

HACETTEPE UNIVERSITY
INSTITUTE OF POPULATION STUDIES

**HOW FERTILITY-RELATED TRAJECTORIES OF
SYRIAN REFUGEE WOMEN IN TURKEY VARY OVER
TIME? TESTING THE SOCIALIZATION, ADAPTATION,
DISRUPTION AND SELECTION HYPOTHESES**

Seda YUMLU

Department of Demography
PhD Thesis

Ankara
September 2024

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How Fertility-Related Trajectories of Syrian Refugee Women in Turkey Vary Over Time?
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ABSTRACT

Millions of Syrians were compelled to seek safety in neighboring countries as the Syrian Civil War broke out in 2011, resulting in extensive violence and displacement. Among these countries, Turkey emerged as a primary destination due to its geographical proximity and relative stability, becoming home to a substantial number of Syrian refugees. As the Turkish population is now coexisting with a significant number of Syrian refugees, it is crucial to anticipate and implement necessary precautions, as their fertility patterns directly influence the country's demographic landscape.

This thesis provides a comprehensive understanding of how conflict-induced migration affects women's reproductive behaviors with an emphasis on the post-migration period. Specifically, it focuses on the fertility-related trajectories of Syrian refugee women and examines the change in the post-migration period in Turkey. Thus, the thesis aims to investigate the relationship between conflict, migration and fertility; to compare fertility patterns and reproductive behaviors in pre- and post-migration periods; and to test the four major theories of immigrant fertility: socialization, adaptation, disruption and selection. The study primarily uses data from the 2018 Turkey Demographic and Health Survey Syrian Migrant Sample (2018 TDHS-S). Descriptive analyses and multivariate regression analyses are employed to assess the various risk factors on the reproductive events of Syrian women.

Ana bulgular, göç sonrası Suriyeli kadınlar arasında üreme ve doğurganlık davranışlarında önemli değişiklikler olduğunu ortaya koymakta ve göç ile çatışmanın olası etkilerine işaret etmektedir. The results indicate that while Syrian women preserve distinct practices from the pre-migration environment, they also adjust some of their reproductive behaviors to align with Turkish women indicating the presence of both socialization and adaptation hypotheses. The disruption hypothesis is also evident as Syrian refugees exhibit a pattern of delayed childbearing followed by compensatory effects.

Key Words: Syrian Civil War, Fertility Trajectories, Reproductive Behaviors, Syrian Refugee Women in Turkey, Immigrant Fertility Hypotheses, 2018 TDHS-S

ÖZET

2011 yılında Suriye İç Savaşı'nın başlaması, yaygın şiddet ve yerinden edilmelere yol açarak milyonlarca Suriyeliyi komşu ülkelere sığınmaya zorlamıştır. Bu ülkeler arasında, coğrafi yakınlığı ve nispi istikrarı nedeniyle Türkiye önemli bir varış noktası haline gelmiş ve önemli sayıda Suriyeli mülteciye ev sahipliği yapmıştır. Türk nüfusu günümüzde önemli sayıda Suriyeli mülteciyle birlikte yaşamakta olup, onların doğurganlık örüntüleri ülkenin demografik görünümünü doğrudan etkilediğinden, bu konuda gerekli önlemleri öngörmek ve uygulamak son derece önemlidir.

Bu tez, çatışma kaynaklı göçün kadınların üreme davranışlarını nasıl etkilediğini, özellikle göç sonrası döneme vurgu yaparak kapsamlı bir şekilde anlamayı sağlamaktadır. Daha spesifik olarak, Suriyeli mülteci kadınların doğurganlıkla ilgili seyirlerine odaklanmakta ve Türkiye'deki göç sonrası dönemde değişimi incelemektedir. Dolayısıyla bu tez, çatışma, göç ve doğurganlık arasındaki ilişkiyi araştırmayı, göç öncesi ve göç sonrası dönemlerdeki doğurganlık kalıplarını ve üreme davranışlarını karşılaştırmayı ve göçmen doğurganlığına dair dört ana hipotezi (sosyalleşme, uyum, kesinti ve seçim) test etmeyi amaçlamaktadır. Çalışma, temel olarak 2018 Türkiye Nüfus ve Sağlık Araştırması Suriye Göçmen Örnekleminde (2018 TNSA-S) elde edilen verileri kullanmaktadır. Suriyeli mülteci kadınların üreme olayları üzerindeki çeşitli faktörlerin etkisini değerlendirmek için betimsel ve çok değişkenli regresyon analizleri kullanılmıştır.

