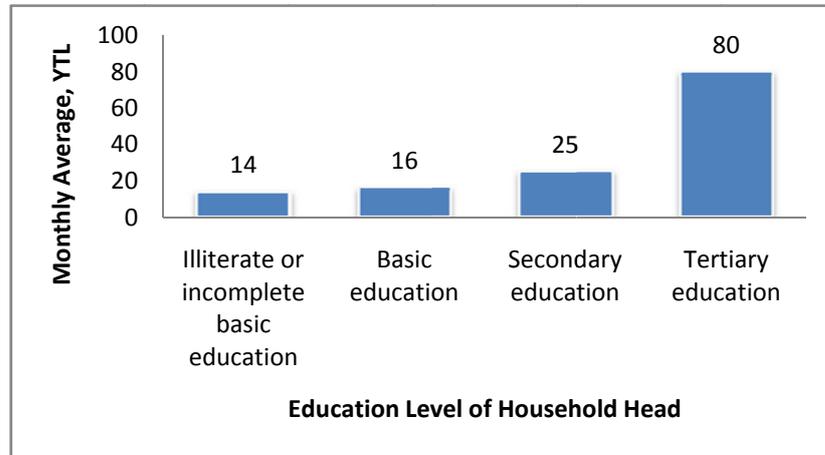
Figure 4.8 Breakdown of Monthly Average Recreation and Cultural Expenditure per Household in Turkey in 2003

The occupational status and the type of employment of household head are other significant characteristics which are found in the literature to be influential on recreation and culture spending of households. Of the households which have spent on recreation and culture, most of them (73%) have heads who are employed and of those, most of them (41 %) work as regular employees. Both shares of employed heads and heads who work as regular employees among cultural spenders (73.1% and 41.3%) are larger than their population shares (70.3% and 34.5%). On the other hand, among the non-employed heads (26.9%) of households that have spent on recreation and culture, 16.3% consist of retired heads (See Table 4.1).

Households with employed heads have spent more (30 YTL) on recreation and culture than households with not-employed heads (25 YTL) on average per month ($p < 0.0576$). Those heads which are employed and work as employers have spent the most (49 YTL) compared to other heads with different work status. Households with heads working as casual employees have spent only 10 YTL on recreation and culture, which is the least amount on average per month. The t-test statistics reveal that the difference in average recreation and culture expenditure per month between households headed by employers and casual employees is statistically significant at the 1% significance level ($p < 0.000$). Households making cultural

spending and having not-employed but retired heads have spent 27 YTL on average per month. Whereas, not-employed heads that are not retired spent 20 YTL on a monthly basis on recreation and culture (See Table 4.1). Among cultural spenders, the difference in recreation and culture expenditures between households with retired and non-retired heads is found to be statistically significant ($p<0.0034$). This might indicate that retired heads have more leisure together with better financial status when compared to not-employed heads that are not retired.

Table 4.1 Characteristics of Cultural Spenders and Zero-Spenders in Recreation and Culture by Socioeconomic and Demographic Variables, 2003

	Monthly Avr., YTL	Share (%) in Cultural Spenders	Share (%) in Zero-Spenders	Share (%) in Total Population
Gender of Household Head				
Male	28.8	91.36	89.11	90.39
Female	25.1	8.64	10.89	9.61
Household Size: 4 members	28.7	30.00	21.02	26.00
Households with children at age 0-6	22.2	36.09	34.12	35.24
Households with no children at age 0-6	32.1	63.91	65.88	64.76
Households with members at age 65 and over	34.2	15.37	24.74	19.40
Households without members at age 65 and over	27.5	84.63	75.26	80.60
Marital Status of Household Head				
Non-married	37.7	9.48	12.82	10.92
Married	27.6	90.52	87.18	89.08
Education of Household Head				
Tertiary education	79.9	14.87	18.03	9.55
Secondary education	25.2	32.83	59.02	27.48
Basic education	16.3	45.47	20.41	51.31
Illiterate or incomplete basic education	14.1	6.83	2.54	11.65
Work Status of Household Head				
Employed	30.2	73.10	66.74	70.36
Not-employed but retired	26.6	16.30	17.92	17.00
Not-employed but not retired	20.2	10.60	15.33	12.64
Regular employee	33.6	41.29	25.51	34.49
Casual Employee	10.2	4.46	6.72	5.43
Employer	49.1	8.10	4.12	6.38
Self-Employed	19.5	19.26	30.39	24.06
Not-employed(missing)	24.1	26.90	33.26	29.64
Area of Household				
Urban	32.1	72.97	51.75	63.82
Rural	19.0	27.03	48.25	36.18
Region of Household				
Istanbul	44.2	21.66	11.15	17.13
Western Anatolia	32.3	11.32	4.94	9.67
Eastern Black Sea	30.6	3.87	15.98	4.39
East Marmara	27.3	8.82	8.86	8.83
Aegean	25.0	14.71	7.49	15.25
Mediterranean	23.5	13.95	12.64	13.39
Middle Eastern Anatolia	21.4	3.57	8.47	4.08
West Marmara	21.0	5.07	8.8	5.01
Middle Anatolia	20.9	4.40	5.07	6.15
Western Black Sea	17.7	4.88	3.81	6.57
North Eastern Anatolia	15.8	2.01	4.76	2.79
South Eastern Anatolia	14.5	5.75	8.03	6.74

Source: TUIK Household Budget Survey (2003) and Author's calculations

4.3 Who are the Zero-spenders on Recreation and Culture?

Even though the majority (57%) of the total households in Turkey have made spending on recreation and culture, it would be interesting to look at the profiles of the non-spenders, which constitute 43% of the households, and see if there are diverging characteristics between the cultural spenders and non-spenders. Those households which have not purchased anything on recreation and culture during the survey month had 629 YTL as average disposable income per month and had average monthly expenditure of 504 YTL in 2003. The monthly average income and expenditure levels of zero-spenders show that households which have made recreational and cultural spending had much higher income and expenditure figures, 1,102 YTL and 917 YTL respectively on average per month.

Although 27 percent of the cultural spenders live in rural settlements, this figure is 48 percent of the zero-spenders (See Table 4.1). When these zero-spenders are broken down by region, they mostly live in the Aegean (16%), Mediterranean (12%) regions and in Istanbul (11%); whereas most (22%) of the cultural spenders resided in Istanbul.

