ARAŞTIRMA MAKALESİ / RESEARCH ARTICLE

HEADSCARVES AND FERTILITY OF WOMEN IN TURKEY

TÜRKİYE'DE BAŞÖRTÜSÜ VE KADINLARIN DOĞURGANLIĞI

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ABSTRACT

The enforcement of the headscarf ban for many years blocked the education and career paths for the majority of women in Turkey. A large literature shows that there are significant relationships between women's labor force participation, educational attainment and fertility. This ban can lead women who does not take off their headscarf, to an early motherhood path. In this study, we firstly document the childbearing behavior of women depending on their wearing headscarves. We also examine the impact of the headscarf ban on women's fertility. As we have data for the whole fertility history of women, we can analyze the impact of the headscarf ban using a methodology which is in spirit of Difference in Difference (DID) estimation. For this purpose, we utilize individual level data from Demographic and Health Surveys conducted by Hacettepe Institute of Population Studies in 2003, 2008 and 2013. Our results show that women with headscarves have, on average, 0.2 more children than women who do not wear headscarves. Even when we confine the sample to women with high school or tertiary education, headscarved women have statistically significantly higher number of children. However, in the post-1997 period, when the ban was strictly enforced, no increase was detected in the number of births for women wearing headscarves. Our results show the difficulty of fostering higher fertility even among religious individuals when their other options that could be a barrier for childbearing are removed.

KEYWORDS: Headscarf, religiosity, headscarf ban, fertility, Turkey

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ÖZET

Başörtüsü yasağının uzun yıllar boyunca uygulanması, Türkiye'de kadınların büyük çoğunluğu için eğitim ve kariyer yollarını engellemiştir. Geniş bir literatür, kadınların iş gücüne katılımı, eğitim düzeyi ve doğurganlıkları arasında önemli ilişkiler olduğunu göstermektedir. Bu yasak, başörtüsünü çıkarmayan kadınlar için annelik yolunun erken açılmasına neden olabilir. Bu çalışmada ilk olarak kadınların başörtüsü kullanmalarına bağlı olarak çocuk doğurma davranışları raporlanmıştır. Buna ek olarak, başörtüsü yasağının kadınların doğurganlığına olan etkisi incelenmiştir. Kadınların bütün doğurganlık tarihçesi ile ilgili bilgimiz olduğu için, başörtüsü yasağının etkisi Farkların Farkı tarzında bir metodoloji ile tahmin edilebilmiştir. Bu amaçla Hacettepe Nüfus Etütleri Enstitüsü tarafından 2003, 2008 ve 2013 yıllarında gerçekleştirilen Türkiye Nüfus ve Sağlık Araştırmalarından yararlanılmıştır. Sonuçlarımız, başörtülü kadınların başörtüsü kullanmayan kadınlara göre ortalama 0,2 daha fazla çocuğa sahip olduğunu göstermektedir. Örneklemi lise veya yükseköğrenim görmüş kadınlarla sınırladığımızda dahi başörtülü kadınların çocuk sayılarının istatistiksel olarak anlamlı derecede yüksek olduğu görülmektedir. Ancak, yasağın sıkı bir şekilde uygulandığı 1997 sonrası dönemde, başörtüsü kullanan kadınların doğum sayılarında herhangi bir artış tespit edilmemiştir. Sonuçlarımız, çocuk doğurmaya engel olabilecek diğer alternatifler ortadan kaldırıldığında bile daha yüksek doğurganlığı teşvik etmenin zorluğunu göstermektedir.

ANAHTAR KELİMELER: Başörtüsü, dindarlık, başörtüsü yasağı, doğurganlık, Türkiye

INTRODUCTION

The headscarf has historically been a part of women's clothing both in Eastern and Westerns societies[i], especially in Muslim countries (Burghartz, 2015). In Turkey, the majority of women wear a headscarf when going out. According to the survey conducted by Hacettepe University Institute of Population Studies with a sample representative of Turkey in 2003, 75% of married women wear headscarves (HIPS, 2003). In addition, a significant percentage of the society attributes a value to the headscarf. For example, according to the survey results conducted by the KONDA research company in 2007, 26.1% of the participants stated that it would be more appropriate for their daughters to give up their university education rather than removing the headscarf (KONDA, 2007).

Despite the widespread use of headscarves among public, the ruling elite of the newly founded Turkish Republic did not favor Islamic symbols in general and the headscarf in particular as they had a very heavy stress on

the principle of secularism (Saktanber & Çorbacioğlu, 2008). A clear example of the attitude of ruling elite on the headscarf issue, is shown in the primary school textbooks designed by the Ministry of National Education, a man with a fez and a woman with a veil are depicted as "old" when social changes are explained, and a man with a tie and a woman who does not wear a headscarf are depicted as "new/modern" representing the Republic (Kancı, 2007). [ii] Therefore, we can derive that headscarf was perceived as a threat to the "modernization" of the Turkish society which was seen as the only way of progressing to catch up with the Western civilization. In addition, women with chadors and women who use headscarves the way Turkish Army thought to be "inappropriate style" were not accepted into any institution linked with Turkish Army for years.