Sonuçlar, göç sonrasında Suriyeli kadınların bazı üreme davranışlarını Türk kadınlarla uyumlu hale getirdiğini gösterirken, göç öncesi ortamdan da bazı belirgin uygulamaların korunduğunu, bu durumun sosyalleşme ve uyum hipotezlerinin her ikisinin de varlığını gösterdiğini ortaya koymaktadır. Ayrıca, Suriyeli mültecilerin çocuk sahibi olmayı geciktirme ve sonrasında telafi etkisi örüntüsünü izlemeleri kesinti hipotezinin varlığını da ortaya koymaktadır.

Anahtar Kelimeler: Suriye İç Savaşı, Doğurganlık Seyirleri Üreme Davranışları, Türkiye'deki Suriyeli Mülteciler, Göçmen Doğurganlık Hipotezleri, 2018 TNSA Suriye Örneklemi

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ABBREVIATIONS

AdjTFR	Adjusted Total Fertility Rate
AFAD	Disaster and Emergency Management Presidency
APA	American Psychological Association
ASFR	Age Specific Fertility Rate
CEB	Children Ever Born
CMC	Century Month Code
DGMM	Directorate General of Migration Management
DHS	Demographic and Health Survey
IOM	International Organization for Migration
HUIPS	Hacettepe University Institute of Population Studies
JPFHS	Jordan Population and Family Health Survey
MAAFB	Median Age at First Birth
MAAFM	Median Age at First Marriage
MAC	Mean Age of Childbearing
MICS	Multiple Indicator Cluster Surveys
NGOs	Non-Governmental Organizations
PAPFAM	Pan Arab Project for Family Health
SMICS	Syrian Arab Republic Multiple Indicator Cluster Surveys
SFHS	Syria Family Health Survey
SPSS	Statistical Package for the Social Sciences
TDHS	Turkey Demographic and Health Survey
TDHS-S	Turkey Demographic and Health Survey Syrian Migrant Sample
TFR	Total Fertility Rate
UK	United Kingdom
UN	United Nations
US	United States

UNICEF	United Nations International Children’s Emergency Fund
UNHCR	The United Nations Refugee Agency
VIF	Variance Inflation Factor

CHAPTER 1. INTRODUCTION

1.1. Background, Scope and Rationale of the Study

One of the pressing concerns in today's global landscape is the ongoing rise in insurgencies, political unrest, civil wars, armed conflicts, and wars. Over the past two decades, a multitude of armed conflicts and wars varying in scale and predominantly situated in the continents of Asia and Africa have emerged. With the 2011 Syrian Civil War being the highly significant one among them, the trend persists followed by the 2014 Russo-Ukrainian war and, most recently, with the ongoing Israeli-Palestinian conflict that commenced in early October 2023. These events not only create complex challenges at individual, regional and global levels, but their impact reverberates across various dimensions leaving indelible imprints on the affected ones. From a demographic aspect, armed conflicts and wars cause direct casualties increasing the mortality rates, large-scale forced displacement of millions of people, and disrupting the reproductive behavior of women. That being said, this dissertation delves into the intricate interplay between conflicts, conflict-induced migration and fertility dynamics of women focusing on the Syrian refugee women living in Turkey. It aims to determine how post-conflict fertility patterns and reproductive behaviors of Syrian refugee women in Turkey vary compared to the pre-conflict status. Furthermore, it seeks to evaluate four major hypotheses in the immigrant fertility literature, aiming to infer whether the fertility norms, values and practices of Syrian women have shifted since the pre-conflict period.