The household composition was not that different when compared to the family types of cultural spenders. The majority of the zero-spenders either had 2 family members (21%) or 4 (21%) with an average of 4 people.

Regarding the gender of the household heads, the share of female heads was higher in zero-spender households than it was in cultural spenders. Almost 11% were female headed households; while only 8% of the cultural spenders had female heads in their households.

When compared with cultural spenders, the marital status of the zero-spender household head did not show any peculiarity. As it was for the cultural spenders (90%), most (87%) of the zero spender households had married heads.

Among the household head characteristics, education is the most important character differentiating spenders from non-spenders. The share of heads with

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tertiary diploma among cultural spenders (14.8%) was higher than the share among zero-spenders (2.5%). Looking at the same issue from a different perspective, 89% of the household heads with tertiary diploma made spending on recreation and culture. Since the largest share of cultural spenders belonged to households with basic education diploma (45.5%), this was still the case among zero-spenders (59%). Moreover, the share of either illiterate heads or heads with incomplete basic education was quite high (18%) among the zero-spender. This figure was also higher than the populations share (11.6%), whereas only 6% of the cultural spenders had heads with either illiterate heads or heads with incomplete basic education.

Looking at the employment status of household heads, cultural spenders had a higher share (73%) of employed heads compared to the heads among zero-spender households (66%). Similarly, on the work status of the heads, cultural spenders had a higher share (41%) of heads who work as regular employees, while this share was 25% among zero-spender households. On the other hand, zero-spenders had higher shares of self-employed heads (30%) and heads (15%) that were not employed but not retired when compared to heads in cultural spender households (19% and 10%, respectively). Retired heads were slightly more in zero-spender households (18%) than it was in cultural spenders (16%).

CHAPTER 5

DETERMINANTS OF HOUSEHOLD EXPENDITURES ON RECREATION AND CULTURE: A MULTIVARIATE ANALYSIS

The purpose of this chapter is to estimate an expenditure model which help explains the determinants of household expenditures on recreation and culture by various household socioeconomic and demographic characteristics. To reiterate, both the simple and the extended models were defined as follows:

Simple Model:

$$w_i = \alpha_i + \beta_i \ln(x_i) + \delta_i \ln(s_i) + u_i$$

$w_i = Share\ of\ Recreation\ and\ Culture\ Expenditure\ in\ Total\ Expenditure\ of\ i^{th}\ Household$

$x_i = Total\ Real\ Expenditure\ of\ i^{th}\ Household$

$s_i = Size\ of\ i^{th}\ Household$

Extended Model:

$$w_i = \alpha_i + \beta_1 \ln(x_i) + \beta_2 \ln(s_i) + \beta_3(r_i) + \beta_4(reg_i) + \beta_5(a_i) + \beta_6(gender_i) + \beta_7(a\_hhh_i)$$
$$+ \beta_8(e\_hhh_i) + \beta_9(m\_hhh_i) + \beta_{10}(emp\_hhh_i) + u_i$$

Dependent variable

Share of recreation and culture expenditure in total expenditure (w_i)

Independent variables

Total real expenditure (*x*)	Logarithm of x
Composition of household (*a*)	Household size (*s*) (reference variable) Members at age 0-6 Members at age 7-17 Members at age 18-24 Members at age 25-44 Members at age 45-64 Members at age 65 and above
Area (*r*)	Urban (reference variable) Rural
Region (*reg*)	1 Istanbul 2 West Marmara 3 Aegean 4 East Marmara 5 West Anatolia 6 Mediterranean

	7 Central Anatolia
	8 West Black Sea
	9 East Black Sea
	10 North East Anatolia
	11 Central East Anatolia
	12 South East Anatolia (reference variable)
Gender of household head (*gender*)	Female
	Male (reference variable)
Age of household head (*a_hhh)*	
Education level completed of household head (*e_hhh)*	Illiterate or incomplete basic education (reference variable)
	Basic education
	Secondary education
	Tertiary education
Marital status of household head (*m_hhh*)	Married
	Not-married (reference variable)
Employment status of household head (*emp_hhh*)	Not-employed (reference variable)
	Employed
	Retired
Work status of household head (work_*hhh*)	Regular
	Casual (reference variable)
	Employer
	Self-employed

In the following sub-sections of this chapter, the estimation results of the Probit regressions using both the simple and the extended models are discussed first. Secondly, the Tobit analysis is run on the simple and extended models and then, the empirical results are discussed. Thirdly, the Engel estimates and the elasticity coefficients of the simple Tobit model are examined. Lastly, scenarios of hypothetical cases are developed and possible impacts of the household characteristics are analyzed.

5.1 The Probit Model Results

The probit regression results of both simple and extended models are reported in Table 5.1 below. The table lays out four columns showing the relative likelihood of each explanatory variable on household recreation and culture expenditures both for the simple and the extended versions of the models. The first and second columns show the probit coefficient estimates and the marginal effects of each explanatory variable for the simple model. Similarly, the third and the forth column does it for the extended model. The predicted probability at mean for spending on recreation and culture is found at 58% for the simple model and 59% for the extended model.

Household Characteristics:

- The results of the basic Probit model show that the explanatory variables, which are the logarithmic expressions of total household expenditure and household size, have significantly positive effects on household recreational and cultural spending.

- In a family of three, an increase of one person increases the predicted probability of spending on recreation and culture by 1.4 percentage points to 59%.

- The total household expenditure is evidenced as a significantly positive correlate both for the likelihood and for the share of recreation and culture spending. An increase in the mean total household expenditure from 600 YTL to, 1,200 YTL, increases the predicted probability of cultural spending substantially, by 22 percentage points to 81%.

- The estimation results for the extended model shows that household age composition is a significant correlate of spending on recreation and culture. However, household members at different age groups have different impacts on recreational and cultural spending. Having an additional member aged 7 to 17 or 25 to 44 increase the predicted probability at mean (59%) of household spending on recreation and culture by 6 percentage points and 1 percentage point, respectively. Having members in other age categories tend to decrease the probability of making expenditure on recreation and culture. Having an additional member aged over 65 decreases the predicted probability at mean the most by 3.5 percentage points.

