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A DISCUSSION ON HEALTH-RELATED FACTORS & INTRA-HOUSEHOLD RESPONSIBILITIES IN THE CONTEXT OF FEMALE LABOR FORCE PARTICIPATION: THE CASE OF TÜRKİYE[1]

Araştırma

Deniz Keskin Özberk

Sorumlu Yazar (Correspondence)

Marmara Üniversitesi (PhD Candidate)/Bahçeşehir Üniversitesi (Research Assistant)

deniz.keskinozberk@eas.bau.edu.tr

Burcu Düzgün Öncel

Marmara Üniversitesi (Associate Professor)/Department of Economic

burcu.duzgun@marmara.edu.tr

Deniz Keskin-Özberk, 2016-2019 yılları arasında İstanbul Aydın Üniversitesi Ekonomi ve Finans bölümünde, 2019 yılından itibaren ise Bahçeşehir Üniversitesi Uluslararası Ticaret ve İşletmecilik bölümünde Araştırma Görevlisi olarak görev yapmaktadır. Lisans (2014) derecesini Yıldız Teknik Üniversitesi İktisat, yüksek lisans (2018) derecesinin Marmara Üniversitesi İngilizce İktisat bölümünden almıştır. Doktora (2018-Devam) öğrenimi ise Marmara Üniversitesi İngilizce İktisat bölümünde devam etmektedir (tez aşamasında). Sağlık Ekonomisi ve İş Gücü Ekonomisi alanlarında çalışmaları bulunmaktadır.

Burcu Düzgün-Öncel, 2015 yılından beri Marmara Üniversitesi İktisat Fakültesi'nde Doktor Öğretim Üyesi olarak görev yapmaktadır. Lisans (2006), yüksek lisans (2008) ve doktora (2014) derecelerini Marmara Üniversitesi İngilizce İktisat bölümünden almıştır. Uygulamalı Mikroekonometri, Sağlık Ekonomisi, İşgücü Ekonomisi, Hane Halkı Düzeyinde Kadın İşgücü alanlarında çalışmaları bulunmaktadır.

[1] Bu makale "*Türkiye'de Kadın İstihdamını Etkileyen Sağlıkla İlgili Faktörler: Bir Mikro Analiz"* başlıklı Doktora Tezi'nden üretilmiştir.

A DISCUSSION ON HEALTH-RELATED FACTORS & INTRA-HOUSEHOLD RESPONSIBILITIES IN THE CONTEXT OF FEMALE LABOR FORCE PARTICIPATION: THE CASE OF TÜRKIYE[2]

Deniz Keskin Özberk
deniz.keskinozberk@eas.bau.edu.tr
Burcu Düzgün Öncel
burcu.duzgun@marmara.edu.tr

Abstract

Female labor force participation in developing nations like Türkiye is a controversial issue that still requires additional research. Furthermore, health-related and intra-household elements, along with socio-economic and demographic factors, play a crucial role in explaining female employment.

Purpose: This study aims to examine the trend of female participation in the labor force over recent years and to assess the potential influence of household responsibilities and health factors using descriptive statistics along with socio-economic and demographic factors.

Method: In order to obtain descriptive results, the study uses data from Turkish Statistical Institute (TURKSTAT) Household Labor Force Survey (HLFS) 2009-2020. Working-age females are the main focus of this paper. Descriptive results are used to make comparison and sample tests are used to carry out a conceptual discussion.

Findings: The statistics derived from the Household Labor Force Survey (HLFS) show that women are more inclined to report negative health conditions. Between 2014-2020, a greater proportion of females leave their jobs than males because of poor health. Although there is a decline in the trend, a significant number of women of working age choose not to be part of an economic activity due to their spouse or partner.

Originality: This is one of the pioneer studies in Türkiye that aim to understand and add health-related factors in the discussion of female labor force participation.

Key Words: Health-Related Factors, Female Labor Force Participation, Socio-economic & Demographic Factors, Intra-Household Factors

JEL Classification: J01; J21; J64

[2] This paper is derived from Doctorate Thesis entitled "*Health-Related Factors Affecting Women Employment in Turkey: A Micro Analysis*".

KADININ İŞ GÜCÜNE KATILIMI BAĞLAMINDA SAĞLIKLA İLGİLİ FAKTÖRLER VE HANE İÇİ SORUMLULUKLAR ÜZERINE BİR TARTIŞMA: TÜRKİYE ÖRNEĞİ

Özet

Türkiye gibi gelişmekte olan ülkelerde kadının iş gücüne katılımı hala araştırma gerektiren tartışmalı bir konudur. Ayrıca, sağlıkla ilgili ve ev içi unsurlar, sosyo-ekonomik ve demografik faktörlerle birlikte, kadın istihdamının açıklanmasında önemli bir rol oynamaktadır.

Amaç: Bu çalışma, son yıllarda kadınları iş gücüne katılım eğilimlerini incelemeyi ve sosyo-ekonomik ve demografik faktörlerle birlikte betimleyici istatistikler kullanarak hane içi sorumlulukların ve sağlıkla ilgili faktörlerinin muhtemel etkisini değerlendirmeyi amaçlamaktadır.

Yöntem: Betimleyici sonuçlar elde etmek için, Türkiye İstatistik Kurumu (TÜİK) Hane Halkı İşgücü Araştırması (HİA) 2009-2020'den elde edilen veriler kullanmaktadır. Çalışma çağındaki kadınlar bu makalenin odak noktasıdır. Betimleyici sonuçlar ve istatistik testleri cinsiyetler arası karşılaştırma yapmak ve kavramsal bir tartışma yürütmek için kullanılmıştır.