Since the beginning of the Syrian civil war in March 2011, an unprecedented number of Syrian citizens have been compelled to migrate to other countries. The International Organization for Migration (IOM) 2022 report states that approximately 6.7 million Syrians have to leave their homes for security reasons and take refuge in other countries, especially in the neighboring ones like Turkey, Jordan and Lebanon increasing 100,000

refugees compared to the previous year (IOM, 2022). Moreover, this number only indicates the registered Syrians, excluding the undocumented and irregular migrants living in other countries unofficially. The mass migration movement from Syria to Turkey started in April 2011 and as the conflict intensified, the influx of Syrians increased reaching the highest numbers in 2013 and stabilized in 2016. On March 30, 2012, the Ministry of Interior issued a Directive outlining procedures for the acceptance and accommodation of individuals from the Syrian Arab Republic including stateless people residing in Syria who are seeking asylum in Turkey (DGMM, 2014). As a result, Syrians who were forced to leave their origin country and are unable to return are given temporary protection when they arrive in Turkey or cross its borders as part of a large-scale migration. Syrians who meet these conditions are given a residency permit allowing them to stay in Turkey in response to the mass influx, and also granted access to the free healthcare and educational services in the cities they were registered. As of 2023, although the conflict wanes in the majority of the governorates, parts of Syria, such as northern Idlib, are still not controlled by the government. Thus, after more than a decade, the prolonged instability and the volatility of the situation indicate that a substantial portion of Syrian migrants will opt to reside in Turkey until the conditions in their country improve.

Today, Turkey hosts the largest Syrian refugee population globally, estimated at approximately 3.6 million, and serves as the second-largest migration corridor from the Syrian Arab Republic, following the route from Mexico to the United States (US) (IOM, 2022). In addition to this, children and women constitute a substantial proportion of displaced Syrians in Turkey in need of special care and treatment. As of October 2023, 49.3 percent of the total Syrian population in Turkey includes the 0-18 age group of children and adolescents and this percentage corresponds to approximately 1.6 million children; while 23.1% the females belong to the 15-49 reproductive age group amounting to 754,484 women (DGMM, 2023). With such a large population living in another country, it is vital to understand them for informed policymaking, social integration, healthcare provision and overall societal well-being of both populations. In light of this crucial data,

the reproductive behaviors and more significantly the fertility trajectories of women are cardinal issues for Turkey from the demographic, health, social, security and economic aspects. From a demographic perspective, not only does the presence of a large population of reproductive age have an altering impact on the socio-demographic landscape of Turkey in terms of age and sex distribution, population size and fertility issues; but also puts pressure on the existing composition of labor force, cultural diversity and family structure. In economic terms, Turkey's resources come under pressure due to the large number of Syrian refugees including healthcare services for women and children which has increased dramatically and thus leading to several challenges. Socially, cultural differences, the language barrier and the integration problems cause difficulties and tensions. Health implications such as access to reproductive healthcare services, maternal and child health, malnutrition and chronic and infectious diseases are also some of the difficult challenges stemming from conflict-induced migration. Finally, from a security perspective, the fulfillment or the absence of the topics mentioned above can impact general security and may lead to social unrest or exacerbate existing tensions.

Hence, this dissertation elaborates on reproductive health behaviors of the Syrian refugees in Turkey, but more specifically it focuses on their fertility patterns and behaviors before and after coming to Turkey. In this regard, this thesis will test certain hypotheses regarding migration-fertility nexus and will aim to present meaningful evidence based on these hypotheses.

