# Examination of the Influence of Gender on the Use of Domestic Technologies

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#### ABSTRACT

Gender involves clues regarding the social roles and responsibilities of women and men. Given the relationship between the concepts of "gender" and "technology", women, who are considered as the labourers of the domestic production process, constitute the largest group that use domestic technologies. This study was carried out in order to analyse the influence of gender on the use of domestic technologies. The studyinclude participation's (177 married men) demographic variables such as age, working status, education and spouses working status. Chi-Square Test, Kruskal Wallis H Test, and Mann Whitney U Test were used in data analysis. Those who were the age of 46 and over (39.0%), those who had a job (88.1%), those who had a non-working spouse (71.2%), and those who graduated from high school (35.0%) ranked the first. The results of this study show that cooker was the technology the male participants use the most.

Keywords: Gender, Technology, Domestic Technologies, Social Roles, Social Responsibilities, Work Sharing

#### **1. INTRODUCTION**

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Gender identity still plays an important role in performing household chores (Butler, 1990; Jackson & Scott, 2002). Therefore, domestic technologies represents one of the essential indicators of traditional gender roles (Cockburn & Ormrod, 1993; Wajcman, 1991a; Wajcman, 2004). Individuals also show their gender identities through daily use of domestic technologies. The concept of gender appearing by the social-cultural aspect in daily use of domestic technologies, highlights the role and responsibilities of woman and man and includes hints on how the society perceives us, how it wants us to behave and what it expects from us (Zeybekoğlu Dündar, 2012). These roles and responsibilities expected are known by every individual of that society (Richard & Lamm, 1995). It is seen in the literature that gender is related to domestic technology and large part of the domestic technologies are designed over the acceptance of woman should work as home workers (Kocabiçak, 2004; Sundin, 1995; Grint & Woolgar, 1997; Gill & Grint, 1995; Wajcman, 1991b; Webster, 1996).

Indeed, in the Post-Industrial Revolution period, technology entering into the house has made an effect on the re-distribution of the economic roles, caused the economic activities of women to be restricted within the house (Cowan,1993;Habib &Cornford,2001).Before we mention the effects of in-house technology, which is defined as the area of woman, the concept of in-house is one that is referred by ideals of love, care, peace and respect. In this respect, domestic life is also perceived as a place where sincerity, safety, intimacy, warmth, human and family values are experienced (Habib & Cornford, 2001). This concept evokes the concepts of natural, emotional and love which are identified with woman as a meaning. The concept of home is encountered as a female zone not only by what it evokes in terms of meaning, but also by the activities performed in-house. Household chores, in this context, unlike work done outside the house, are defined as the reproduction activities of the family. These activities include works such as cooking, cleaning, care of children and other family members (Saphiro, 1998:276).

Seen as the labourer of in-house production process, women form the largest group using domestic technologies (Kocabiçak, 2004). Studies on domestic technologies, performed by researchers such as Cockburn (1988, 1997) and Wajcman (1991b), agree on the point that domestic technologies support the work sharing based on traditional gender perception between spouses and imprison the women within their traditional roles. The household chores undertaken by men are usually non-routine, sporadic, not needed to be performed continuously and the chores which usually undertaken outside the house. These kinds of household chores are in contrast to those performed by women, which have the essential nature of being never ending. Men usually tend to stay away from works and technologies such as cleaning, washing clothes, washing dishes, cooking, etc. When they want to help with some of the household chores, they do works such as easy repairs, and grocery shopping. Man defines its relationship with domestic technologies as helping his spouse (Cockburn &Fürst-Dilic, 1994).

Despite the importance of domestic technologies in quality of life of the societies, to the best of our knowledge no previous study has directly focus on the effect of gender on use of domestic technologies. The present study was designed to help fill this gap by describing the relationship between gender and the use of domestic technologies, including the effect of demographic factors, based on a sample of married men from Turkey.

# 2. METHOD

## 2.1. Participants

The sample of this study consisted of married men who have been dwelling in Ankara city, Turkey. The study sample consisted of only married men who agreed to participate voluntarily. In total 250 men were interviewed and completed the questionnaire. Incomplete and incorrectly completed questionnaires were not used in the study (73 questionnaires). Finally, a total of 177 were conducted. The participation rate was 70.8%.

## 2.2. Procedure

Researchers met individually with each person who volunteered to participate in the study. No individuals who refused to participate were included in the study. Information about the target of the study and how to fill the questionnaire was given to the participants after the researcher answered all questions that they had. The participants were reassured that this research was being conducted for academic purposes only and no information about them would be used for any other purpose; therefore, it was not necessary for them to provide their name or any other information that might reveal their identity. The participants were given two days to fill the questionnaire. The data were collected between June 5-15 2014.