- Urban/rural residence found to be a significant correlate of recreation and culture expenditures. Compared with urban households, a household living in rural areas has an 8 percentage point lower probability of cultural spending when controlling for all other variables in the analysis. Living in certain regions has strong association with the likelihood of spending on recreation and culture. For instance, households dwelling either in Istanbul, Western parts[15] or in the Mediterranean have a higher tendency for spending on recreation and culture when compared with the households in South-Eastern part of Turkey. On the other hand, if a household lives in

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[15] Including Western Marmara, Aegean and Western Anatolia

North East or Middle Anatolia this decreases the predicted probability of cultural spending by 8 percentage points and 7 percentage points when compared with households settled in the South East. Given that the North Eastern and Middle Anatolian regions have lower population shares (2.79%, 6.15%) than South Eastern region, there might be limited provision of recreational and cultural services which generates such kind of results.

Household Head Characteristics

- The results of the extended Probit model shows that age of household head is significantly negatively associated with the probability of recreation and culture spending. As the head of household ages each year, the predicted probability declines by 0.2 percentage points. So that households with heads aged ten years more would result in a 2 percentage points decline in the predicted probability at mean going from 59% down to 57%.

- Controlling for other variables, gender of household head demonstrates an interesting significant correlation which is contrary to the expectations and to the literature findings. Controlling for all variables, in the extended model households with female heads tend to spend more when compared with households with male heads[16]. Having a female head in the household increases the predicted probability in cultural spending from 59% to 65%. This might probably result from the nature of recreational and cultural goods and services purchased by female headed households. As depicted in the previous chapter, female heads spent mostly on books and newspapers, magazines while male heads mostly spent on package holidays and TV sets. Package holidays and TV sets are not frequently bought items, whereas books and newspapers could be frequently bought as they are much cheaper and easier to purchase.

- Alike in other international cases, the educational level of household heads in Turkey is strongly associated with a higher probability of spending on recreation and culture. The more educated the household head is, the more likely s/he spends on recreation and culture. Compared to households with illiterate heads or literate but with no diploma, while a head with basic

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[16] 1171 households which have spent on recreation and culture have female heads and average household disposable income per month is 964 YTL which is below 1,102 YTL the monthly average disposable income per household which have spent on culture.

education diploma increases the predicted probability on recreation and culture spending by 7 percentage points, having a head with secondary education diploma has a higher positive effect with an increase of 14 percentage points in the predicted probability at mean. For a head with tertiary diploma, the increase is even bigger. The impact of having a tertiary diploma holder head on the likelihood of recreational and cultural spending is four times larger than having a head with complete basic education. A head with tertiary degree ends up increasing the likelihood of making recreation and culture expenditures by 28 percentage points, increasing the predicted probability at mean from 59% to 87%.

- The marital status of the household head does not have significant association with the probability of spending on recreation and culture.

- Another socioeconomic status indicator, which was expected to have either positive or negative association with recreation and culture expenditures, was the employment status of the household head. A positive association between employment status and the likelihood of recreation and culture spending was not found. A similar conclusion was reached for retired household heads.

Table 5.1 Probit Regression Results

VARIABLES	PROBIT MODEL			
	Simple Model		Extended Model	
	PROBIT MODEL-1	PROBIT MODEL-1 Marginal Effects	PROBIT MODEL-2	PROBIT MODEL-2 Marginal Effects
Household Characteristics				
ln(x)	0.941***	0.367***	0.823***	0.320***
	[0.0192]	[0.00743]	[0.0239]	[0.00922]
ln(hh_size)	0.123***	0.0480***		
	[0.0209]	[0.00818]		
N_age06			-0.0300**	-0.0117**
			[0.0152]	[0.00590]
N_age717			0.155***	0.0601***
			[0.01000]	[0.00389]
N_age1824			-0.0396***	-0.0154***
			[0.0139]	[0.00540]
N_age2544			0.0269*	0.0105*
			[0.0156]	[0.00606]
N_age4564			-0.0858***	-0.0334***
			[0.0191]	[0.00742]

Table 5.1 (continued)

N_age65pls		-0.0890***	-0.0346***
		[0.0272]	[0.0106]
rural		-0.213***	-0.0834***
		[0.0253]	[0.00995]
(south east)			
istanbul		0.164***	0.0630***
		[0.0497]	[0.0187]
west_marmara		0.238***	0.0897***
		[0.0550]	[0.0199]
aegean		0.197***	0.0752***
		[0.0477]	[0.0178]
east_marmara		0.0852	0.0328
		[0.0535]	[0.0204]
west_anatolia		0.249***	0.0940***
		[0.0497]	[0.0181]
mediterranean		0.274***	0.103***
		[0.0474]	[0.0172]
mid_anatolia		-0.180***	-0.0710***
		[0.0557]	[0.0222]
west_blacksea		-0.00992	-0.00386
		[0.0523]	[0.0204]
east_blacksea		-0.0016	-0.000624
		[0.0637]	[0.0248]
north_east		-0.213***	-0.0840***
		[0.0734]	[0.0293]
mid_east		-0.0899	-0.0352
		[0.0641]	[0.0253]
Household Head Characteristics			
age		-0.00457***	-0.00178***
		[0.00139]	[0.000541]
female		0.126**	0.0482**
		[0.0586]	[0.0221]
(incomplete basic or illit)			
comp_basic		0.183***	0.0711***
		[0.0374]	[0.0145]
comp_sec		0.388***	0.147***
		[0.0436]	[0.0158]
tertiary		0.837***	0.279***
		[0.0593]	[0.0154]
married		0.0551	0.0215
		[0.0515]	[0.0202]
(not-employed)			
employed		-0.0446	-0.0173
		[0.0555]	[0.0215]
retired		0.0256	0.00995
		[0.0448]	[0.0174]
(casual employee)			
regular		-0.0137	-0.00532
		[0.0465]	[0.0181]

Table 5.1 (continued)

employer			-0.0458	-0.0179
			[0.0617]	[0.0242]
selfemp			-0.0337	-0.0131
			[0.0475]	[0.0185]
Constant	-5.940***			
	[0.123]			
Predicted probability at mean		0.58		0.59
Observations	25764	25764	25764	25764
Robust standard errors in brackets *** p<0.01, ** p<0.05, * p<0.1				