Against this backdrop where the conflict altered the lives of millions of people resulting in a global refugee crisis and women particularly affected by conflict-induced migration finding themselves navigating a landscape where their reproductive choices are profoundly influenced by the uncertainties of their circumstances, it has utmost importance to study a topic that deals with conflict, migration and fertility. Hence, the focus of this dissertation extends to the experiences of Syrian refugee women in Turkey. By unraveling these aforementioned complexities and bridging the gaps, this research

aims also to contribute not only to the academic understanding of the subject but also to the formulation of policies that address the unique challenges faced by women in pre-conflict and post-conflict settings. Through the lens of demography, this dissertation endeavors to shed light on the intricate threads connecting armed conflicts, migration, and the fertility of women, offering insights that transcend borders and resonate in the broader context of global challenges.

1.2. Purpose of the Study

Exposure to a new environment, diverse cultures and varying social norms and values can influence women's reproductive behavior in distinct ways. At this point, Syrian women's experience is crucial since a significant number of them have been seeking refuge in Turkey amid the ongoing civil war in their homeland. This research seeks to explore and show the changes in fertility trajectories among Syrian refugee women mainly focusing on the post-migration period in Turkey. It endeavors to explain these changes by presenting descriptive and multivariate analysis using the 2018 TDHS-S data by utilizing a range of different variables and indicators.

Given the background of the study, the main objective of this thesis is (i) to show the variations in the fertility trajectories of Syrian women residing in Turkey and compare the changes in fertility and reproductive behaviors with the pre-migration period in Syria. Additionally, the thesis also seeks (ii) to explain the intersections of conflict, migration and fertility and demonstrate how these factors affect fertility patterns of the Syrian refugee women. This research also intends (iii) to test the major immigrant fertility hypotheses in the literature and in this way, to understand whether Syrian refugee women in Turkey adapt their reproductive behaviors and converge with the fertility levels in the host country after the migration or whether they preserve the norms, values and practices they learn from their childhood environment.

By fulfilling these goals, this thesis hopes to contribute to the body of knowledge by providing insightful information about the intricate relationship between migration, conflict, and fertility among Syrian refugee women in Turkey. Through a comprehensive examination of fertility trajectories and reproductive behaviors, the thesis intends to offer a nuanced understanding of how the experiences of conflict and migration shape reproductive decisions and outcomes. Furthermore, by testing major immigrant fertility hypotheses, the study attempts to provide insights on the adaptive strategies employed by Syrian refugee women in response to their new socio-cultural and environmental contexts. Ultimately, by elucidating these dynamics, the thesis endeavors to contribute to both theoretical discussions and practical interventions aimed at supporting the reproductive health and well-being of refugee populations.

1.3. Research Questions

The research questions of the thesis focus on the fertility trajectories and mechanisms of the Syrian refugee women living in Turkey in relation to migration. Following conflict-induced migration due to civil war, Syrians arriving in Turkey are confronted with a multitude of factors that influence their daily lives, affecting not only their social, cultural or economic settings but also their reproductive health and behaviors. Consequently, numerous variables exert an impact on their decisions, directly or indirectly influencing reproductive behaviors and fertility practices.

In light of these considerations, this thesis seeks to investigate the following main and secondary research questions:

Main Research Questions:

- 1) How do fertility-related trajectories among Syrian refugee women in Turkey differ from their pre-conflict fertility patterns in Syria and how do these change after migrating to Turkey?

- 2) What are the key factors influencing changes in fertility and reproductive behaviors among Syrian refugee women in Turkey in the post-migration period?
- 3) To what extent do Syrian refugee women adapt their reproductive behaviors to align with the fertility norms and practices in Turkey?

Secondary Research Questions:

- a) What are the main determinants of fertility outcomes among Syrian women in Turkey, and how do these factors vary in pre- and post-conflict periods?
- b) What role do individual, cultural, migration-related, contextual, marital and fertility-level factors play in shaping fertility trajectories and reproductive behaviors among Syrian women?

These inquiries will serve as a roadmap for the thesis's analysis of Syrian women's reproductive paths in Turkey. The results will add to the body of knowledge already available on immigrant fertility and guide further studies and initiatives in this area.