## 2.3. Measurement Variables

## 2.3.1. Demographic Variables

The study included demographic variables such as, age (coded as the number of years old at the time of the interview), education (1 = primary education, 2 = secondary education, 3 = high school education, 4 = college and over), working status (1 = working, 2 = not working), and spouses working status (1 = working, 2 = not working). These demographic characteristics were selected according to their potential effects on the results.

## 2.3.2. Behaviours Related to Use of Technologies

The domestic technologies (dishwasher, washing machine, vacuum cleaner, cooker, oven, iron) identified with the roles of women within the framework of gender concept were examined in the study. The behaviors of married men related to mentioned domestic technologies were measured by the questions of "status of being able to use the technologies" (1 = yes, 2 = no), "frequency of use" (1 = never, 2 = occasionally, 3 = frequently), "frequency of maintaining and cleaning" (1 = never, 2 = occasionally, 3 = frequently), and "what kind of a method is pursued in the event of technologies get broken" (1 = I always repair myself, 2 = I always call a repairman, 3 = I try to repair myself, call a repairman if I can't or ask help from someone experienced).

## 2.4. Data Analysis

The data were coded and analysed using SPSS. Data analysis began with calculating the frequencies of the sample on all variables and the graphs for these distributions were obtained. The non-parametric Mann–Whitney U-test, Chi-Square test, and Kruskal-Wallis H Test were used because of the variables was categorical. Statistical significance was taken at the 5% level (Büyüköztürk, 2007:146-166). Mann–Whitney U-test was performed for variables, working status and spouses working status, whereas Kruskal-Wallis H test was performed for age and education (Büyüköztürk, 2007:155). Kruskal-Wallis H test is the non-parametric counterpart of the one way ANOVA (Büyüköztürk, 2007:158).

To determine the differences between variables Chi-Square test was performed. Chi-Square test performed to determine whether the observed frequencies in the different categories from the variable survival have significant difference. The Chi-Square test was chosen because it does not require the data to be normally distributed, and it can also be used for nominal data as is relevant for propositions two and five. For proposition two however, one or more cells contained less than five observations (Büyüköztürk, 2007:146).

## **3.RESULTS**

#### 2.5 Description of the Sample

The average age of the respondents in this study was 41.2 (S = 10.2). Of the participants, 39.0% were over46 years of age. The proportion of participants who working was the highest (88.1%). Also, there were proportionally more participant had a nonworking spouse (71.2%). The highest proportion of the participants had a high school education (35.0%) followed by college education (27.7%), secondary education (19.8%), and primary education (17.5%) (Table 1).

#### 2.6 Ownership of Domestic Technologies

The results of the study indicated that nearly all the families have domestic technologies (Washing machine 100%, Cooker 99.4%, Vacuum cleaner 98.9%, Iron 98.3%, Oven 97.2%) except dishwasher(79.1%) (Figure 1).

#### 2.7 Being able to use Domestic Technologies

The status of individuals being able to use the technologies and the relationship between demographic variables (age, employment status, employment status of spouses and education) are given in Table 2. According to the results, almost all the participants could use the cooker (%96.6), 91.4% of the participants could use the vacuum cleaner, and those being able to use washing machine (%57.1) had the lowest ratio. These result can be explained by the fact that household chores





Table 1: Characteristics of the sample						
Demographic variables	Ν	%				
Age (M=41.2; S=10.2)						
≤ 35	63	35.6				
36 - 45	45	25.4				
$\geq$ 46	69	39.0				
Working status						
Working	156	88.1				
Not working	21	11.9				
Spouses working status						
Working	51	28.8				
Not working	123	71.2				
Education						
Primary education	31	17.5				
Secondary education	35	19.8				
High school education	62	35.0				
College and over	49	27.7				