Bulgular: Hane Halkı İşgücü Anketi'nden (HLFS) elde edilen istatistikler, kadınların olumsuz sağlık koşullarını bildirmeye daha yatkın olduğunu göstermektedir. 2014-2020 yılları arasında, kötü sağlık nedeniyle işini bırakan kadınların oranı erklerden fazladır. Eğilimde bir düşüş olmasına rağmen, çalışma çağındaki kadınların önemli bir kısmı, eşleri veya partnerleri nedeniyle ekonomik bir faaliyetin parçası olmamayı seçmektedir.

Özgünlük: Bu makale, kadının iş gücüne katılımı tartışmasında sağlıkla ilgili faktörleri anlamayı ve bu tartışmaya eklemeyi amaçlayan Türkiye'deki öncü çalışmalardan biridir.

Anahtar Kelimeler: Sağlıkla İlgili Faktörler, Kadın İşgücüne Katılımı, Sosyo-Ekonomik ve Demografik Faktörler, Ev İçi Faktörler

JEL Sınıflandırması: J01; J21; J64

INTRODUCTION

Human capital is widely recognized as one of the most crucial factors in driving economic development. Given that almost half of the population in societies consists of women, which means that females are indispensable half of human capital, it is essential to thoroughly explore and discuss the topic of female labor force participation. It is accepted that women who predominantly contribute to the creation of social development. In order to achieve both economic and social advancement, it is necessary to provide more job opportunities for women and to encourage their participation in the workforce. Because of that the issue of female participation in the workforce is a topic of intense discussion, particularly in emerging countries like Türkiye.

As previously, it is widely recognized that females plays a crucial role in the path of economic development. Although developed countries have largely delivered solution the issue of female labor force participation, developing countries are still facing challenges in this regard. The recent data, 2020 Household Labor Force Survey (HLFS) shows that the female labor force participation rate is 32.59 percent, while the same rate for Turkish males is 67.41 percent (TURKSTAT, 2020). At the same time, in Türkiye, the rate of females in labor force is extremely low compare to Organization for Economic Co-Operation and Development (OECD) countries. To illustrate, according to OECD statistics, the average female labor force participation of OECD countries is 63.7 percent (OECD, 2023). Women live in European Union countries have demonstrated better performance in economic life. On average, 67% of them are either employed or actively seeking employment.

Studies on female employment are rich in terms of examining socio-economic and demographic factors such as age, marital status, education, household income, etc. Most of them indicate that there is a strong correlation, whether positive or negative, between these factors and the level of female participation in the labor force. On the one hand, it is uncommon to find efforts that focus on both health factors and female employment simultaneously. Statistical data reveals that women tend to report more adverse health conditions and are less likely to participate in the labor force. As an example, in 2019, 52.56% of females reported having at least one chronic health condition, whereas for males the percentage was only 38.78% (TURKSTAT, 2019). This paper aims to understand the potential influence of household and health-related factors, as well as commonly studied factors, on female labor force attendance.

The *Literature Review* provides an overview of past studies on the employment of women, both on a global and local level. Following section, *Data Structure & Descriptive Results*, presents the variables and data used for a descriptive analysis, together with the source of the data. The results of the descriptive analysis for the interested years are explained in the same section. Finally, the *Conclusion* section summarizes the findings of the analysis and offers brief policy recommendations.

LITERATURE

The theoretical framework of studies on female labor force participation primarily focuses on the impact of socio-economic and demographic factors. Mincer (1962) assessed women's choices using a neoclassical microeconomic approach in the Work-Leisure Choice Model. The key concept of the study is the choice that married women face between leisure, work, and market work. According to the model, leisure is considered a normal good, and a woman's dedication to obtaining leisure determines her income. Heckman and Wills (1977) used panel data from 1968-1972 and a logistic model to explain female labor force participation. They find that education, training, intelligence, motivation, and local market conditions are important factors in determining market wages for women. Additionally, it is observed that education has a favorable influence on wages in the job market, while having young children has an adverse impact on the probability of women participating in the labor force.

Goldin (1994) discusses the role of education on the participation of married women in the workforce in Western economies, especially in the United States. The causality of education is presented as the cause of the downward slope of the U, which combines a strong income effect and a low substitution effect. Hence, the core of the U-shaped relationship is that a change in women's education offers the opportunity for better employment.

Psacharopoulos and Tzannatos (1989) also represent a significant contribution to female employment. Fertility, urbanization, marital status and head of household status are as efficient as economic components such as income, wages, experience and education as non-economic variables. Using panel data for 1979-1985, Hyslop (1999) aims to show the relationship between the labor supply decision and women's fertility and non-labor income. As a result, fertility is not exogenous to women's labor force participation and that permanent non-labor income is statistically significant.

Maurer-Fazio et al. (2009) analyze the presence the effect in the household of preschool and school-age children on females in business life in China. Findings shows that while being parent of school-aged children is decreasing likelihood participation in market work of women, living with elder people in same household is leading to increase in the ratio.

Factors like age of women, their education, poverty in household, husband’s unemployment and number of girls are confirmed have positive effect on their working decisions. A considerable effect of poverty that pushes non-single females into labor market (Khan and Khan, 2009).

Cipollone et al. (2013) argue that childcare and informal elderly care lead to reduce the likelihood of female to labor supply. Sorsa et al. (2015) estimate reasons of low labor force participation of Indian females. Contrary to most of emerging economics, which are thought in same groups with India, education and income are negative component of female labor for participation in the country.

Based upon comparison of two countries, Germany and Egypt, Hosney (2016) illustrates how personal, specific demographic factors and intra-household characteristics differs female labor force participation. According to results, higher educational attainment raises Egyptian females labor supply decision. Head of household, wealth index and the number of people live in household significantly affect women employment.