1.4. Significance of the Study

Alongside the objectives and research topics, this dissertation is significant as it addresses a gap in the literature regarding Syrian women in Turkey. Although a great deal of prior research has looked at women's reproductive patterns in connection to immigration theories, the case of Syrian refugee women and specific aspects to this subject remain underexplored. Thus, by investigating fertility-related trajectories in the post-migration period in Turkey, this scholarly work intends to contribute to the understanding of the situation and add depth to the existing knowledge. The original contribution of this dissertation lies in its ability to make inferences about the post-migration period by comparing it with pre-migration practices and testing related hypotheses by using a multivariate regression analysis.

In addition to its relevance and significant contribution to the repository of knowledge, the practical implications of this study extend beyond academia. Important ramifications flow from the findings for the government, legislators, and non-governmental organizations (NGOs) as well. This research can influence policy decisions, particularly in the areas related to demography, public health, social policy, education and economics. Additionally, by addressing several key issues within its framework, the study also opens new avenues for future research, specifically in the fields of conflict, migration and population studies.

1.5. Organization of the Thesis

This dissertation is methodically structured into seven chapters to address the research questions and purposes. *1-Introduction* chapter provides an overview of the background of the problem, objectives, and significance of the study by outlining the research question and setting the stage for the following chapters. *2-Theoretical Framework and Literature Review* chapter outlines the key theoretical perspectives and hypotheses that underpin the study, offering a foundation for understanding the intersection of conflict, migration and fertility. Also, it critically examines the existing research related to fertility patterns among immigrant populations, identifying gaps in the literature and positioning the current study within this context. Literature Review section complements the theoretical framework chapter by providing context and background for the hypotheses and theories that are discussed. *3-Methodology* chapter details the data sources, statistical method and variables employed in the study, with a particular focus on the 2018 TDHS-S. *4-Results* chapter presents the findings of the study, including both descriptive and multivariate analyses, to reveal patterns and determinants of fertility practices among Syrian refugee women in Turkey. *5- Discussion and Conclusion* chapter interprets the outcomes of the study in parallel with the theoretical framework and existing literature, discussing their results, and implications for policy, practice and future research. *6-References* chapter compiles all the academic sources and literature cited throughout the dissertation in accordance with

the APA (American Psychological Association) format, ensuring proper attribution and enabling further reading. In the *Appendices* section at the end of the thesis, additional supporting tables and the original article related to the study are presented.

CHAPTER 2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1. Literature on Migration and Fertility Nexus

The primary focus of the empirical studies on immigrant fertility in the literature mostly focuses on analyzing the fertility practices of migrants in their host country and how these practices evolve over time. It is usually researched whether fertility patterns of immigrants adapt to the norms of the host country or they preserve their acquired social norms and behavior from childhood. Apart from this main focus, a handful of studies compares the fertility patterns between those who stay in the origin country and migrants in the host country (Baykara-Krumme and Milewski, 2017; Impicciatore et al., 2020) or explores home country fertility by examining the impact of migration and the transfer of norms in the host country to the origin country (Beine et al., 2013). The initial migration and fertility interactions in the literature focused on rural to urban internal migrations (Myers and Morris, 1966; Hendershot, 1976; Hiday, 1978; Goldstein, 1973; McGirr and Hirschman, 1979; Farber and Lee, 1984), however studies that emphasize international migration and its effect on fertility have increased over time. There is a broad array of trends regarding the nexus between international migration and fertility. One notable trend is the migration from developing to the developed countries, which has resulted in lower birth rates (Fargues, 2006). This phenomenon can also be described as migration from high-fertility to low-fertility settings, within which previous research has generally been conducted with this context in mind (Mussino and Cantalini, 2022).