Although headscarf was something of value from a religious point of view in Turkish society, because political agendas of ruling elites were against the use of headscarf, various top-down restrictions on the headscarf has surfaced as headscarf bans. These bans were implemented although Turkey is a democratic country with regular elections which were supposed to function a check on politicians to do what majority of population values. [iii] The headscarf bans were in effect in various degrees between 1961 and 2013. Since the details of the headscarf ban have been extensively studied in other studies (for details, see Cindoglu (2010), they will only be briefly summarized here. There are four main periods related to headscarf bans in Turkey. The first period is between 1961 to 1989 in which the dose of the ban has been gradually increased. The second period is 1990-1997 which can be characterized with partial removal of the ban as the regulation about dress code in public institutions and universities has been abolished. The third period is between 1997 and 2008 in which the headscarf ban was executed very harshly, such as dragging female university students with headscarves out of the campuses by police force starting the February 28 post-modern coup in 1997. The fourth period is 2008-2013 which is characterized by partial softening which ended in 2013 with the lifting of the headscarf ban altogether.

Women who used headscarves when headscarf ban was in force were faced with the decision to either remove their headscarves or to give up on their education and career goals. This decision could even be made by women's family members since investments in a girl's or boy's human capital often begin in childhood (Cunha & Heckman, 2007; Kautz et al., 2014). We can expect that religious families to invest less in their daughter's education. After all, if a female cannot go to school or work while wearing a headscarf, some conservative families may have reasons to invest less in their daughters' education. It is also possible that there may be conservative families who are against girls' education and/or employment, even if the headscarf is allowed.

Another point to keep in mind is that some women may be oppressed to wear the headscarf by their family members. But, even so, it is very unlikely that the conservative families would let their daughters to get more education without headscarves.[iv] Mule and Barthel (1992) argues that headscarves allow women to participate into social life in a culturally acceptable way.

Since the education and career paths for headscarved women are cut off by headscarf-related prohibitions, this may pave the way for women with headscarves to get married at an early age and the path to motherhood could be opened as mother's education is shown to be one of the vital variables for childbearing (Eryurt & Akadlı-Ergöçmen, 2012; Kırdar et al., 2018). However, marriage and motherhood are also in line with traditional social norms. Traditional social values in Turkey do not favor women's employment either (Dedeoğlu, 2010; İlkkaracan, 2012). These values may even be more pronounced in religious families. Moreover, religious values are found to be pro-natal in Islamic settings in Turkey (Dildar, 2022) in Lebanon (Chamie, 1981) and in Christian settings (Baudin, 2015; Dilmaghani, 2019). Muslims are found to have higher fertility compared to Christians (Heaton, 2011) and compared to Hindus (Bhat & Zavier, 2005). Thus, determining the net effect of the headscarf ban on fertility, requires accounting for pro-natal social norms.

This study examines the relationship between wearing a headscarf, the headscarf ban and fertility for Turkish women. For this purpose, Demographic and Health Survey (DHS) data collected by Hacettepe Institute of Population Studies in 2003, 2008 and 2013 were used.

To the best of our knowledge, this is one of the few studies to investigate the relationship between wearing headscarves and fertility in Turkey. Previous studies such as Fidan (2021); Hatun and Warner (2022) use more recent datasets. We use all available data (2003, 2008 and 2013 datasets) to document fertility-religiosity link in Turkey. Therefore, the results of this study can shed light on religiosity-fertility nexus for Turkey. Moreover, we are the first to examine the impact of Turkish headscarf ban on fertility.

The headscarf ban has been lifted in Turkey in 2013, yet there are still implicit prejudices towards headscarf that cannot be overcome in some sectors in Turkey (see Karahan and Tugsuz (2021). Although secular elites of Turkey enforced the headscarf ban on the grounds of reducing Islam's public appearance, banning headscarves might lead to higher number of children raised by headscarves mothers. Therefore, the understanding of such fertility differences may be more conducive to 'tolerance towards headscarves.' Secondly, the findings of this study are important as they have implications for the population. Indeed, as in many other developed countries, the fertility rate in Turkey has fallen below the replacement level of 2.1 (see Appendix

A, Figure A-1). Moreover, the headscarf has been a controversial issue in European countries (Lyon & Spini, 2004) as they have a considerable proportion of Muslim immigrant population. The French ban on headscarf has been in effect from 2004 onwards (Barras, 2014). Thus, our results may also be relevant for the other non-Muslim countries with Muslim population.

LITERATURE REVIEW

Previous studies on religiosity-fertility link in Turkey are rather limited. Fidan (2021) shows that religiosity of women measured by frequency of fasting, praying compulsory daily prayers and wearing headscarves is associated with higher fertility in Turkey using 2013 TDHS data. Similarly, measuring religiosity with fasting, praying and wearing headscarves from 2008 and 2013 TDHS datasets, Hatun and Warner (2022) finds that higher religiosity is associated with higher fertility in Turkey.

Although the headscarf ban was in place in Turkey for 20 years and in France for 18 years, much of the discussion is about the ban's legal status (see Bleiberg (2005); Wiles (2007), very little is known about its impact on women in their daily lives. Guveli (2011) is the first study to display that women wearing headscarves are less educated and less likely to be employed using a 2007 survey. Using a much comprehensive 4 wave dataset, Uğur (2020a) shows that women who wear headscarves are 7 to 10% less likely to be university graduates compared to women without scarves, even when indicators related to religious life are taken into account. But no statistically significant impact of the headscarf ban is detected when regression discontinuity method is utilized. Similarly, utilizing country-level representative data, women with scarves are found to be 3.6-8.5% less likely to be employed, even after value judgments regarding women's employment are accounted for (Uğur, 2018b). Anecdotal evidence also suggests that Muslim women in France are switching to working from home as a result of the French headscarf ban (Zerouala, 2014). Using difference in difference methodology, Abdelgadir and Fouka (2020) finds that the French headscarf ban damages educational attainment, labor market outcomes of women and the ban increases the probability of having children for women exposed to the ban.