Table 2: Relationship between demographic characteristics and the status of being able to use domestic technologies								
Domestic	Being able to use	F	%	Chi-square analysis				
Technologies				Age	Working status	Spouses working status	Education	
Dishwasher	Can use	82	58.6	X2=2.195, df=2, p>.05	X <sup>2</sup> =1.057, df=1, p>0.05	X <sup>2</sup> =2.196, df=1, p>0.05	X <sup>2</sup> =12.722, df=3, p<0.05	
	Cannot use	58	41.4					
	Total	140	100.0					
Washing machine	Can use	101	57.1	X2=5.043 df=2, p>.05	X <sup>2</sup> =1.962, df=1, p>0.05	X <sup>2</sup> =5.350, df=1, p<0.05	X <sup>2</sup> =12.980, df=3, p<0.05	
	Cannot use	76	42.9					
	Total	177	100.0					
Vacuum cleaner	Can use	160	91.4	X2=1.352 df=2, p>.05	X <sup>2</sup> =0.368, df=1, p>0.05	X <sup>2</sup> =0.664 df=1, p>0.05	X <sup>2</sup> =2.654, df=3, p>0.05	
	Cannot use	15	8.6					
	Total	175	100.0					
Cooker	Can use	170	96.6	X2=Not implemented	X <sup>2</sup> =0.842, df=21, p>0.05	X <sup>2</sup> =1.334, df=1, p>0.05	X <sup>2</sup> =0.099, df=3, p>0.05	
	Cannot use	6	3.4					
	Total	176	100.0					
Oven	Can use	113	65.7	X2=0.363, df=2, p>.05	X <sup>2</sup> =2.470, df=1, p>0.05	X2=0.166, df=1, p>0.05	X <sup>2</sup> =6.827, df=3, p>0.05	
	Cannot use	59	34.3					
	Total	172	100.0					
Iron	Can use	129	74.1	X2=0.897, df=2, p>.05	X <sup>2</sup> =0.052, df=1, p>0.05	X <sup>2</sup> =1.257, df=1, p>0.05	X <sup>2</sup> =3.437, df=3, p>0.05	
	Cannot use	45	25.9					
	Total	174	100.0					

such as laundry regarded as women's responsibility in household. Also in Aaltojärvis' (2012) study, washing machine, is regarded as feminine (64.0%). One commonly-used way to divide technology into masculine and feminine categories was by their colour. Electrical consumer goods divided into "brown goods" and "white goods". The choice of colours for these designations only loosely reflects material fact. Brown goods are normally black, white goods are normally white or off-white but may also come in options of Brown or grey. The real distinction is one of function. Brown goods are for leisure and entertainment. They include television, music systems and cameras. White goods are for domestic work. They include washing machines and dishwashers, fridge and freezers, cookers and microwaves, vacuum cleaners (Cokburn & Ormrod, 1993).

The relationship between demographic variables (age, working status, spouses working status, and education) and being able to use domestic technologies were examined statistically. According to the results, there were a significant relationship between the employment status of the spouse and being able to use the washing machine ( $X^2=5,350$ , df=1, p<.05), education level and being able to use both the dishwasher ( $X^2=12.722$ , df=3, p<.05) and washing machine ( $X^2=12.980$ , df=3, p<.05) (Table 2). This results obtained from the study is an indication of education level as well as employment of women is effective in sharing of household chores between spouses.

# 2.8 Frequency of use of the Domestic Technologies

When the usage frequency of domestic technologies by men are examined, the ratio of those using the cooker frequently (%44.7) is in the first place compared to those using other domestic technologies. Also, among those stating the occasional use of domestic technologies, the ratio of those using dishwasher (%63.4) and iron (%61.3) is higher compared to other technologies. These results is an indication that married men mostly enjoy cooking among the household chores. Also according to the results of Mann Whitney U test, there is a significant relationship between the usage frequency of the cooker from domestic technologies and employment status of the spouse (U=2277,000, p<.05) (Table 3).