Early traces of the immigrant fertility literature begin with socialization and formation of this hypothesis can be seen in the works of Goldberg (1959, 1960) and Duncan (1965) where they emphasize the intergenerational continuity of preferences in desire for having children. Although they examine the migrants in urban and rural settings, their research explored how the early social experiences, the role of family and peer groups shape

individuals' values and preferences, but also contributes their social and economic mobility. Rosenwaike (1973) studied two generations of Italians living in America, finding that the first-generation kept to their unique fertility behaviors from Italy, while the subsequent generation adopted American norms and exhibited fertility levels more similar to native-Americans. Later, McGirr and Hirschman (1979) studied the U.S. cohorts born after 1910, however they didn't find convincing evidence about the effect of socialization. Hervitz (1985) also investigated the socialization effect on the inter-regional migrants in Brazil, however he obtained only a limited backing. Kahn's (1994) study of the immigrant populations in the US revealed that fertility behavior of women does not dramatically vary over time.

Though, while socialization hypothesis found more support in the early times, less research has appeared in the literature after 1990s. Milewski (2010b) conducted a noteworthy study investigating the viability of the socialization and adaptation theories during the second-to-third-birth transition for Turkish and European women residing in West Germany. She questioned whether the immigrants adopt the behavioral norms of the host country or they demonstrate similar reproductive practices with the origin country. Also, second-generation immigrants' fertility patterns are researched and it is scrutinized if there is a resemblance with their parents or with West Germans. The study found evidence that there is an adaptation of fertility behavior in the first-generation immigrants and the fertility levels differentiate between the immigrants and native West Germans. If the socio-demographic factors are controlled, then the differences decline or disappear. These differences between two groups are explained by the effect of socialization.

With the growing recognition of the long-term presence of immigrants in host countries, the adaptation hypothesis gained traction in the literature around 70s and 80s. Although this hypothesis is studied more frequently after the 2000s, studies conducted in the early period are also available. Early evidence supporting this hypothesis is found in the studies of Macisco et al. (1969) and Lee and Farber (1982), who examined Korean immigrants.

Additional support comes from the research of Goldstein (1978), Martine (1975), Park and Park (1976), Hendershot (1976) and Hiday (1978) who studied the immigrants in Thailand, Colombia, Costa Rica, Puerto Rico and Philippines, respectively. Studies conducted in the 2000s delve deeper into the nuances of fertility adaptation over time, examining intergenerational changes and the demographic implications of immigration and integration policies mostly focusing on Europe.

Abbasi-Shavazi and McDonald (2000) conducted a study on the fertility patterns of the European immigrant women in Australia between 1977 and 1991. Their study aimed to investigate whether the migrants and their children maintain the fertility structure of their home country or adjust Australia's fertility levels. The outcome of their research indicates that migrant fertility rates decline gradually across the periods and converge and sometimes fall below the average total fertility rate of the Australia. The authors also comment that political economy of the host country is very influential in determining the fertility levels of the immigrants compared to the culture and norms they are brought up. The hypothesis of adaptation supported by another study that is conducted by Schmid and Kohls (2009). They researched the reproductive behavior of immigrants in Germany and German native-born women and deduced that as the migrants integrate to the host country, their fertility levels decline at the same time. They exemplify this outcome with the period fertilities of two groups. While the native German women's period fertility was 1.3 in 1975, the migrant women's fertility was 2.6, and by 2006 native fertility was 1.2 while the migrant fertility dropped sharply to 1.6 by bridging the gap. The two groups' ASFRs indicate different trends over time as the immigrant women in the 25–29 age group had the highest ASFR, while this value corresponds for native German women in 30–34 age group. The authors also inferred that fertility levels of the couples from the same foreign nationality were higher than the binational couples. The hypothesis that immigrants adjust to the reproductive patterns of the destination country is supported by the results of another study that examined the fertility of immigrant women in the United Kingdom (Debuc, 2012). The results show that while there were initially large differences in fertility between

the native population and the major immigrant ethnic groups from high fertility countries, these differences eventually shrank and converged with the UK's average fertility of 1.77 between 1987 and 2006. This study also proves that second generation immigrant's fertility rates are in parallel with the country of residence meaning that second generation adapt to the norms and values of the host country and their fertility rates are lesser than their migrant parents.