METHODS

In order to examine the relationship between wearing a headscarf and fertility, first, the number of children of women who wear headscarves and women without scarves are compared. Second, regression analysis is used to take into account other variables that affect fertility. The following model is estimated.

$$FI_i = HS_i\alpha + X_i\beta + \varepsilon_{i,t} \quad [1]$$

FI, are indicators related to the fertility of person *i*. As fertility indicators, giving birth dummy (0/1) and the number of alive children were used. *HS* is a variable denoting whether person *i* wears a headscarf. Background control variables are indicated by *X*.

To account for the possibility that value judgments that encourage having children are more common among religious individuals, variables such as praying five times a day and fasting are also included in the regression analysis. The ideal number of children is also included in the regression in order to better control the value judgments about having children. Considering that values attributed to fertility can be different in different parts of Turkey, 5-region dummy variables which show where women live are included in the models. By using as many control variables as possible, we try to differentiate the effect of wearing a headscarf from other conservative values.

However, the coefficient of the headscarf variable is not sufficient to claim that headscarved women have more children because of the ban. Women who wear headscarves are aware of the consequences of wearing a headscarf such as not being able to work or study in higher education. In other words, these women may be a selected sample. In order to determine the effect of the headscarf ban, we examine whether there has been an increase in the births of headscarved women after 1997. This strategy is feasible with this dataset, as all birth history of both women wearing and not wearing headscarves is collected in this dataset. The following regression model is estimated:

$$B_{i,t} = HS_i\alpha + HS_i * post1997\delta + i.Year\theta + X_{i,t}\beta + \varepsilon_{i,t} \quad [2]$$

B is the dummy variable representing whether person *i* gave birth in year *t*. *HS*, as mentioned before, is a variable about whether person *i* wears a headscarf. *HS * post1997* is the interaction term defined to determine whether there is a change in the fertility of headscarved women after 1997. Background control variables are also denoted by *X*. If the headscarf ban has an effect on headscarved women's fertility, the δ coefficient is expected to be statistically significant. This is essentially in spirit of difference in difference (DID) analysis.

DATA

This study utilizes data from Turkey Demographic and Health Surveys (TDHS) collected by Hacettepe University Institute of Population Studies for 2003, 2008 and 2013 years. TDHS is conducted every 5 years. It is based on a representative sample of women aged 15-49 who were married at least once

in 2003 and 2008 waves, and of women from all marital status in 2013. 8,075 women were interviewed in 2003, 7,405 women in 2008 and 9,746 women in 2013.

Women were asked whether they wear a headscarf as follows: Do you wear a headscarf when you go out? While 'Yes' and 'No' options were available as answer categories in 2003, there are 'No,' 'Regularly yes,' and 'sometimes yes' options available in 2008 and onwards. Those who wear a headscarf occasionally are not classified as wearing a headscarf, only those who wear a headscarf regularly are categorized as wearing a headscarf.

DHS covers a broad set of questions regarding women's birth history. The number of live births and the number of surviving children were calculated from questions on birth outcome details. Since the birth year of each child is also asked, the pregnancy history of women can be obtained retrospectively.

In order to make a more appropriate comparison, only women living in cities and married at least once were included in the analysis sample. The reason is that the dynamics of having children for women living in villages and the women in cities can be very different. While having children affects women's participation in labor market negatively (Angrist & Evans, 1998; Jacobsen et al., 1999), the impact of having children on labor outcomes can be less disadvantageous for women in villages, as women in villages report that they can rely on relatives or friends for childcare (Katras et al., 2004). Secondly, since the survey was conducted with women who had at least one marriage in 2003 and 2008, women who had never been married in 2013 were also excluded from the analysis.

In the analysis sample, women who are born in 1973 or later are included in the analysis as between 1990 and 1997 there was a relative freedom for headscarved women. In addition, women born in 1986 and after are subject to 8 years of education due to an education reform which made 8 years of schooling compulsory, this group was also excluded from the sample. Under these constraints, we have 7,684 observations.

Descriptive statistics of the sample are shown in Table 1. 89% of the women in the entire sample had at least one live birth and the average number of living children was 1.95. 67% of the women in the sample stated that they regularly use the headscarf. Women who do not wear headscarves have 1.37 children, while women who wear headscarves have 2.22 children on average. To check whether these differences are statistically significant, a t-test is conducted, and the results are shown on the third column with stars. According to the t-test results, there are statistically significant differences between the number of children of women who wear headscarves and women who do not wear. In addition, there are other notable and statistically

significant differences between the two groups. Women who wear headscarves are more likely to have had Qur'an study, pray and fast regularly compared to women who do not wear scarves. Moreover, women without scarves are more likely to come from the west and south of Turkey, have Turkish as their mother tongue, have more educated parents, and are wealthier. As expected, headscarved women are also less likely to have a higher education and to be employed.