Lassassi and Tansel (2020) discuss female labor force participation via pseudo panel analysis is carried out via age-period- cohort methodology. And, they say that marital status, age, region where females live etc. are still important factors that explain women employment.

Azam and Han (2019) carry out Oaxaca-Blinder decomposition to account for differences in female labor force participation between China and India. Specific to rural, education is neutral in effecting female labor force participation in China. However, effectiveness of education in urban areas is stronger in the country.

To test U-shaped relation and gender gap in labor force participation in Morocco, probit and multinomial models are conducted for the period 2001-2018 (Lopez-Acevedo et al., 2021). A finding from the Lopez-Acevedo et al. (2021) is that downward pattern of fertility in the context of female labor force participation. As expected, being married does not support females in probability of being in the labor force.

Klasen et al. (2019) reveals that women own characteristics like education, ethnicity, age and religion and their family circumstances such as household income, husband education and number of children are located behind the analysis as notable determinants. While the effect of education in Brazil and South Africa is positive and linear, for India, Jordan and Indonesia it is U or J shaped. An important result is that negative effect of household income on women employment offsets positive effect of education. Also, having children aged 0-4 and 5-14 make dissimilar the propensity to being in work force of females.

Tansel (2001) tests the U-shaped relation between economic development and agricultural and nonagricultural female labor force participation in Türkiye via Ordinary Least Square (OLS) for the years 1980, 1985 and 1990. As a result, growth and the decision of females in relation to being in the work force move in a same direction. Affirmation of the U-shaped pattern between GDP per capita and female labor force participation is another result of the study as well.

Dayıoğlu and Kırdar (2010), they have prepared a detailed report, includes also econometric analysis and descriptive sections, for World Bank for the period 1998-2006. They argue that one of the most important reasons behind fall in women participation is urbanization.

Karaoğlan and Okten (2012) measures the presence of added worker effect[3] and discouraged worker effect[4] by conducting probit and tobit models for the years 2000-2010. Unemployment or underemployment of husband supports females' participation to the work force and higher working hours. However, any fall down in the economy is a reason of withdraw from active working life for married women. Added worker effect is found as statistically significant.

After that, Karaoğlan and Okten (2015) again have studied added and discouraged workers effect in Türkiye for the period 2005-2010. The difference between these two papers is application of econometric methodology. With the aim of eliminating unobserved heterogeneity, at the first time, they have used pseudo panel data in order to analyze added worker effect. The results of this study show us that husband's transition towards involuntary unemployment leads to increase in participation of wife's. Also, association between husband's underemployment and wife's labor force participation is positive and significant.

The increasing trend of part-time employment of Turkish women is highlighted via pooled cross section data by Duzgun-Oncel and Eris-Dereli (2015) for the years 2005-2011. Their findings support that the prevalence of part-time employment is lower among younger, high educated females living in urban (

Uysal (2014) present a qualitative discussion ground about obstacles in front of Turkish females in the context of their employment. Low educational level is the one of the most compelling factor for labor force participation of females. Moreover, marriage and having children are also other reasons that lead to withdraw from active working life.

Tunalı and Başlevent (2002) constructs a model in order to observe prime age (20-54) married women labor supply decision in Türkiye, 1988 household data is conducted as well. According to their findings, the likelihood choosing wage labor is higher than choosing self-employment.

Tunalı et al. (2021) evaluates labor force participation behavior of female by using pseudo panel analysis for the period 1988-2013. The authors argue that rising part of U shaped curve of labor market participation could be captured by means of synthetic panel. Its results show increasing education attainment and female labor supply increasing go parallel with each other.

Ayvaz-Kızılgöz (2012) analyzes labor force participation decision of females from the perspective of rural/urban distinction using 2002-2008 Household Budget Survey. According to results of the logit model, education, household income and ownership of the property are the most important factors. Further, increase in number of children reduces participation decision of females in urban areas while increases in rural areas.

[3] Labor supply response of woman when husband becomes unemployed.
[4] Individual gives up looking for a job because he/she does not believe to find an available job.

Using Household Budget Survey for the period 2002-2008 via standard probit model, Kılıç and Öztürk (2014) shows the obstacles that of females face while entering labor force. The most important factors are estimated as education, marital status, economic resources, gender perception and location of residence. Education becomes prominent as major impact factor especially for women who live in urban areas.

There are international efforts being made regarding this issue. For example, Baldwin and Johnson (1994), Bound et. al (1995), Kidd et al (2000), Jones et al. (2003) study on the effect of insufficient health conditions and its relation with female employment. Only a small number of studies have focused on the negative health effects experienced by women in Türkiye. We believe that the health condition and domestic responsibilities of women have a similar impact on their employment decisions as socio-economic and demographic factors. Of course, There is also studies, in both international and national level, that concentrate on the effect of negative health conditions or disability on employment/labor force participation. Düzgün-Öncel and Karaoğlan (2016), Düzgün-Öncel and Karaoğlan (2021) observe the effect of disability or negative health conditions. Nevertheless, the majority of empirical analysis centered around males.

DATA STRUCTURE & DESCRIPTIVE RESULTS

Data Structure

The Turkish Statistical Institute (TURKSTAT) gathers fundamental information concerning the labor supply in households across Türkiye. Household Labor Force Survey (HLFS), annually prepared by Turkish Statistical Institute, is used to obtain detailed descriptive statistics and estimation results for the years 2009-2020. One of the most important features of the survey is its countrywide representativeness and its face to face interview structure.

In addition to the annual micro data from the Household Labor Force Survey (HLFS), the results also include summarized information, methodologies, and guidelines for use. Therefore, micro data sets are also made available to users for use in econometric modeling studies or data mining analyses (TURKSTAT, 2023). By asking specific questions, HLFS presents socio-economic and demographic characteristics of individuals, such as age, family composition, educational background, marital status, and current or previous employment status.