Along with socialization and adaptation, selection hypothesis also found early support on the literature by Hendershot (1971) and Ribe and Schultz (1980). The social mobility hypothesis of Hendershot (1971) also refers to the selection hypothesis in which he argues that migrants are actually selected at their origin places mainly by “social mobility aspirations” as well as other factors and migrate to the urban areas to achieve their objectives. However, after they settle in the urban environment, their elevated ambitions persist, propelling them toward increased engagement in social and occupational spheres which consequently have an adverse impact on fertility. On the other hand, Frank and Heuveline's (2005) study demonstrate a different perspective on selection hypothesis focusing on Mexican immigrant women in the US and explains that high fertility levels after the migration may also occur due to the effect of selectivity. That is to say that long standing process of migration between Mexico and US has routinized and became less selective over time. Thus, women from rural and marginalized areas and with lower education and high fertility levels also migrate and demonstrate high fertility behavior in the host country as well.

The disruption hypothesis is investigated during 1980s and 1990s as well and one of the earliest studies are presented by Bach (1981) and Goldstein and Goldstein (1982) which both of them research immigrants in Malaysia. Later, two studies are executed about the reproductive behavior of Mexican immigrant women in the US, by testing disruption, selection and assimilation hypotheses. The first study is carried out by using the US census data from 1970 and 1980 (Stephen and Bean, 1992), while the second study utilized

national survey data both from the US and Mexico (Frank and Heuveline, 2005). Both studies stated that migration is affecting women by interrupting their childbearing, though after the settlement in the US, the delay is narrowed down with increasing fertility levels. Carter (2000) also studied and examined fertility patterns of Mexican immigrant women in the US and compares them with the US-born women of Mexican origin. According to their results, disruption hypothesis is supported by the research revealing that immigrant women's fertility is interrupted immediately following the migration, especially in progression to the third birth. After fourteen years later, another study about Mexican immigrants in the US is executed and similar results have been found. Choi (2014) affirm that due to the anticipation of migration there was disruption in fertility rates of Mexican migrant women in US. However, as previously said, the host nation's fertility habits are adopted in time and fertility loss is compensated after the migration. The author also describes the fertility decline of Mexican Americans across generations with the educational assimilation. The high levels of international migration after 2000s, coupled with better data availability have allowed for more detailed studies on the disruption hypothesis. A research in early 2000s reflect essential evidences about the immigrant women in France. This study shows that French immigrant women seems to have higher fertility rates than host country women. (Toulemon, 2004). A striking finding reveal that while immigrant women who arrived in France at very young ages have somewhat higher fertility than French women, women who arrived between the ages of 25 and 30 have significantly higher fertility levels (Ibid.). Also, women in this second group had fewer children than the native-born women when they first arrived to the host country. The possible reasons of this incidence might derive from the effect of marital union and resettlement process that is highlighted in the disruption hypothesis or due to the selection of women that have fewer dependent children. Regardless of the reason, the year of migration draws a precise line between the pre-departure low fertility and post-arrival high fertility according to the Toulemon (2004).

Theoretical hypotheses of assimilation, acculturation and convergence also discussed in the literature from early times. Fertility patterns of immigrant women is studied by Goldscheider and Uhlenberg (1969) in which they include these theoretical perspectives. After reviewing earlier studies, they came to the conclusion that the influence of acculturation causes the fertility practices and behaviors in the majority and minority populations to converge. While they reject the idea that socio-economic composition determines the differences between minority and majority; they formulated an alternative hypothesis arguing that the low fertility of minority groups can be explained by the “insecurities associated with minority group status” and the high fertility can be the result of the “specific norms regarding family size and birth control” which is also referred as the cultural hypothesis by some scholars (Forste and Tienda, 1996).