Table 1. Descriptive Statistics

	Total	Headscarved	Not headscarved
Fertility Indicators			
Gave birth	0.89 [0.31]	0.92 [0.26]	0.82 [0.38]***
Average number of children	1.95 [1.33]	2.22 [1.39]	1.37 [0.95]***
Ideal number of children	2.59 [1.09]	2.75 [1.13]	2.28 [0.95]***
Religiosity Indicators			
Wears headscarf	0.67 [0.47]		
Attended Quran study	0.44 [0.49]	0.49 [0.50]	0.35 [0.48]***
Prays regularly	0.47 [0.50]	0.63 [0.48]	0.17 [0.37]***
Fasts regularly	0.87 [0.33]	0.97 [0.17]	0.68 [0.47]***
Background Variables			
Age	29.72 [4.96]	29.63 [5.06]	29.90 [4.74]*
Region of Residence: West	0.30 [0.46]	0.25 [0.43]	0.42 [0.49]***
Region of Residence: South	0.13 [0.34]	0.12 [0.32]	0.16 [0.36]***
Region of Residence: Middle Anatolia	0.19 [0.39]	0.20 [0.40]	0.17 [0.37]***
Region of Residence: Northern Anatolia	0.12 [0.32]	0.11 [0.32]	0.12 [0.33]
Region of Residence: Eastern Anatolia	0.26 [0.44]	0.32 [0.47]	0.13 [0.34]***
Mother Tongue: Turkish	0.80 [0.40]	0.73 [0.44]	0.93 [0.26]***
Mother Tongue: Kurdish	0.18 [0.38]	0.24 [0.43]	0.04 [0.20]***
Mother Tongue: Arabic or other	0.03 [0.16]	0.02 [0.15]	0.03 [0.17]
Did not go to school	0.09 [0.29]	0.13 [0.34]	0.02 [0.13]***
Some primary education	0.04 [0.20]	0.05 [0.23]	0.01 [0.11]***
Completed primary education	0.45 [0.50]	0.54 [0.50]	0.27 [0.45]***
Some high school	0.13 [0.33]	0.11 [0.31]	0.17 [0.37]***
Completed high school	0.16 [0.37]	0.11 [0.31]	0.27 [0.44]***
University or more	0.12 [0.33]	0.05 [0.22]	0.26 [0.44]***
Mother's education level	0.98 [1.16]	0.70 [0.96]	1.56 [1.31]***
Father's education level	1.89 [1.29]	1.63 [1.21]	2.40 [1.30]***
Employed	0.25 [0.43]	0.18 [0.39]	0.39 [0.49]***
Wealth Index (max 5)	3.30 [1.30]	2.99 [1.25]	3.94 [1.15]***
N	7,684	5,169	2, 515

Note: The means and standard deviations of the whole sample are given in the first column, the second and third columns show that of headscarved and not-scarved women * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

RESULTS

Table 2 shows the relationships between wearing a headscarf and fertility indicators. While the dependent variable in the first 4 models is the dummy variable of giving birth, in the last 4 models, the dependent variable is the number of children. The first 4 models were estimated with the probit model, and the last 4 models with the ordinary least squares (OLS). All models control for background variables such as women's age, age squared, and 5-region of residence dummies, ideal number of children, had Quran study dummy. Model 2 additionally controls for praying and fasting status variables. Model 3 includes the educational level and employment status of women. Model 4 controls for praying, fasting status, education level and employment status altogether. Since the questions about praying and fasting were only asked in the 2008 and 2013 surveys, the number of observations is slightly lower in Models 2 and 4. Table 2 shows the coefficients of our variables of interest, the rest of the coefficients are shown in Appendix Tables A-1 and A-2.

Table 2. Regression Results for Fertility Indicators

	Gave Birth DV				The Number of Children			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Headscarf	0.026***	0.028***	0.021***	0.026***	0.238***	0.208***	0.203***	0.181***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.03)	(0.03)	(0.03)	(0.03)
Ideal number of	0.005	0.009**	0.005	0.009**	0.128***	0.139***	0.127***	0.138***
children	(0.00)	(0.00)	(0.00)	(0.00)	(0.02)	(0.02)	(0.02)	(0.02)
Attended Quran	-0.001	0.000	-0.001	0.001	-0.096***	-0.098***	-0.095***	-0.095***
study	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.03)	(0.02)	(0.03)
Prays regularly		-0.015*		-0.015*		-0.016		-0.015
		(0.01)		(0.01)		(0.03)		(0.03)
Fasts regularly		0.002		0.000		0.085**		0.075**
		(0.01)		(0.01)		(0.04)		(0.04)
Educational			0.002	0.003			-0.037***	-0.027*
Attainment			(0.00)	(0.00)			(0.01)	(0.01)
Employed			-0.036***	-0.026***			-0.141***	-0.128***
			(0.01)	(0.01)			(0.03)	(0.03)
Model	a	b	c	d	a	b	c	d
N	6,126	5,020	6,126	5,020	6,126	5,020	6,126	5,020
Pseudo R-sqr	0.331	0.320	0.336	0.324	0.55	0.55	0.56	0.55

Notes: Standard errors are robust, clustered around household id and provided in ( ). *** p<0.01, ** p<0.05, * p<0.10

All regressions results include background variables. Background Variables: age, age squared, married, marriage duration, region of residence (West, South, Middle Anatolia, Northern Anatolia, Eastern Anatolia)**,** mother's education level, father's education level, mother's tongue (Turkish, Kurdish, Arabic or others), wealth index, had Qur'an study. **a**: Background Variables **b:** Background Variables + praying regularly, fasting regularly variables **c:** Background Variables + completed education level, employment status variables **d:** Background Variables + praying regularly, fasting regularly variables + completed education level, employment status variables

The marginal effects calculated from the probit models are reported in the first 4 columns in Table 2. Although the last 4 columns in Table 2 OLS model results for the number of children for the ease of interpretation of the coefficient. Yet, the number of children is not exactly a continuous variable, therefore, ordered probit models are also estimated and provided in Appendix Table A-3.