5.2 The Tobit Model Results

The Tobit regression results of both simple and extended models are reported in Table 5.2 below. Alike in the previous sub-chapter, the table lays out the results for both simple and extended models of the Tobit analysis. Since the regression coefficients of the Tobit model do not allow a straightforward interpretation of the correlates, the table includes the marginal effects of explanatory variables on the expected values of both censored and all observed –positive and zero- recreational and cultural expenditures which are computed at their sample means. There are three columns each under the simple and extended model showing the impact of each explanatory variable on household recreation and culture expenditures. The first shows the Tobit coefficient estimates. The second column shows the marginal effects of the explanatory variables on the expected values conditional on households making recreational and cultural spending, whereas the third set of marginal effects take into account zero expenditures. For the simple model the predicted shares are: 3.61% at the truncated and 1.64% at the censored mean. For the extended model the predicted share are: 3.53% at the truncated and 1.58% at the censored mean.

Before interpreting the Tobit estimates, we first checked the appropriateness of the Tobit model. As previously discussed in Chapter III, we used Probit results of the simple model to check the appropriateness of the simple Tobit model. According to that method, conditional on the estimates being significant, if the Tobit model holds, then the probit estimate, $\hat{\gamma}_j$ for instance the coefficient of $\ln(x_i)$ should be close to

$\dfrac{\hat{\beta}_j}{\hat{\vartheta}}$, where $\hat{\beta}_j$ and $\hat{\vartheta}$ are Tobit estimates of the coefficients of $\ln(x_i), \ln(s_i)$ and of

the standard error of the Tobit regression (ϑ) (Woolridge, 2002:546). Therefore, based on the estimates drawn from the simple Probit and Tobit models, the following results were found for the two independent variables $\ln(x_i)$ and $\ln(s_i)$:

Tobit coefficient estimate ($\hat{\beta}_i$) for $\ln(x_i)$: +3.02682 (significant), Sigma $\hat{\vartheta}$:

4.758387 ➔ $\dfrac{\hat{\beta}_i}{\hat{\vartheta}} \cong$ 0.64

Probit coefficient estimate ($\hat{\gamma}_1$) for $\ln(x_i)$: + 0.941081 (significant)

Both of the coefficient estimates for $\ln(x_i)$ are positive and significant, and it is also found that the Tobit estimate (0.64) is not too far from the respective Probit coefficient estimate (0.94). Whereas, when we compare the coefficient estimates for the household size variable $\ln(s_i)$, the Tobit results from the simple model shows that it is insignificant. In all estimates robust standard errors were used.

Household Characteristics:

- In all versions of the Tobit model, the total household expenditures exert significantly positive effect on the share spent on recreation and culture. In the simple model, conditional on households spending on recreation and culture, an increase from 600 YTL to 1,200 YTL in total household expenditures per month increases the predicted share spent on recreation and culture from 3.64% to 4.47%.

- Contrary to the findings in the simple model of Probit, the household size does not have any significant effect on the share spent on recreation and culture. Whereas, in the extended model, the effects of the age composition varies significantly. Only members at age 7 to 17 have positive impact on the household share spent on recreation and culture, which is in line with the Probit findings. On the other hand, all other members different than the age group 7-17, has a negative impact on the share spent on culture.

- Among households which have spent on recreation and culture, having an additional member at age 7-17 results in a 0.15 point increase in the predicted share at mean spent on culture. Whereas, when accounting for

households which have not made any spending on culture this increase becomes a 0.21 point increase. The difference in the effects on shares spent on recreation and culture show the different preferences the age groups have for recreational and cultural goods and services.

- In terms of negative impact of the age composition on the share spent on culture, an additional member of age 45-64 impacts the most, with a 0.12 point decline among households which have spent on recreation and culture. Whereas in the Probit analysis, we found that the largest negative effect came from the elderly members at age 65 and above. Here in Tobit, among households that have spent on culture, having an additional family member at age 65 and above decreases the predicted share by 0.08 points. When accounting also for those zero-spenders, this decline becomes 0.11 points.

- Some regions and dwelling in rural settlements are found to have significant effects on cultural spending. Controlling for all variables in the extended model, living in rural areas has significantly negative effect when compared to urban settlements. Contrary to the Probit findings and to what was hypothesized, living in Istanbul has no significant impact on cultural spending when compared with households in the South Eastern region. However, households living in the western parts (Western Marmara, Eastern Marmara, Aegean and Western Anatolia) of the country and in the Mediterranean have significantly higher predicted shares on recreation and culture than those living in South East. The only region that has significantly negative effect on cultural spending in comparison to the South East is the North-Eastern Anatolia region, when compared to the South East.

- When compared to the households in South East, living in Mediterranean has the highest significant impact on the predicted share spent on recreation and culture. Living in the Mediterranean as opposed to South East increases the predicted share by 0.32 points for households which have spent on recreation and culture.

- Controlling for all variables including the household expenditure levels, the difference in impacts among different regions and between urban and rural places implies difference in supply of recreational and cultural services. Another plausible explanation is the different tastes of households from different regions.

Household Head Characteristics:

- As found in the Probit analyses, the age of household has significantly negative effect on recreational and cultural expenditure share of households.

- Having a female head does not have a significant impact on household's cultural spending. However, in Probit analysis we noted differently that female headed households were significantly more likely to spend on recreation and culture in comparison to male headed households. Since tobit captures the probability and the magnitude of recreation and culture purchases together, even though female heads were more likely to spend on recreation and culture than male heads, the magnitude of their spending were lower than male headed households. As it was mentioned in the previous chapter, the average spending on recreation and culture per month for female headed households that already spent on recreation and culture was 25 YTL, while for male headed households the corresponding figure was 29 YTL. So although their spending was much more frequent and hence, their probability of spending was higher, the amount that female heads spent was lower than male heads spending, which might explain why female headship is no longer a significant determinant of the share spent on recreational and cultural goods.