Variables that uses in order to obtain descriptive statistics are derived from using HLFS data sets for the years 2009-2020. We generate labor force participation by assigning 0 and 1 codes through the use of questions that gather information about the labor market of survey participants. The survey includes roughly six to seven categories of education, which is consolidated into three categories for analysis. Additionally, the survey categorizes the marital status of participants into four groups: single, married, divorced, and widowed. To assess the distribution among these categories, we merge divorced and widowed categories. The last factor to highlight is the age group of the respondents,

which are 15-24, 25-34, 35-44, 45-54, 55-64. It is designed to observe alterations in age-related participation in the workforce.

Table 1. Variables & Classifications Used in the Figures

	Description
Labor Force	=0 if respondent out of the labor force =1 if the respondent is in the labor force
Gender	=0 if respondent is male =1 if respondent is female
Education Level	=0 low education =1 medium education =2 high education
Agricultural Population	Respondents work in agriculture sector
Non-Agricultural Population	Respondents work in non-agriculture sector
Marital Status	=0 single respondents =1 married respondents =2 divorced or widowed respondents
Age Groups	= 0/ 15-24 years old =1/ 25-34 years old =2/ 35-44 years old =3/ 45-54 years old

Source: Variables are derived by using 2014-2020 HLFS surveys and are calculated by author.

Descriptive Results

This section provides descriptive findings based on the HLFS survey data for the relevant years, and all statistical analyses are performed using this dataset. Some of the data presented includes information from 2009 to 2020 for the respondents, while certain figures, particularly those pertaining to health, only cover the period between 2014 and 2020. This is because there have been variations in the design of the questionnaires used in more recent years.

In the initial illustration, the goal is to show the participation of the labor force in both the total population and non-agricultural population from 2009 to 2020 between genders. As anticipated, a disparity exists between the genders in terms of labor force participation in the two samples. Regrettably, from 2009, the proportion of females in the labor force never surpasses 40 percent. However, the proportion of males who are economically active is nearly twice as high as that of females in every period. In 2009, among the working-age population, females made up 26% and 19% in the total population and non-agricultural population respectively in terms of labor force participation. When observing the year 2020, 33% of females are part of the labor force in the total population and 28% of them in the non-agricultural population is also in the labor force. However, the labor force participation of Turkish men remained relatively stable during the period of interest, in contrast to women.

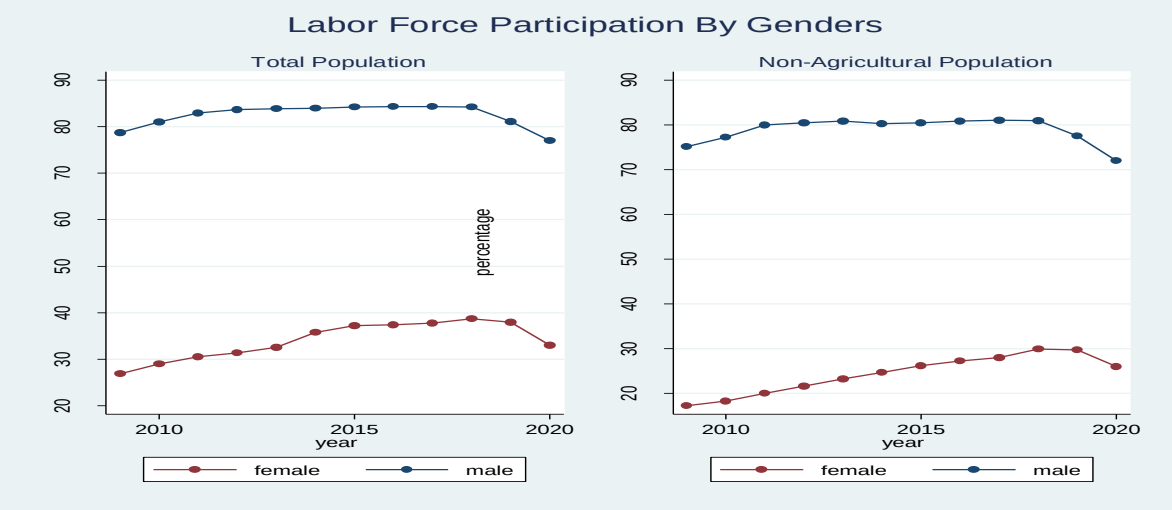

Figure 1. Labor Force Participation According to Gender (%), 2009-2020
Source: Author's calculation using 2009-2020 Household Labor Force Survey (HLFS).

Figure 2 provides a comparison of gender based on their level of education over time. We categorized the education level into three categories: low education, medium education, and high education. The low education category includes individuals who have no education or have only a primary education level. The second one; medium education category mostly encompasses individuals who have completed general high school education or vocational and technical high school education. The last education category, high education, includes individuals with university degree, master's degree, or doctorate degree. In line with the expectation, both males and females with low education have the lowest labor force participation rate. Conversely, individuals with high education have a higher participation rate in the labor force compared to those with other education levels.