According to the results in Table 2, women using headscarves have a 2.6% higher probability of giving birth. According to Models 2, 3 and 4, women wearing headscarves are approximately 2% more likely to give birth. That is, this high probability of giving birth persists even though we include extensive set of control variables. When we look at the number of children variable, we see larger coefficients. According to the last 4 models in Table 2, the average number of children of women with headscarves is statistically significantly higher than those who do not wear headscarves. Model 1 shows that headscarved women have 0.24 more children compared to women without headscarves, even when controlling for many background variables. Models 2, 3 and 4 also indicate that the number of children of headscarved women is approximately 0.2 more than that of women without scarves.

In addition, the coefficient of the headscarf is always higher than the coefficient of the ideal number of children in all of the last four models. This roughly gives an idea in terms of the effect size.

Among the women with high school or higher education shown in Table 3, the probability of giving birth and the number of children are significantly higher for women with headscarves compared to those who do not wear headscarves. The coefficients in Table 3 are slightly higher than the coefficients in Table 2. This is consistent with our expectations. That is, because the ban was particularly about university education, the ban would disproportionately impact women with high school education.

Table 3. Regression Results for Fertility Indicators – High School or More Educated Women

	Gave Birth				Number of Children			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Headscarf	0.067***	0.078***	0.056***	0.069***	0.283***	0.306***	0.251***	0.277***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.04)	(0.03)	(0.04)
Ideal number of	0.001	0.002	0.002	0.003	0.061***	0.062***	0.061***	0.061***
children	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)
Attended Quran	-0.002	0.011	0.002	0.014	0.014	0.036	0.021	0.045
study	(0.01)	(0.01)	(0.01)	(0.01)	(0.03)	(0.03)	(0.03)	(0.03)
Prays regularly		-0.028		-0.027		-0.023		-0.026
		(0.02)		(0.02)		(0.04)		(0.04)
Fasts regularly		0.008		0.007		0.041		0.035
		(0.02)		(0.02)		(0.04)		(0.04)
Educational			-0.059***	-0.034**			-0.054	-0.017
Attainment			(0.02)	(0.02)			(0.03)	(0.04)
Employed			-0.036**	-0.036**			-0.170***	-0.176***
			(0.02)	(0.02)			(0.03)	(0.04)
Model	a	b	c	d	a	b	c	d
N	1,843	1,568	1,843	1,568	1,843	1,568	1,843	1,568
Pseudo R-sqr	0.387	0.388	0.399	0.396	0.52	0.51	0.53	0.52

Notes: Standard errors are robust, clustered around household id and provided in ( ). *** p<0.01, ** p<0.05, * p<0.10

All regressions results include background variables. Background Variables: age, age squared, married, marriage duration, region of residence (West,South, Middle Anatolia, Northern Anatolia, Eastern Anatolia)**,** mother's education level, father's education level, mother's tongue (Turkish, Kurdish, Arabic or others), wealth index, had Qur'an study. **a**: Background Variables **b:** Background Variables + praying regularly, fasting regularly variables **c:** Background Variables + completed education level, employment status variables **d:** Background Variables + praying regularly, fasting regularly variables + completed education level, employment status variables

In order to reveal the effect of the ban more explicitly, we examine whether there is a change in the births of women who wear headscarves after 1997 compared to those who do not wear. Figure 1 shows the birth rate which corresponds to the number of births in each year on average for headscarf-wearing and non-wearing women, for each wave of survey separately. Births are also limited to 2008 in the 2013 survey, as explained in the introduction section, the headscarf ban is not implemented strictly in some universities, especially in universities in small cities, although the ban is repealed in 2013. According to Figure 1, the birth rate of headscarved women is higher than women without scarves for each survey, but we do not see any upward trend in the average birth rate of headscarved women after 1997 in any survey year. On the contrary, according to the 2008 survey data, the birth rate of

headscarved women in the post-1997 period approaches that of women without scarves. The data shown in graphical illustration was also examined with regression analysis to test statistical significance.