- The education level of the household head is found to be one of the strongest determinants, which has significantly positive impact on the share spent on culture. The marginal effects get larger as the household head completes higher levels of education. We found that among cultural spenders, if a household head has completed basic education s/he would be increasing the predicted household share spent on recreation and culture by 0.2 points in comparison to households with heads who are illiterate or literate but without a diploma. This increase in the predicted share becomes higher (0.4 points) for households having heads with complete secondary education. More importantly, as opposed to the illiterate heads or heads without diploma, heads with tertiary diploma quadruples the increase in share that heads with basic education diploma had among households which made cultural spending. The similar pattern in the marginal effects was observed when zero-spenders were also taken into account.

- Likewise in the Probit analyses, when controlling for other variables in the analysis, neither the marital status nor the employment and work status of household head are found significant in determining the household share spent on recreation and culture. The insignificance of employment status of household head was not anticipated.

Table 5.2 Tobit Regression Results

	TOBIT					
		Simple			Extended	
VARIABLES	TOBIT MODEL-1	TOBIT MODEL-1 Marginal Effects: Truncated Expected Value	TOBIT MODEL-1 Marginal Effects: Censored Expected Value Conditional on Spending on Recreation and Culture	TOBIT MODEL-2	TOBIT MODEL-2 Marginal Effects: Truncated Expected Value	TOBIT MODEL-2 Marginal Effects: Censored Expected Value Conditional on Spending on Recreation and Culture
Household Characteristics						
ln(x)	3.027***	1.028***	1.379***	2.698***	0.909***	1.214***
	[0.147]	[0.0454]	[0.0584]	[0.155]	[0.0486]	[0.0628]
ln(hh_size)	0.0809	0.0275	0.0368			
	[0.0858]	[0.0292]	[0.0391]			
N_age06				-0.167***	-0.0562***	-0.0751***
				[0.0585]	[0.0197]	[0.0263]
N_age717				0.466***	0.157***	0.210***
				[0.0400]	[0.0132]	[0.0174]
N_age1824				-0.156***	-0.0524***	-0.0700***
				[0.0564]	[0.0189]	[0.0252]
N_age2544				-0.0978*	-0.0330*	-0.0440*
				[0.0587]	[0.0197]	[0.0264]
N_age4564				-0.359***	-0.121***	-0.161***
				[0.0741]	[0.0250]	[0.0334]
N_age65pls				-0.253**	-0.0854**	-0.114**
				[0.117]	[0.0395]	[0.0528]
rural				-0.451***	-0.151***	-0.201***
				[0.100]	[0.0331]	[0.0438]
(south east)						
istanbul				0.102	0.0346	0.0463
				[0.179]	[0.0610]	[0.0817]
west_marmara				0.791***	0.279***	0.380***
				[0.199]	[0.0736]	[0.102]
aegean				0.822***	0.287***	0.390***

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Table 5.2 (continued)

				[0.180]	[0.0653]	[0.0899]
east_marmara				0.417**	0.144**	0.194**
				[0.204]	[0.0719]	[0.0978]
west_anatolia				0.797***	0.280***	0.380***
				[0.189]	[0.0690]	[0.0951]
mediterranean				0.925***	0.326***	0.443***
				[0.178]	[0.0656]	[0.0905]
mid_anatolia				-0.285	-0.0944	-0.125
				[0.248]	[0.0808]	[0.106]
west_blacksea				0.243	0.0829	0.111
				[0.211]	[0.0732]	[0.0989]
east_blacksea				0.135	0.0457	0.0613
				[0.250]	[0.0854]	[0.115]
north_east				-0.592**	-0.192**	-0.252**
				[0.286]	[0.0894]	[0.115]
mid_east				-0.0519	-0.0174	-0.0233
				[0.258]	[0.0865]	[0.115]
Household Head Characteristics						
age				-0.0232***	-0.00782***	-0.0104***
				[0.00562]	[0.00188]	[0.00250]
female				-0.00096	-0.000323	-0.000432
				[0.294]	[0.0991]	[0.132]
(incomplete basic or illit)						
comp_basic				0.587***	0.197***	0.264***
				[0.148]	[0.0496]	[0.0661]
comp_sec				1.191***	0.416***	0.563***
				[0.169]	[0.0609]	[0.0834]
tertiary				2.151***	0.813***	1.127***
				[0.204]	[0.0843]	[0.119]
married				-0.485	-0.168	-0.226
				[0.301]	[0.107]	[0.146]
(not-employed)						
employed				-0.302	-0.103	-0.138
				[0.204]	[0.0700]	[0.0942]
retired				0.113	0.0384	0.0514
				[0.175]	[0.0594]	[0.0797]
(casual employee)						
regular				0.226	0.0764	0.102
				[0.155]	[0.0529]	[0.0709]
employer				-0.217	-0.0722	-0.0958
				[0.215]	[0.0706]	[0.0933]
selfemp				0.0756	0.0255	0.0341
				[0.165]	[0.0558]	[0.0747]
Constant	-19.89***			-17.05***		
	[0.981]			[0.927]		
Predicted share at mean		3.61	1.64		3.53	1.58
Sigma	4.758***			4.681***		

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Table 5.2 (continued)

|	[0.154]			[0.154]		
Observations	25764	25764	25764	25764	25764	25764
Robust standard errors in brackets *** p<0.01, ** p<0.05, * p<0.1						

5.3 Engel Curve Analysis

Engel curves are used in order to depict the change on specific expenditure as income or total expenditure changes, in other words to derive income (expenditure) elasticities, while keeping other variables constant. Furthermore, Engel curve analysis helps us classify goods as *luxuries, necessity* or *inferior goods*. Using the Tobit results presented earlier we estimate expenditure elasticities for recreational and cultural goods. We repeat the same exercise to find income elasticities and then check the robustness of our findings as it concerns the category of recreational and cultural goods.

In this research, the income and expenditure elasticities are derived from the Working-Leser functional form of the simple Tobit model, in which total household expenditures/income and household size are in logarithmic expressions:

$w_i = \alpha_i + \beta_i \ln(x_i) + \delta_i \ln(s_i) + u_i$, therefore income/expenditure elasticity: $e_i = 1 + \beta_i/w_i$,While the elasticity of household size is: $eh_i = \delta_i/w_i$

The impact of the change in total household expenditure on the household's recreational and cultural expenditure graphed in Figure 5.1 below show that, the expenditure elasticity is **e=1.83** which means recreational and cultural goods found as *luxuries* (**e>1**).