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Table 3:	Relationship betwee	n demo	ographic	characteristics and th	e frequency of use of	the domestic te	echnologies	
Domestic	Frequency of use	F	%	Kruskal Wallis H Te	st	Mann Whitney U Test		
Technologies				Age	Education	Working status	Spouses working status	
Dishwasher	Never	17	20.7	X <sup>2</sup> =(df=2, n=82)=1.319, p>0.05	X <sup>2</sup> =(df=3, n=82)=1.265, p>0.05	U=275.500; p>0.05	U=704.000; p>0.05	
	Occasionally	52	63.4					
	Frequently	13	15.9					
	Total	82	100.0					
Washing machine	Never	26	25.7	X <sup>2</sup> =(df=2, n=101)=5.685, p>0.05	X <sup>2</sup> =(df=3, n=101)=4.864, p>.05	U=403.500; p>0.05	U=1087.500; p>0.05	
	Occasionally	52	51.5					
	Frequently	23	22.8					
	Total	101	100.0					
Vacuum cleaner	Never	40	25.0	X <sup>2</sup> =(df=2, n=160)=1.884, p>0.05	X <sup>2</sup> =(df=3, n=160)=6.216, p>0.05	U=1223.500; p>0.05	U=2368.000; p>0.05	
	Occasionally	87	54.4					
	Frequently	33	20.6					
	Total	160	100.0					
Cooker	Never	6	3.5	X <sup>2</sup> =(df=2, n=170)=1.787, p>0.05	X <sup>2</sup> =(df=3, n=170)=3.139, p>0.05	U=1315.500; p>0.05	U=2277,000; p<0.05	
	Occasionally	88	51.8					
	Frequently	76	44.7					
	Total	170	100.0					
Oven	Never	35	31.0	X <sup>2</sup> =(df=2, n=113)=0.336 p>0.05	X <sup>2</sup> =(df=3, n=113)=1.396, p>0.05	U=806.000; p>0.05	U=1299.000; p>0.05	
	Occasionally	59	52.2					
	Frequently	19	16.8					
	Total	113	100.0					
İron	Never	31	24.0	X <sup>2</sup> =(df=2, n=129)=5.967, p>0.05	X <sup>2</sup> =(df=3, n=129)=3.832, p>0.05	U=1508.000; p>0.05	U=1533.000; p>0.05	
	Occasionally	79	61.3					
	Frequently	19	14.7					
	Total	129	100.0					

#### 2.9 Frequency of Maintaining and Cleaning of the Domestic Technologies

The frequency of maintaining and cleaning of the technologies which used are given in Table 4. The ratio of married men who stated they frequently take care of maintaining and cleaning of domestic technologies are considerably low in every category. (Dishwasher: %2,9; Washing machine: %3.4; Vacuum cleaner: %8.6; Cooker: 10.2; Oven: %5.2; İron: %4.0). On the other hand, 48.6% of the individuals occasionally take care of vacuum cleaner, 39.2% of cooker, 38.0% of iron, 31.1% of washing machine, 28.5% of oven, and 27.1% of dishwasher. This result of the study shows that married men, although using the technologies, do not care about the maintaining and cleaning.

No relationship was found between the age of married men, employment status and spousesemployment status and frequency of maintaining and cleaning of the technologies. However there is a significant relationship between the education level of men and the maintaining and cleaning of dishwasher ( $X^2=8.131$ , df=3, p<.05), washing machine ( $X^2=11.000$ , df=3, p<.05) and vacuum cleaner ( $X^2=8.174$ , df=3, p<.05) (Table 4). This result is an indication that the education level is an effective variable on the viewpoint on household chores, especially cleaning chores.

#### 2.10. Status of Repairing of the Domestic Technologies

Although not changed in terms of participants' age, employment status, spouses employment status, and education levels, the first way in behaving in case of domestic technologies are broken is "I try to repair myself, call a repairman if I can't or ask help

from someone experienced". This result reinforces the thought "The belief, works performed by men require more physical strength and skill, if it doesn't require physical strength, it is of complexity requiring more mental ability, construing the origin of gender based work-sharing", which was expressed by Gökbayrak (2007). It was determined that the ratio of the participants who stated they would always call a repairman in case of a domestic technology breaking down, were proportionally high among participants aged 35 and lower (%39.7), unemployed (%47.6), stating their spouse is employed (%43.1) and had secondary education (%48.6).

No significant relationship was found between participants' age, employment status, spouses employment status, and education levels and "the way of behaving for repair" in case of domestic technologies breaking down (Table 5).

# **3. CONCLUSION**

This paper explored the influence of gender on the use of domestic technologies and included the effects of demographic factors in a sample of Turkish families. The results indicated that almost all of the married men within the scope of the study can use the cooker. Also, the cooker is the most frequently used technology among other domestic technologies. Those being able to use washing machine among domestic technologies is the lowest ratio. The ratio of married men who state they frequently take