Figure 1: Birth Rates over Time by Headscarf Status

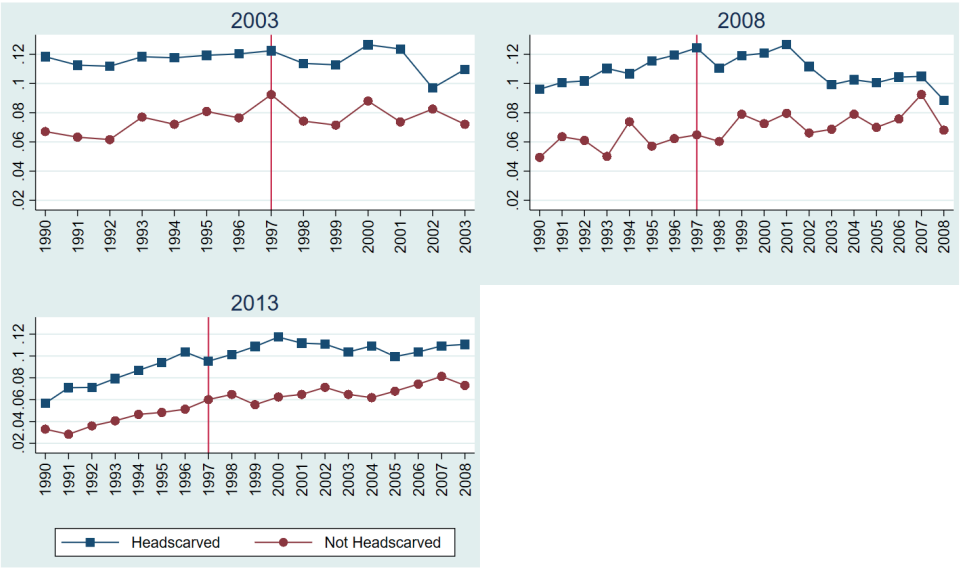

Table 4 presents the results of DID regression analysis. According to these results, the coefficient of the headscarf variable is positive and statistically significant, consistent with the results in Table 2. However, while the interaction term of the headscarf dummy with post-1997 dummy is not statistically significant in models 1 and 3, it is negative and statistically significant in model 2. Panel II of Table 4 shows similar results for women with high school and higher education. Therefore, it is not possible to claim that there has been an increase in the births of headscarved women after 1997.

To check robustness of the results, we also combined all datasets and run the same model in the combined dataset. The results are similar to what is reported in Table 4.

Table 4. Probit Estimates of Giving Birth Dummy Variable

	DHS-2003	DHS-2008	DHS-2013
	(1)	(2)	(3)
I. **The Whole Analysis Sample**			
Headscarved	0.028***	0.039***	0.033***
	(0.00)	(0.01)	(0.01)
Headscarved *Post 1997	-0.003	-0.022***	-0.008
	(0.01)	(0.01)	(0.01)
N	32,788	48,678	52,820
Pseudo R-sqr	0.170	0.147	0.170
I. **High School or higher educated Women**			
Headscarved	0.009	0.033***	0.009
	(0.01)	(0.01)	(0.01)
Headscarved *Post 1997	0.014	-0.022*	0.007
	(0.01)	(0.01)	(0.01)
N	7,436	13,032	15,858
Pseudo R-sqr	0.197	0.168	0.207

Notes: Standard errors are robust, clustered around household id and provided in ( ). *** p<0.01, ** p<0.05, * p<0.10. **All regressions results include background variables. Background Variables:** age, age squared, married, duration of marriage, region of residence (West, South, Middle Anatolia, Northern Anatolia and Eastern Anatolia)**, and year fixed effects**. For DHS 2003, year dummies for 1990-2003 period are added. For DHS 2008 and 2013, year dummies for 1990-2008 period are added.

CONCLUDING REMARKS

The headscarf ban has brought many controversies from the late 1990s to the 2010s in Turkey. In this study, the effect of wearing headscarf and the headscarf ban on the fertility indicators is examined. Headscarved women have a higher number of children than not scarved women, even after controlling for many background variables. This relationship is even more pronounced among women with high school or higher education. These results are consistent with the findings of Fidan (2021); Hatun and Warner (2022). Moreover, our results are also in line with the fact that religiosity is associated with higher fertility in many countries (Baudin, 2015; Bhat & Zavier, 2005; Chamie, 1981; Dilmaghani, 2019; Heaton, 2011).

However, no increase in the fertility of headscarved women was detected in the post-1997 period. Therefore, the headscarf ban had no effect on women's fertility in the Turkish case although Abdelgadir and Fouka (2020) found an impact on having children in the case of French headscarf ban. The different research results may stem from differing social support Turkish and French government provides for childcare. Research shows that having children brings huge financial costs to women (Cáceres-Delpiano & Simonsen, 2012;

Nomaguchi & Milkie, 2003) and having children is costly even in terms of happiness (Nomaguchi & Milkie, 2020; Uğur, 2020b). Using data from Turkey, it is also found that the more children a woman have, the more likely she is to feel not being able to control one's own life (Uğur, 2017) and motherhood is associated with lower happiness compared to fatherhood (Uğur, 2018a). Countries try to support families with a variety of tools such as childcare benefits, child allowances, maternity leaves etc. Yet, Turkey has very low financial support for childcare (Attar, 2016) whereas France is known to be very generous with childcare costs (Baudin, 2015). Considering these, it may be too costly for a headscarved woman to have more children in Turkey, even if she does not have a career opportunity due to the ban. These differential financial support from public accounts can explain why French ban leads to higher childbearing whereas Turkish ban does not.

The underlying reason might also be related to the social norms. Indeed, McQuillan (2004) concludes that the impact of religion on fertility can change greatly depending on other social institutions and socio-cultural context. It might be no longer socially appropriate for Turkish women to have many children, especially for women living in cities. In the TDHS dataset (the dataset we use), 50% of women consider 2 children as ideal. Although the ideal number of children for headscarved women is slightly higher than for women without headscarves, as shown in Table 2, in which the average ideal number of children is still around 2 for both groups. One interesting finding is that the number of children of women without headscarves is far below their ideal level. This may imply that the value judgments or new social conditions brought by economic realities may affect people from all groups. Indeed, Goldscheider (1971, pp. 270-298) argues that religious-minority groups that face entry barriers to full social and economic participation into the dominant groups of society may choose to reduce fertility to gain power or to mimic the powerful. Although headscarved women were the majority in Turkey, they had very low social status making them like 'minority.' For this reason, they might choose to limit their fertility for blending in with the 'modern' ways of life.