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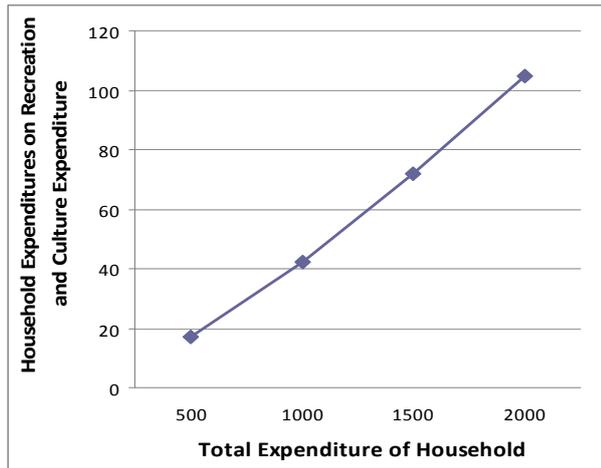
Source: TUIK Household Budget Survey (2003) and Author's calculations

Figure 5.1 Household Spending on Recreation and Culture by Total Expenditure of Household (Monthly average, YTL, 2003)

When looking at the response of the change in household income levels on household recreational and cultural expenditures, the following Figure 5.2 is observed, again with the finding of recreational and cultural goods being income elastic and hence, *luxuries*: **e=1.55**
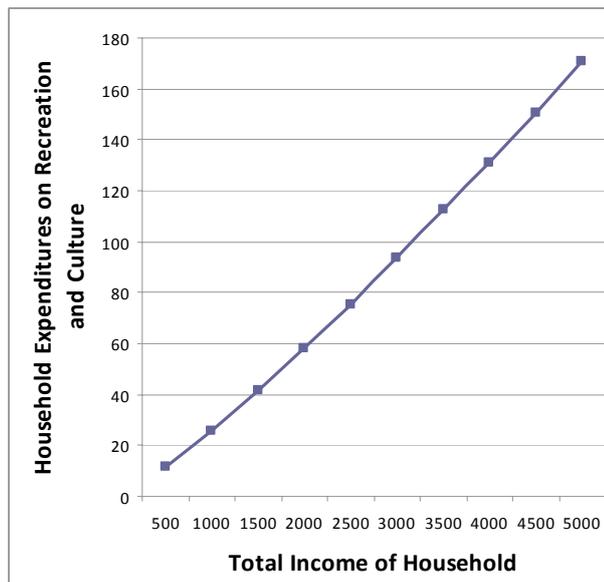
Source: TUIK Household Budget Survey (2003) and Author's calculations

Figure 5.2 Household Spending on Recreation and Culture by Total Expenditure of Household (Monthly average, YTL, 2003)

Based on the estimations drawn from the 2003 Household Budget Survey sample, recreational and cultural goods are found to be both income (**e=1.55**) and expenditure elastic (**e=1.83**) for households in Turkey. These empirical findings

show that recreational and cultural goods are luxuries items, which is in parallel with the empirical literature. For cultural expenditures, Tansel (1986) finds 2.03 as the estimated expenditure elasticity for the Working-Leser functional form. Şenesen and Selim (1995) finds 1.74 for the Double-Log functional form, whereas Günlük Şenesen (1987) and Kasnakoğlu (1991) interestingly found the expenditure elasticity of demand for culture as unity, e=1.

5.4 Scenarios on Households with Different Characteristics

In this sub-chapter the objective is to track the changes in recreational and cultural expenditures of a typified family when that family takes different characteristics. This comparative practice is expected to illustrate the determinants of households' spending on recreation and culture in a way that could be understood more easily than the marginal effects reported earlier and allow forward looking on the potential factors that lead to low levels of cultural spending in households in Turkey.

The typical family assumed in this practice has the following characteristics:

- Household income/expenditure level is 1,000 YTL on average per month
- The level of household expenditures on recreation and culture is positive (> 0)
- Household size is four: Two married couple in the 25-44 age group with two children at ages 0-6 and 7-17
- Household living in urban area
- Household head is male, is married, employed and working as a regular employee
- Household head has incomplete education
- The household lives in Istanbul

Scenario-1-Living in Istanbul increases cultural spending
In the first scenario, the question of interest here is how moving from Istanbul to the South East region affects the cultural spending of this typical family.

After running the extended Tobit model and computing the marginal effects at their pre-defined values for the typified household abovementioned, the predicted value of the share spent on culture is 3.80. When this typified household moves to urban

South-East without changing its other characteristics, the predicted share spent on culture falls slightly to 3.76.

Scenario-2-Higher degrees of education of household heads increase cultural spending within Istanbul

In this second scenario, the question of interest here is how increasing the education level of the household head from incomplete basic school to tertiary degree affects the cultural spending of this typical family.

The analysis shows that when this typified family has a household head which has not completed basic education (or is illiterate), the share that the household spends on recreation and culture is predicted as 3.80%. If the household head of this family had completed basic education, then the household would have increased its share to 4.02%. Then moving from basic education to complete secondary education would have increased the predicted share by 0.25 points to 4.27%. The marginal increase even goes more than 0.40 points, if the household head's schooling level increased from secondary complete to tertiary complete. Then, the predicted share spent on recreation and culture would have been 4.70%.

Alternatively, when the marginal effects of the independent variables are computed at their mean values but only household income level and education level of household are pre-defined, again the importance of education on recreational and cultural spending appears clearly (See Figure 5.3).