Table 4: Relationship between demographic characteristics and the frequency of maintaining and cleaning of the domestic								
technologies								
Domestic	Frequency of	F	%	Kruskal Wallis H Tes	t	Mann Whitney U Test		
lechnologies	use			Age	Education	Working status	Spouses working status	
Dishwasher	Never	98	70.0	X2=(df=2, n=140)=1.904, p>0.05	X2=(df=3, n=140)=8.131, p<0.05	U=824.500; p>0.05	U=704,000; p>0.05	
	Occasionally	38	27.1					
	Frequently	4	2,9					
	Total	140	100.0					
Washing machine	Never	116	65.5	X2=(df=2, n=177)=1.312, p>0.05	X2=(df=3, n=177)=11.000, p<0.05	U=1510.500; p>0.05	U=2942.000; p>0.05	
	Occasionally	55	31.1					
	Frequently	6	3.4					
	Total	177	100.0					
Vacuum cleaner	Never	75	42.8	X2=(df=2, n=175)=0.163, p>0.05	X2=(df=3, n=175)=8.174, p<0.05	U=1540.500; p>0.05	U=2752.000; p>0.05	
	Occasionally	85	48.6					
	Frequently	15	8.6					
	Total	175	100.0					
Cooker	Never	89	50.6	X2=(df=2, n=176)=0.613, p>0.05	X2=(df=3, n=176)=1.953, p>0.05	U=1389.500; p>0.05	U=2933.000; p>0.05	
	Occasionally	69	39.2					
	Frequently	18	10.2					
	Total	176	100.0					
Oven	Never	114	66.3	X2=(df=2, n=172)=0.150 p>0.05	X2=(df=3, n=172)=2.586, p>0.05	U=1576.000; p>0.05	U=2864.500; p>0.05	
	Occasionally	49	28.5					
	Frequently	9	5.2					
	Total	172	100.0					
İron	Never	101	58.0	X2=(df=2, n=174)=1.673, p>0.05	X2=(df=3, n=174)=3.059, p>0.05	U=1508.000; p>0.05	U=2931.000; p>0.05	
	Occasionally	66	38.0					
	Frequently	7	4.0					
	Total	174	100.0					

care of maintaining and cleaning of domestic technologies were lowest in every category and the first way of behaving they follow in case of breaking down is "I try to repair myself, call a repairman if I can't or ask help from someone experienced".

Women remaining within the production process of technology according to stereotypes arising within the framework of traditional gender roles, are less compared to men, in other words, men are the essential actors in this area (Savcı, 1999; Faulkner, 2001; Stanworth, 2000). As a result, production of technology is considered primarily a male work. However technologies developed as household chores oriented, are simplifying the household chores left to responsibilities of women but not taking these chores out from the responsibility area of women (Bray, 2007; Gökbayrak, 2007). The change in use of domestic technologies depends on the changing of traditional gender stereotypes that are without biological origin. For this purpose, getting free of stereotypes defining the technology as male and household chores as female is encountered as an important starting point. Today, women have the responsibility of being a mother, a spouse and a housewife as well as providing or contributing to household income. In decreasing of this role and responsibilities burdened on the woman in terms of quality life of the family, the "gender" viewpoint must be eliminated and an equalitarian approach must be supported. For this purpose, equalitarian approach on woman and man roles should be engrained to individuals of every age since childhood through both formal and non-formal education.

Some limitations of this paper are worth noting. First, the present study has some methodological limitations. The study sample included only 177 married men, which limits the generalizability of the results. Different findings may have been obtained if more married men had been asked to participate in the study. In addition, this study is limited with the survey questions applied depending on the subject. The information, attitudes and behaviours can be measured or compared with different questions which can affect the use of domestic technologies in the further studies.

The results of this study help to further document the influence of gender on the use of domestic technologies of selected Turkish married men. This study provides a good foundation for future studies related to this subject.

Table 5: Relationship between demographic characteristics and the status of repairing of the domestic technologies							
Demographic variables	Always call a repairman		Try to repair call a repair from someo	Total			
	F	%	F	%	F	%	
Age (M=41.2, SD=10.2)							
≤ 35	25	39.7	38	60.3	63	100.0	
36–45	14	31.1	31	68.9	45	100.0	
$\geq$ 46	26	37.7	43	62.3	69	100.0	
Total	65	36.7	112	63.3	177	100.0	
		X <sup>2</sup> =0.875, df=2, p>0.05					
Working status							
Working	55	35.3	101	64.7	156	100.0	
Not working	10	47.6	11	52.4	21	100.0	
Total	65	36.7	112	63.3	177	100.0	
	X <sup>2</sup> =1.217, df=1, p>0.05						
Spouses working status							
Working	22	43.1	29	56.9	51	100.0	
Not working	43	34.1	83	65.9	126	100.0	
Total	65	36.7	112	63.3	177	100.0	
			X <sup>2</sup> =1.268, df=1, p>0.05				
Education							
Primary education	12	38.7	19	61.3	31	100.0	
Secondary education	17	48.6	18	51.4	35	100.0	
High school education	22	35.5	40	64.5	62	100.0	
College and over	14	28.6	35	71.4	49	100.0	
Total	65	36.7	112	63.3	177	100.0	
	X <sup>2</sup> =3.609, df=3, p>0.05						

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