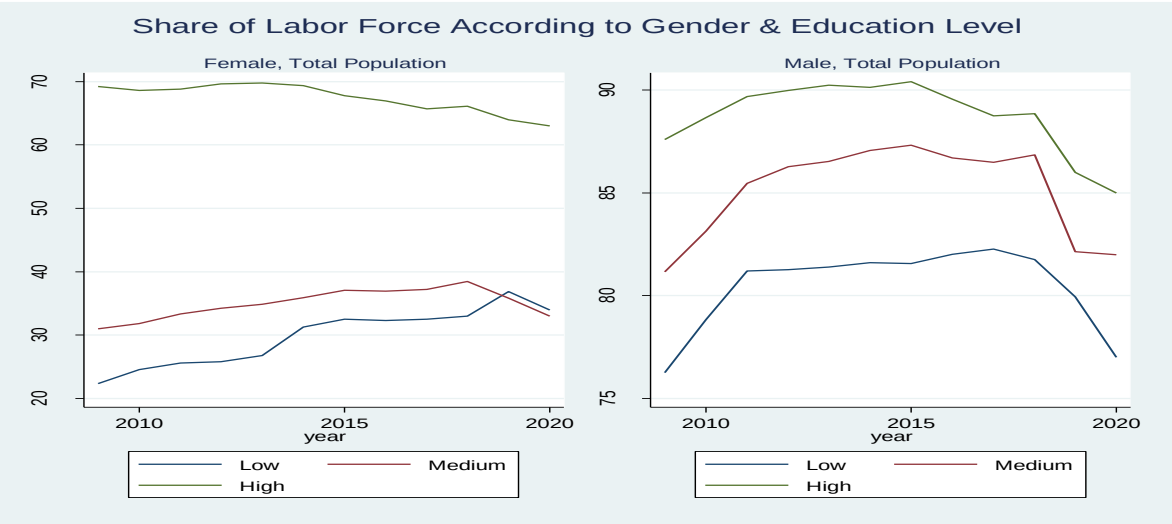

Figure 2. Share of Labor Force by Genders & Education Level (%), 2009-2020
Source: Author's calculation using 2009-2020 Household Labor Force Survey (HLFS).

Figure 3 presents a comparison of employment status based on marital status. It is evident that there are substantial disparities in the labor force participation among women with different marital

statuses. As anticipated, married or divorced/widowed women are less likely to be employed compared to their single counterparts. The majority of married women are engaged in child-rearing and household duties. The average labor force participation rate of single, married, and divorced/widowed women is 38%, 24%, and 19% respectively. It is positive that there has been an upward trend in the participation of Turkish women in the labor force across all categories. In 2009, 38% of single women were participating in the labor force, and this number is projected to increase to 57% in 2019. Additionally, the proportion of married women in the labor force is also rising, nearing 35%. The labor force participation of women based on their marital status in the non-agricultural working-age population remains relatively unchanged, with single women still having the highest participation rate. However, the proportion of divorced/widowed women surpasses that of married women. As expected, men have higher participation rates in the labor force across all categories in both the overall population and the non-agricultural working-age population.

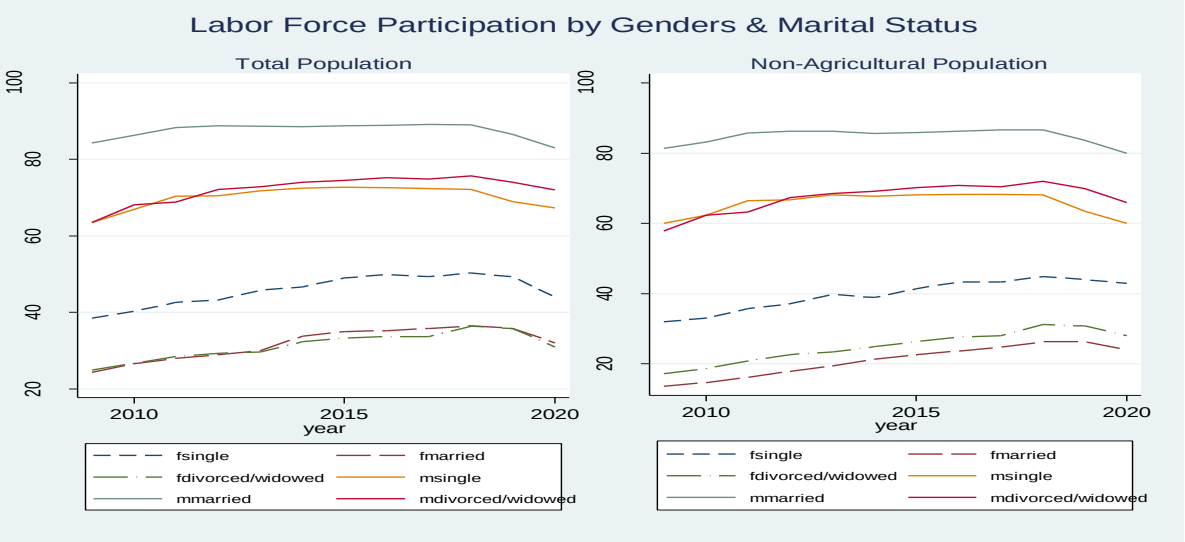

Figure 3. Labor Force Participation According to Gender & Marital Status (%), 2009-2020
Source: Author's calculation using 2009-2020 Household Labor Force Survey (HLFS).

To gain insight into the labor supply structure across genders and age thresholds, we aim to examine five distinct age groups for both males and females within the working-age population. In figure 4, as anticipated, the group of females between 55-64 years of age exhibit the least inclination to participate in the labor market. Same pattern can be observed in the study of Düzgün-Öncel and Eriş-Dereli (2015). Similarly, the 15-24 age group of males demonstrate a comparable trend. A discernible difference can be noticed between the labor force participation decisions of younger/middle-aged and older females. With the exception of the 55-64 and 15-24 age thresholds, the labor force participation rates of males within the remaining age groups are similar to one another. Irrespective of gender, the 35-44 group appears to be the most productive subgroup out of all the age groups.