Share spent on culture
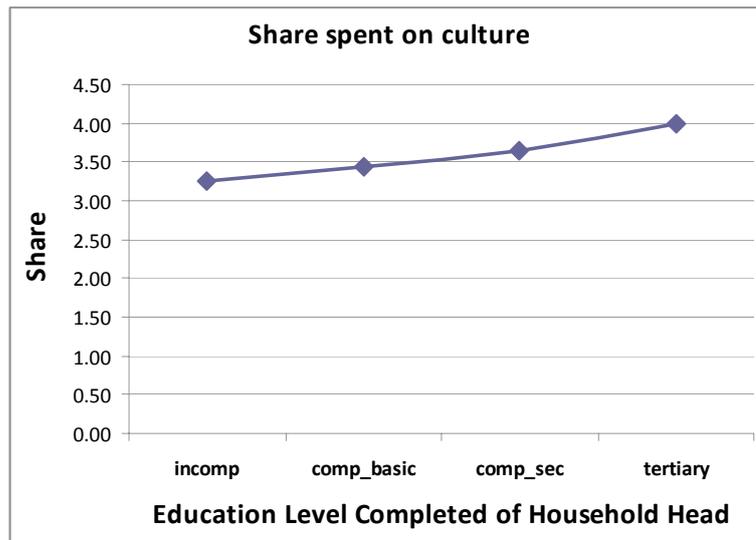
Source: TUIK Household Budget Survey (2003) and Author's calculations

Figure 5.3 Household Spending on Recreation and Culture by Total Expenditure of Household (Monthly average, YTL, 2003)

Scenario-3-Higher levels of household income increases the share spent on recreation and culture but not proportionally

In this third and last scenario, the question is how an increase in household income level impacts the cultural spending of this typical family.

If this family doubles its household income to 2,000 YTL (7.6 in logarithmic terms), the share spent on culture does not increase proportionally but goes up to 4.58% from 3.80%.

CHAPTER 6

CONCLUSIONS

In this study, the aim was to identify the households that spend on recreation and culture, the amount they spend and the potential factors that impact on households' recreation and culture expenditures in Turkey. We have identified patterns in household recreation and culture expenditures from the nationally representative 2003 Household Budget Survey of the Turkish Statistical Institute.

To revisit the specific questions the study sought to answer: (1) What do households spend on recreation and culture, and in which sub-group these expenditures mount up? (2) What are the characteristics of the households that spend (and do not spend) on recreation and culture? (3) How do various socio-economic, demographic factors and region of residence affect recreation and culture expenditures of households? (4) Are recreation and culture items luxuries? (5) What are the implications of the findings drawn from the multivariate analysis?

In Chapter-II, we set our conceptual framework and model specification. We then summarized the literature on household expenditures and demand for leisure, recreation and culture. Among various definitions provided especially for culture, we deliberately chose the narrower definition from UNESCO[17] which considers culture as an industry combining cultural activities, cultural goods and services. Throughout the paper, we referred to Foote's (2002: 215) definition of cultural consumption as the value of financial transaction in purchasing, subscribing to, or renting cultural goods and services. We also explained the COICOP classification, which is a standardized system developed by the United Nations and used by many national statistical agencies, including the Turkish Statistical Institute, to group household consumption expenditures. According to this system, household recreation and

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[17] UNESCO's Web Portal of Culture Sector

culture expenditures are classified under group no.9, which is disaggregated into 25 sub-groups at the four-digit level.

Drawing on consumer theory and empirical evidence both from the international and the national literature, we specified our multivariate model and used the Working-Leser functional form in estimating income and expenditure elasticities. In the light of previous empirical findings, our extended model included household socio-demographic and economic variables thought to explain the differences in household recreation and culture expenditure patterns.

Chapter-III explained the sample characteristics of our data set, the 2003 Household Budget Survey and the methodology pursued in the study. Given that our sample contained 11,477 observations (43% of total sample) with zero expenditures recorded in household recreation and culture expenditure group, we employed the Tobit model in order to estimate our model.

In Chapter-IV, we presented descriptive statistics on households that have and have not spent on recreation and culture, and the amount the have spent. This chapter showed that in 2003 the total household recreation and culture expenditure accounted for 2.2% of the overall household expenditures in Turkey. Within the recreation and culture expenditures, at the 2-digit COICOP level, households have spent the most (29%) on "audiovisual, photographic and data processing equipments". Whereas the detailed 4-digit COICOP breakdown showed that package holidays had the largest share (14.8%) in recreation and culture spending. Specific to households which have spent on recreation and culture, we concluded from the cross-tabulations that most of the recreational and cultural spenders (i) were living in urban parts and mostly in Istanbul; (ii) were mostly consisted of four members; (iii) mostly had male heads (91%), married heads (90%), heads (45%) with completed basic education level, employed (73%) and mostly working as regular employees (41%). On the other hand, households which have not spent anything, in other words "the zero-spenders", had higher share of rural residence but still with a majority living in Istanbul and urban areas when compared with the cultural spenders. They had similar household composition with the cultural spenders,

higher shares of female heads (11% vs. 8%), also mostly married heads, but lower shares of higher educated, employed and regularly working heads.

In Chapter-V, we aimed to find an answer on how various socio-economic, demographic factors and region of residence impacted the household recreation and culture expenditures in Turkey. We hypothesized that households living in the western and urban parts of the country, those with higher levels of total expenditure –proxy for household income-, with younger members aged between 15 and 24 and younger heads, heads with higher levels of education and employed would have positive impact on the household recreation and culture expenditures in Turkey. We tested our hypotheses by conducting a series of multivariate regressions on the simple and extended versions of the Tobit model. In order to check the appropriateness of the Tobit model, we also performed Probit regressions.

Our empirical findings from multivariate analyses showed that total household expenditures increased both the probability of making recreation and culture expenditures and the share spent. The demographic structure of the household also exerted an effect: having young household members aged 7-17 and younger household heads increased the probability of making recreation and culture expenditures and the share. The latter finding is in line with what the literature suggests: younger family members aged 7-17 prefer outdoor activities and increase social entertainment purchases of households. The education level of the household head is found to be one of the most important determinants of household recreation and culture expenditures. As educational level of the household head increased, both the likelihood and the share spent on recreation and culture increased significantly. Heads having tertiary diploma turned out to increase spending on recreation and culture the most. Regarding marital status, employment and work status of the household head were found to be insignificant on recreation and culture spending in both models. Place of residence was found to affect the probability and share of expenditures made on recreation and culture as well. Living in urban areas, being in the Mediterranean region or the western parts-Western Marmara, Aegean and Western Anatolia- impacted favorably on both the probability of making expenditures as well as on the share spent. These results imply that rural areas and other regions than western parts could have lower

provision of recreational and cultural services in comparison to urban areas and western regions.