Our findings suggest that the headscarf ban had no effect on fertility behavior. But it is worth noting that the period before 1997 was not free from the discriminatory barriers. Although there was a relative degree of freedom in universities between 1990 and 1997, there was never complete freedom in business life, especially in white-collar jobs (Cindoglu, 2010). Therefore, the reason we do not detect any effect may be related to the fact that the period before 1997 may be equally difficult for headscarved women. If this is so, our DID methodology cannot differentiate the impact of the ban from other religious attitudes.

These results are consequential in the sense that they show the difficulty of fostering higher fertility even among religious individuals when their other options that could be a barrier for childbearing are removed. Although headscarf bans are over, these results can shed light on discussions about how to increase fertility close to replacement level. We argue that pro-natalist rhetoric in Turkey is unlikely to increase childbearing in the long-term as long as there is no solid support for females.

NOTES

[i] To see photos of headscarf use in Europe, see Scroll (n.d.).

[ii] It is also noteworthy that all the women in the photograph titled "Atatürk and Contemporary Turkish Women" in the History of Revolution (İnkılap Tarihi) book published by the Ministry of National Education are women who do not wear headscarves (Çevik et al., 2018).

[iii] The central government has always been very powerful over society in Turkey which Turkish Republic inherited from the Ottoman Empire (Heper, 1985). When the central government is stronger than society, it is a common feature that the leader dictates their vision on the society (Migdal, 1988). The power dynamics between the central government and Turkish military played a role in secularism discussions for a long time (Tachau & Heper, 1983) which is beyond the scope of this study.

[iv] It is very unlikely that women who wear headscarf forcefully can escape oppression when headscarves are banned. Because oppression is not only manifested in physical things like wearing scarves or not but it has very subtle social dynamics (Kim, 2010).

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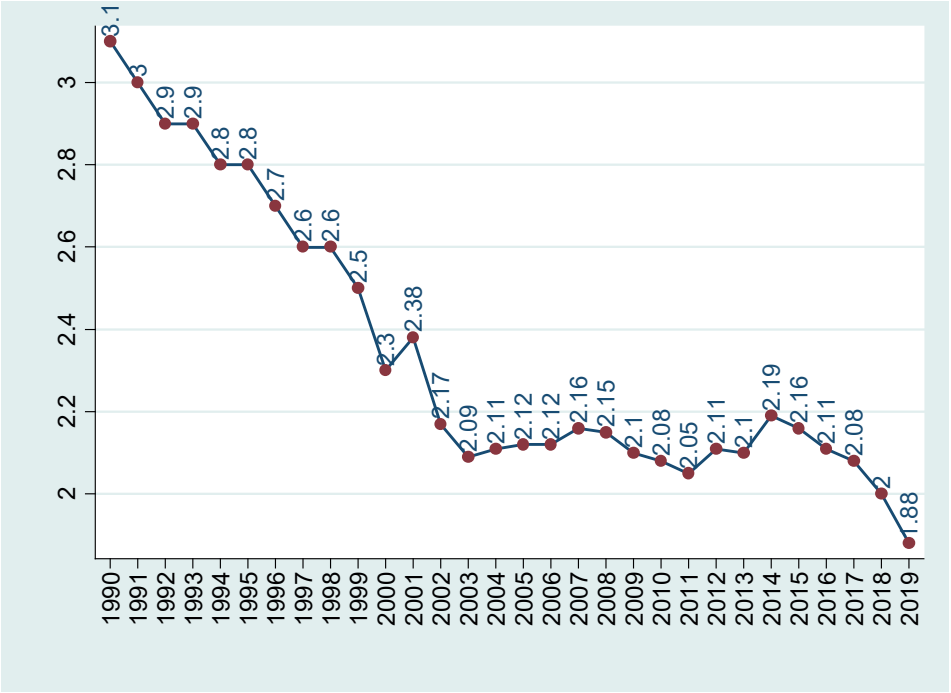
Appendix A

Figure A-1 Total Fertility Rate over Time



Source: TURKSTAT (2022)

Table A-1. Probit Model Estimates of Giving Birth (Marginal Effects)

	(1)	(2)	(3)	(4)
Headscarf	0.026***	0.028***	0.021***	0.026***
	(0.01)	(0.01)	(0.01)	(0.01)
Ideal number of children	0.005	0.009**	0.005	0.009**
	(0.00)	(0.00)	(0.00)	(0.00)
Attended Quran study	-0.001	0.000	-0.001	0.001
	(0.01)	(0.01)	(0.01)	(0.01)
Age	0.054***	0.044***	0.055***	0.046***
	(0.01)	(0.01)	(0.01)	(0.01)
Age squared	-0.001***	-0.001***	-0.001***	-0.001***
	(0.00)	(0.00)	(0.00)	(0.00)
Married	0.125***	0.119***	0.119***	0.115***
	(0.02)	(0.01)	(0.02)	(0.01)
Duration of marriage	0.026***	0.021***	0.025***	0.021***
	(0.00)	(0.00)	(0.00)	(0.00)
Mother's education level	-0.006*	-0.003	-0.005	-0.003
	(0.00)	(0.00)	(0.00)	(0.00)
Father's education level	0.003	0.002	0.004	0.002
	(0.00)	(0.00)	(0.00)	(0.00)
Mother's tongue: Turkish	0.007	0.005	0.006	0.006
	(0.02)	(0.02)	(0.02)	(0.02)
Mother's tongue: Kurdish	-0.014	-0.017	-0.013	-0.014
	(0.02)	(0.03)	(0.02)	(0.03)
Wealth Index	-0.010***	-0.009**	-0.009**	-0.009**
	(0.00)	(0.00)	(0.00)	(0.00)
West	-0.025**	-0.017*	-0.024**	-0.017
(Ref: Eastern Anatolia)	(0.01)	(0.01)	(0.01)	(0.01)
South	-0.010	-0.004	-0.012	-0.006
	(0.01)	(0.01)	(0.01)	(0.01)
Middle Anatolia	-0.010	-0.005	-0.012	-0.007
	(0.01)	(0.01)	(0.01)	(0.01)
Northern Anatolia	0.004	0.010	0.009	0.014
	(0.01)	(0.01)	(0.01)	(0.01)
Prays regularly		-0.015*		-0.015*
		(0.01)		(0.01)
Fasts regularly		0.002		0.000
		(0.01)		(0.01)
Educational Attainment			0.002	0.003
			(0.00)	(0.00)
Employed			-0.036***	-0.026***
			(0.01)	(0.01)
N	6,126	5,020	6,126	5,020