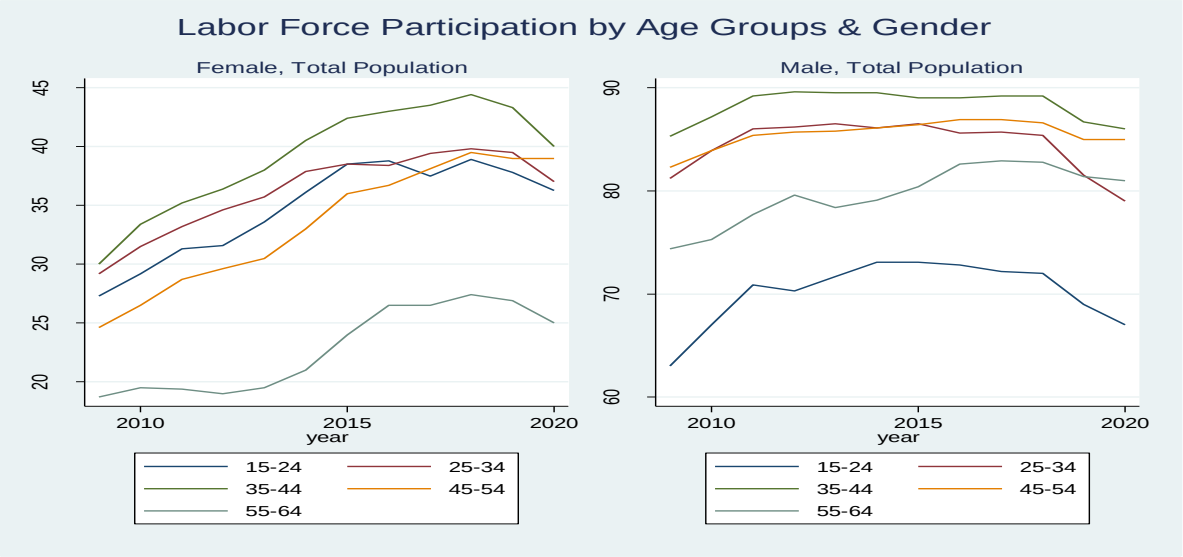

Figure 4. Labor Force Participation by Age Groups & Gender (%), 2009-2020
Source: Author's calculation using 2009-2020 Household Labor Force Survey (HLFS).

In developing nations such as Türkiye, there are various noticeable and hidden obstacles that impede women's participation in the workforce. A widely recognized one of these barriers is domestic or household duties. With the help of Figure 5, we aim to examine the proportion of females who leave their job due to these reasons and assess its statistical significance[5]. In order to determine statistical importance of females' response to some selected questions, we perform two samples test of proportion. By doing so, it is possible to test whether the difference between two sample is statistically significant or not. The method is feasible to use to obtain preliminary statistics before applying any econometric methods. At the same time, descriptive results can be compared with the results of this tests. In the context of our concern, the test shows us the presence of meaningful difference in the samples of a specific categorical outcome between female and male populations.

To comprehend why females are leaving the labor market, we also included questions in the survey that identify the reasons behind the respondents' labor market status. We expect to receive a response from women to the question "What are the reasons for not actively seeking employment?" and choose one of the answers. Most women state that they do not actively look for job because they have household responsibilities such as being a homemaker. For instance, in the year 2014, 56.55 percent of women are engaged in household tasks, caring for children or adults, or both. Following the "*Other Reasons*" category that includes job market-related factors, the third most significant factor is the "*Disability or Illness*" category, which displays a clear rise. In the year 2020, 17.64 percent of females of working age are not part of the labor force due to chronic or severe health issues.

[5] See Appendix Table A.

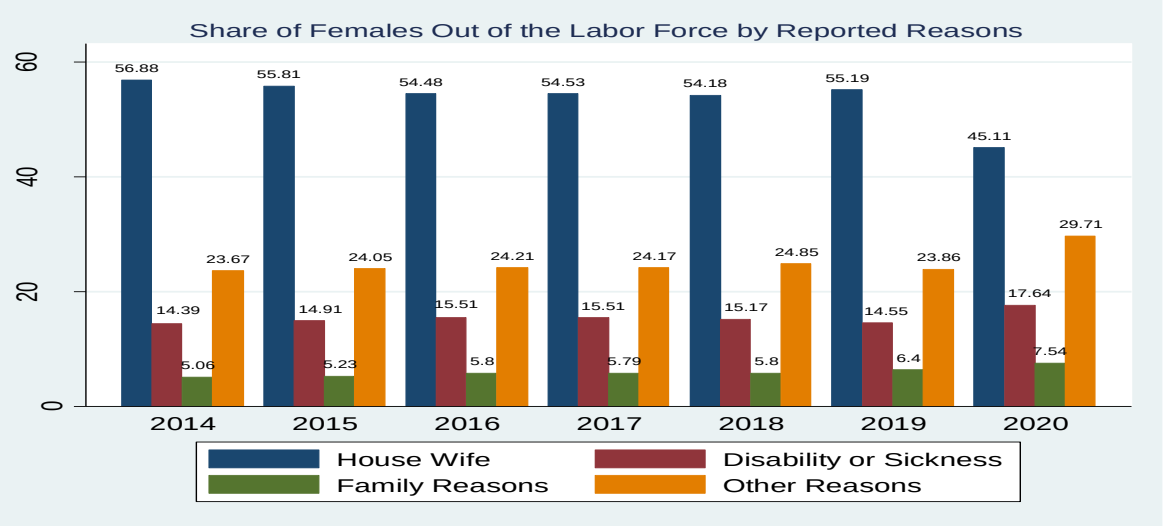

Figure 5. Share of Females Out of the Labor Force by Reported Reasons (%), 2014-2020 [6]
Source: Author's calculation using 2014-2020 Household Labor Force Survey (HLFS).