Most of the Tobit results were in conformity with the Probit results. However, different results were also observed. For instance, while households living in Istanbul were more likely to spend on recreation and culture, Tobit results did not confirm the higher share of recreation and culture expenditures for households living in Istanbul. Given that both the probability and the level and share of recreation and culture expenditures are higher in Istanbul than in the South East, one would expect that Istanbul would turn out to have significantly positive impact on the share spent on recreation and culture when compared to the South East. This is indeed the case when expenditures are taken out of the model. However, correcting for household expenditures Istanbul loses significance which probably stems from the high variance in expenditures in both places. Regarding the gender of the household head, while Probit results showed an unexpected positive impact for female heads, the Tobit regressions found it to be insignificant. We explain these results by referring to more frequent purchases of low priced items by female household heads, such as on books and newspapers. Whereas households with male heads mostly spent on package holidays, which are larger in magnitude but lower in frequency.

After our multivariate analyses, we carried out an Engel-curve analysis based on the coefficient estimates drawn from the simple Tobit model. We concluded that for households in Turkey recreational and cultural goods were both income (e=**1.55**) and expenditure elastic (e=**1.83**), which confirm that they are *luxury* goods.

Lastly in Chapter-V, we carried out scenario analyses. In these scenarios, living in Istanbul, the role of education and income levels were shown to have a positive relationship with recreation and culture spending.

Our results are consistent with the idea that recreational and cultural goods and services are experience goods, which one needs to form a taste through exposure and have a certain level of education in order to consume them. As the framework of culture sector depicted in Chapter-I showed, higher levels of education endows

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the individual-consumer- with higher sense of appreciation and knowledge on the content of the recreational and cultural good. Nevertheless, we can only observe this positive impact of education only if the individual is exposed to recreational or cultural goods and services. Being exposed to a good or service becomes possible when there is supply of those goods and services. Hence, we could say that conditional on the provision of recreational and cultural goods and services, there are more chances for the individual to be exposed to recreation and culture and thus, form a taste together with his/her sense of appreciation that education provides. Moreover, education has positive externalities for communities to enhance both their cultural and social capital. The impacts of education level together with the socioeconomic factors on the probability and the extent of spending on recreation and culture provide useful insights not only for the suppliers of recreational and cultural goods and services, but also for the policy makers who can influence household consumption behavior (that includes both participation and spending) through using both demand and supply-side instruments. Different household expenditure levels observed among regions on recreation and culture indicate different tastes and preferences of households. The difference in taste and preferences among regions might not only be influenced by exogenous factors but also by the supply of recreational and cultural goods and services in the regions. A region which has households willing to spend on recreation and culture but has no supply of recreational and cultural goods and services would eventually end up with "zero-spending" on recreation and culture.

With this thesis many socio-economic profiles can be constructed in order to examine the household spending behavior on recreational and cultural goods and services. As modeling household participation and spending behaviors is becoming a growing interest, one can also look at the households' cultural participation decisions which was out of scope in this thesis due to the data limitation we had. By utilizing time-use surveys, it would be interesting to look at those who did not spent on recreation and culture but actually participated in recreation and culture.

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APPENDIX
A Breakdown of Real Household Expenditure on Recreation and Culture, 2003

HE09: RECREATION AND CULTURE

2-digit	Description	3-digit	Description	4-digit	Description	Average Monthly Spendings of Households (000,000 TL)	% of Each Item
91	Audiovisual, photographic and data processing equipment and accesories	911	Equipment for the reception, recording and reproduction of sound and pictures	9111	Equipment for the reception, recording and reproduction of sound	8,770,000	3.22%
				9112	Television sets, video-casette players and recorders	32,000,000	11.76%
		912	Photographic and cinematographic equipment and optical instruments	9121	Photographic and cinematographic equipment	11,800,000	4.34%
				9122	Optical instruments	83,800	0.03%
		913	Data processing equipment	9131	Data processing equipment	12,100,000	4.45%
		914	Recording media for pictures and sound	9141	Recording media for pictures and sound	7,340,000	2.70%
		915	Repair of audiovisual, photographic and data processing equipment and accessories	9151	Repair of audiovisual, photographic and data processing equipment and accessories	5,880,000	2.16%
							28.67%
92	Other major durable for recreation and culture, including repair	921	Other major durables for recreation and culture	9211	Musical Instruments	469,000	0.17%
				9212	Equipment for sports and recreation*		
		922	Repair of the other major durables for recreation and culture	9221	Repair of the other major durables for recreation and culture	149,000	0.05%
							0.23%
93	Other recreational items and equipment; flower, gardens and pets	931	Games, toys, hobbies; equipment for sport, camping and open-air recreation	9311	Games, toys, hobbies	11,800,000	4.34%
				9312	Equipment for sport, camping and open-air recreation	3,690,000	1.36%
		932	Gardens, plants and flowers	9321	Gardens, plants and flowers	5,430,000	2.00%
		933	Pets	9331	Pets	3,785,000	1.39%
							9.08%
94	Recreational and cultural services	941	Recreational and sporting services	9411	Recreational and sporting services	12,100,000	4.45%
		942	Cultural Services	9421	Cinemas, theatres, concerts	7,570,000	2.78%
				9422	Museums, zoological gardens etc.	231,000	0.08%
				9423	Television and radio taxes and hire of equipment	11,600,000	4.26%
				9424	Other recreational and cultural services	17,200,000	6.32%
		943	Games of chance	9431	Games of chance	10,600,000	3.90%
							21.80%
95	Newspapers, books and stationery	951	Books	9511	Books	25,900,000	9.52%
		952	Newspapers and periodicals	9521	Newspapers and periodicals	20,700,000	7.61%
		953	Miscellaneous printed matter	9531	Miscellaneous printed matter	1,580,000	0.58%
		954	Stationery and drawing materials	9541	Stationery and drawing materials	20,700,000	7.61%
							25.32%
96	Package Holidays	961	Package Holidays	9611	Package Holidays	40,300,000	14.82%
	14.82%						

AVERAGE RECREATION AND CULTURE EXPENDITURE OF TOTAL HOUSEHOLDS — 271,777,800 — 100%
Average Culture Expenditure of Total Households — 182,409,000 — 67%
Cultural Goods — 145,808,000 — 80%
Cultural Services — 36,601,000 — 20%
Average Recreation Expenditure of Total Households — 89,368,800 — 33%

* No matching observations were found

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