Notes: Standard errors are robust, clustered around household id and provided in ( ). *** p<0.01, ** p<0.05, * p<0.10

Table A-2. OLS Model Estimates of the Number of Children

	(1)	(2)	(3)	(4)
Headscarf	0.238***	0.208***	0.203***	0.181***
	(0.03)	(0.03)	(0.03)	(0.03)
Ideal number of children	0.128***	0.139***	0.127***	0.138***
	(0.02)	(0.02)	(0.02)	(0.02)
Attended Quran study	-0.096***	-0.098***	-0.095***	-0.095***
	(0.02)	(0.03)	(0.02)	(0.03)
Age	0.351***	0.351***	0.357***	0.359***
	(0.02)	(0.04)	(0.02)	(0.04)
Age squared	-0.006***	-0.006***	-0.006***	-0.006***
	(0.00)	(0.00)	(0.00)	(0.00)
Married	0.652***	0.671***	0.623***	0.650***
	(0.06)	(0.06)	(0.06)	(0.06)
Duration of marriage	0.148***	0.142***	0.144***	0.140***
	(0.00)	(0.00)	(0.00)	(0.00)
Mother's education level	-0.013	-0.012	-0.004	-0.005
	(0.01)	(0.01)	(0.01)	(0.01)
Father's education level	-0.018	-0.017	-0.008	-0.010
	(0.01)	(0.01)	(0.01)	(0.01)
Mother's tongue: Turkish	-0.181**	-0.172*	-0.170**	-0.161*
	(0.08)	(0.09)	(0.08)	(0.09)
Mother's tongue: Kurdish	0.315***	0.411***	0.301***	0.402***
	(0.09)	(0.10)	(0.09)	(0.10)
Wealth Index	-0.113***	-0.124***	-0.099***	-0.112***
	(0.01)	(0.01)	(0.01)	(0.01)
West	-0.322***	-0.352***	-0.326***	-0.353***
(Ref: Eastern Anatolia)	(0.04)	(0.05)	(0.04)	(0.05)
South	-0.206***	-0.232***	-0.214***	-0.240***
	(0.04)	(0.05)	(0.04)	(0.05)
Middle Anatolia	-0.256***	-0.270***	-0.263***	-0.275***
	(0.04)	(0.05)	(0.04)	(0.05)

Northern Anatolia	-0.273***	-0.309***	-0.248***	-0.285***
	(0.04)	(0.05)	(0.04)	(0.05)
Prays regularly		-0.016		-0.015
		(0.03)		(0.03)
Fasts regularly		0.085**		0.075**
		(0.04)		(0.04)
Educational Attainment			-0.037***	-0.027*
			(0.01)	(0.01)
Employed			-0.141***	-0.128***
			(0.03)	(0.03)
N	6,126	5,020	6,126	5,020
R-squared	0.55	0.55	0.56	0.55

Notes: Standard errors are robust, clustered around household id and provided in ( ).

*** p<0.01, ** p<0.05, * p<0.10

Tablo A-3. Ordered Probit Model Estimates of the Number of Children

	(1)	(2)	(3)	(4)
Headscarf	0.374***	0.336***	0.329***	0.301***
	(0.03)	(0.04)	(0.04)	(0.04)
Ideal number of children	0.137***	0.150***	0.136***	0.148***
	(0.01)	(0.02)	(0.01)	(0.02)
Attended Quran study	-0.098***	-0.093***	-0.096***	-0.090***
	(0.03)	(0.03)	(0.03)	(0.03)
Prays regularly		-0.029		-0.029
		(0.04)		(0.04)
Fasts regularly		0.111**		0.097*
		(0.05)		(0.05)
Educational Attainment			-0.039***	-0.028
			(0.02)	(0.02)
Employed			-0.228***	-0.205***
			(0.03)	(0.04)
Model	a	b	c	d
N	6,126	5,020	6,126	5,020
Pseudo R-squared	0.26	0.25	0.26	0.25

Notes: Standard errors are robust, clustered around household id and provided in ( ). *** p<0.01, ** p<0.05, * p<0.10. **All regression results include background variables. Background Variables:** age, age squared, married, marriage duration, region of residence (West, South, Middle Anatolia, Northern Anatolia, Eastern Anatolia)**,** mother's education level, father's education level, mother's tongue (Turkish, Kurdish, Arabic or others), wealth index, had Qur'an study.