Table 2 presents the percentage of females who respond to the question "*What was the main reason for leaving your last job*?". The "*Other Reasons*" as a category which encompasses factors such as educational pursuits, retirement, and various labor market indicators such as temporary or seasonal employment, job loss due to redundancy/business closure/bankruptcy, and dissatisfaction with one's job. To concentrate solely on household and health-related aspects when examining the reasons for women leaving the labor market, we group together all the labor market factors mentioned above into one single category called "*Other Reasons*". The objective behind this is to determine the impact of household and health-related factors in the decision of Turkish women to leave the labor force.

Despite a decreasing trend is observed, females not only be out of the labor force but also leave their current job for the same reasons highlighted in figure 5. We note that the proportion of females who quit their jobs due to adverse health issues, caring for children or adults, and spousal constraints is significant enough to warrant attention. In 2020, the total percentage of females who ceased working due to reasons related to adverse health, childcare or adult care, and spousal restrictions amounted to 22.17%. This indicates that over a quarter of working-age females encounter obstacles arising from household responsibilities and health issues. A crucial point that should be emphasized is that women tend to devote more of their time to caring for children or adults in the last year.

Table 2. Share of Females Leave Their Jobs by Reasons (%), 2009-2020

Year	Sick or Injured	Child or Adult Care	Due to Husband	Other Reasons
2009	12.61	5.39	11.49	70.1
2010	12.72	5.79	12.72	68.77
2011	12.48	6.27	11.37	69.88
2012	12.17	6.25	11.37	70.21
2013	12.96	6.55	10.5	69.99
2014	12.53	6.79	9.16	71.52
2015	11.71	6.89	8.25	73.15
2016	11.15	6.60	7.53	74.36

[6] The category of other reasons induces factors related with labor market condition in general except for being retired and student.

2017	10.62	6.86	6.82	75.7
2018	10.22	6.99	6.82	75.97
2019	9.64	6.75	6.44	77.17
2020	9.56	7.08	5.53	77.83

Source: Author's calculation using 2009-2020 Household Labor Force Survey (HLFS).

Table 3 highlights the disparity between females and males in terms of the reasons for leaving the workforce due to illness or injury for the period 2009 and 2020. A decline in the number of individuals leaving the labor market due to this specific reason is apparent for both genders. Out of the total number of females surveyed, 12.61 percent opt to withdraw from the labor market due to sickness or injury, while for males, the corresponding figure is 9.12 percent in 2009. Conversely, for the year 2020, the percentage of females and males who left the labor market due to the same reason is 9.56 percent and 7.55 percent, respectively. As can be observed, Table 2 indicates that females consistently outnumber males every year. The test of two sample proportion for the year 2020 gives also that the difference between genders is significant[7].

Table 3 Comparison of Genders by Reasons for Withdrawal from Labor Market as Being Sick or Injured (%)

Year	Female	Male
2009	12.61	9.12
2010	12.72	9.93
2011	12.48	10.32
2012	12.17	10.61
2013	12.96	10.31
2014	12.53	10.98
2015	11.71	10.57
2016	11.15	9.83
2017	10.62	9.55
2018	10.22	9.60
2019	9.64	7.88
2020	9.56	7.55

Source: Author's calculation using 2009-2020 Household Labor Force Survey (HLFS).

As shown in Figure 6, among females only, there is a notable upward trend of those who are not seeking employment due to illness or disability, particularly in 2020. At the start of the period in 2009, this proportion is 7.04%, but by 2020, the number of females who do not actively seek employment due to same reason raise to almost 10%. Furthermore, the change in population between 2009 and 2020 is statistically significant, indicating that in 2020, more women in Türkiye cease searching for employment compared to 2009. So far, we solely conduct a descriptive analysis of the last ten years of Türkiye using HLFS data. The descriptive findings and results obtained from two sample proportion tests motivate us to undertake a thorough empirical analysis utilizing a health dataset.

[7] See Appendix Table B.

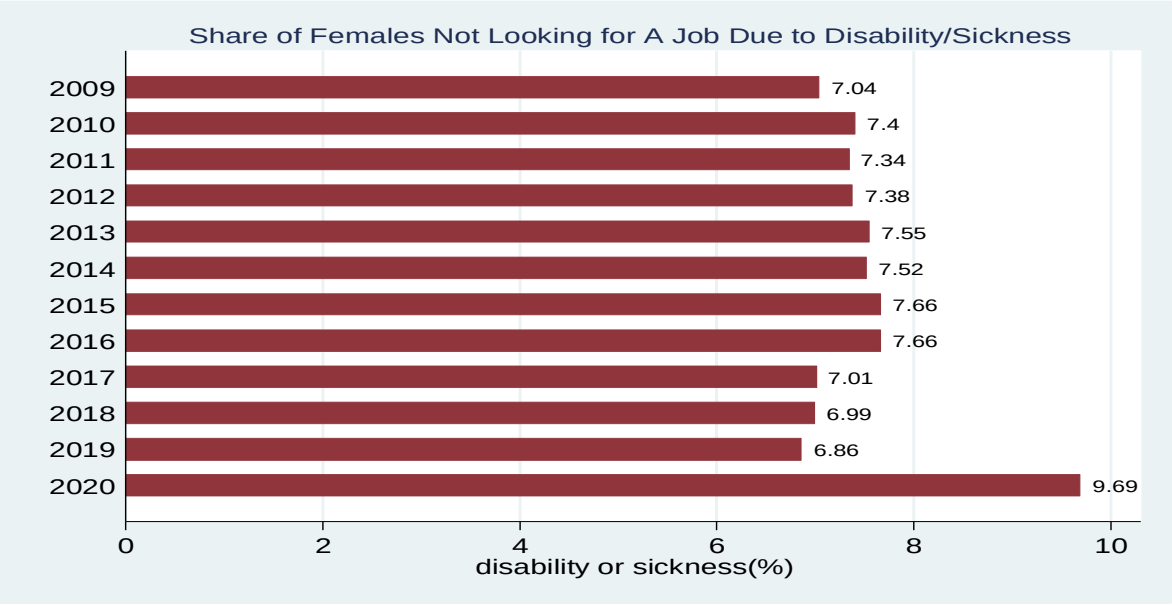

Figure 6. Share of Females Not Looking for A Job Due to Their Disability/Sickness (%), 2009-2020
Source: Author's calculation using 2009-2020 Household Labor Force Survey (HLFS).

CONCLUSION

The purpose of this paper is to conduct a discussion about potential impact of health-related factors, along with socio-economic and demographic variables, on female labor force participation in Türkiye via descriptive analysis. The plan for this paper is to first analyze the trend of female labor force participation and its corrrelation with socio-economic and demographic indicators over time by using HLFS prepared by TURKSTAT for the years 2009-2020. As expected, female participation in the labor force is considerably lower compared to that of males in Türkiye. During the period analyzed, only up to 37 percent of Turkish women participate in the labor force. In terms of economic activity, women with higher education tend to differ positively from those with medium or low levels of education in the context of being economically active. One should be noted that it is important to emphasize educational status and its possible impact when discussing labor economics, especially in female context. Similar with our conclusion, Tunalı et al (2021) observe positive effect of school enrollment on labor force attachment of Turkish females.

Marital status, as another demographic indicator, reveals that married females are less likely to participate in the labor force. In Türkiye, Karaoğlan and Ökten (2012); Düzgün-Öncel and Eriş-Dereli (2015); Ayvaz-Kızılgöl (2012) affirm similar results in the context of being married and labor market status of women. In developing countries where domestic responsibilities hold its importance like in Türkiye, marital status one of the important indicator in explaining labor supply decision of females.

One of the other primary interest of this paper is to examine the potential impact of health-related factors on female employment. The descriptive findings of this paper about negative health conditions and domestic responsibilities are useful for several respects. Possible effect of poor health and of domestic duties can be important for understanding their constraints on female labor force

participation. Descriptive statistics obtained from the Household Labor Force Survey (HLFS) indicate that negative health conditions may have a greater negative impact on females than on males in Türkiye. On the contrary, the results of two-sample proportion tests, which are performed to have more robust results, suggest that any differences between males and females are statistically significant as well. Therefore, this motivates us to examine the topic of female employment in relation to illness and disability, as part of the conversation on including women in the economic sphere. It is observed that women are more susceptible to health-related risks compared to men. As an illustration, they are less likely to seek employment due to illness or disability, and this study shows that females are more likely to leave the workforce for the same reason compared to their male counterparts. International literature in this regard reveals consistent results with our descriptive analysis. For instance, Repetti et al (2014) conducts discussion one women's health status and their labor market success. And, they argue that employability and good health is positively correlated. At the same time, data also indicates that obtaining a university or graduate degree is advantageous for individuals of both genders in their careers. On the other hand, it has been noticed that the disparity in education is not as significant as it was in the past years. Nevertheless, it is believed that this progress has not yet translated into economic self-sufficiency for women in Türkiye.

In conclusion, we aim to assess the current status of women compared to men in the labor market, with the hope of seeing a positive and significant improvement in recent years. Simultaneously, our goal is to support the existing literature by incorporating health-related factors through the use of descriptive statistics. Despite the need for further investigation, the statistics obtained indicate that poor health and household responsibilities are impediments in understanding the employment experiences or labor force attendance of women. In terms of policy implications, preventive measures can assist in reducing the number of individuals affected by illness. Another aspect is the equitable allocation of household duties among partners in household. The norm in Türkiye is that the husband is regarded as the primary breadwinner, while the wife is primarily responsible for domestic tasks (Tansel, 2001). A fairer division of household and caregiving responsibilities could also facilitate Turkish women in dedicating more time to their work. The descriptive findings from HLFS motivate us to estimate a thorough empirical analysis utilizing a health dataset.

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APPENDIX

Table A: Two Sample Test Proportion of Females According to Reported Reason as Being Out of the Labor Force

Variable	Mean	Std. Dev.	z	P>|z|	[%95 conf. interval]	
x	0.1764	0.0021			0.0172	0.0181
y	0.1439	0.0024			0.1391	0.1486
diff	0.0325	0.0024			0.0260	0.0389
	under Ho:	0.0033	9.711	0.000		

Note: *x*: 2014 and *y*: 2020 in 2020 HLFS.

Table B: Two Sample Test Proportion by Genders Leaving Their Job Due to Disability/Sickness

Variable	Mean	Std. Dev.	z	P>|z|	[%95 conf. interval]	
x	0.0956	0. 0040			0.0876	0. 1035
y	0.0755	0.0042			0. 0670	0. 0839
diff	0.0201	0.0058			0. 0085	0. 0316
	under Ho:	0.0060	3.35	0.001		

Note: *x*: female population and *y*: male population in 2020 HLFS.

Table C: Two Sample Test Proportion of Females Not Looking for A Job Due to Disability/Sickness

Variable	Mean	Std. Dev.	z	P>|z|	[%95 conf. interval]	
x	0.0704	0.0025			0.0653	0.0754
y	0.0969	0.0023			0.0923	0.1014
diff	-0.0265	0.0034			-0.0332	-0.0197
	under Ho:	0.0035	-7.44	0.000		

Note: *x*: female population and *y*: male population in 2020 HLFS.