A key point to consider is that although the four core hypotheses (socialization, adaptation, selection and disruption) were initially developed in the context of general migration and often include studies about migrants, they have been applied to the forced migrants and refugees as well, given the unique circumstances of conflict-induced migration or forced displacement. For instance, a study from the early times explores the fertility levels among Indochinese refugees in the US and discusses the adaptation process of them (Rumbaut and Weeks, 1986). Saarela and Wilson (2022) had a separate study on the issue of forced migration of the Finnish Karelia population and disruption hypothesis. Another study also focuses on the impact of the conflict-induced displacement on the fertility of Burundian women and discuss the selection, disruption and adaptation mechanisms (Verwimp et al., 2020).

2.2. Review of Theories and Hypotheses on Migration and Fertility

Examining the changes in fertility and reproductive behaviors of Syrian refugee women before and after the conflict involves understanding various interrelated dynamics that interact and intersect in complex ways. The context-specific nature of the research

requires multi-dimensional approaches and a range of interdisciplinary theories that take into account both individual-level elements and broader socio-cultural, economic, and political factors. The association between conflict, migration, women and fertility has already included a complicated and multifaceted link thus, the theories that will help to elucidate this intricate relationship are also multifarious and from different disciplines including demography, sociology, anthropology, economics, political science and public health.

Accordingly, several theoretical approaches regarding the nexus of conflict-migration-fertility will be examined in this part of the thesis. The underlying mechanisms that drive migrant fertility trends, as well as theories and hypotheses addressing the relationship between migration and fertility, will be given in the first section. In the second part, theories addressing the relationship between conflict and fertility will be explored. In the last part, other interdisciplinary theories that fall outside the first two groups will be evaluated.

The major or general theories of migration explain the process of migration focusing on the motivation, the drive, the decision and the consequences of it on countries, societies and individuals in general and disclose some common patterns, identifying mechanisms and implications. These theories try to understand why people move, where they move to and how the movement is concluded; furthermore, the broader dynamics of migration including socio-economic, political and cultural factors that affect the movement is emphasized. As it was also stated by Genereux (2007), “migration theories are primarily economic in nature and work on different levels of analysis—the individual, household, national and transnational”; however, the fertility aspect of the migration is not explicitly addressed or discussed within these theories. Among the international theories of migration, neoclassical theory, dual labor market theory, world systems theory, and new economics of labor migration theory often consider how migration influences family structures, reproductive decisions and demographic changes. Although they recognize that

migration can impact fertility patterns both in the home and host countries, their approach is macro-focused and comprehensive, while their explanatory power on fertility is quite limited and indirect. Thereby, as general theories do not directly focus on the intersection of migration and fertility, researchers who are interested in this relationship often conduct empirical studies to understand how migration experiences, contexts, and conditions can influence the fertility behavior of women and their families. In this part, how the process of migration and the post-migration environment in the host country affect the fertility and reproductive behavior of women will be explained. Stated differently, a variety of hypotheses that have been proposed and refined by academics will be utilized to investigate the patterns of immigrant fertility and the factors that influence them.

As will be outlined in the upcoming sections, various hypotheses and theories have been proposed to explain the ways in how migration can affect the rates and levels of fertility within migrant populations. These theories and hypotheses explore the complex interplay of factors that shape fertility decisions and their outcomes among migrants. Here, the focus is the migratory patterns of women and their fertility behaviors before and after the migration. Typically, research is performed to compare the fertility rates of the native population in a given country with the fertility rates of migrants in their countries of origin and destination. This leads to the emergence of several hypotheses. As a result, these theoretical stances clarify the variations in reproductive practices between women who migrate and those who do not.

This part of the thesis presents four primary hypotheses or models that are frequently examined in the literature. To explain the differences in fertility levels between migrants and non-migrants and to forecast the impact of migration on fertility, scholars have primarily relied on socialization, adaptation, disruption and selection (or selectivity) perspectives. Beyond these four primary viewpoints, assimilation, cultural entrenchment, cultural transmission and transnationalism perspectives which are related to the major ones, but differentiated with minor nuances, will also be explained in this part. Each

hypothesis is rooted in specific theoretical viewpoint and emphasize certain factors over others influencing migrants' childbearing practices. The combination of these hypotheses composes an essential part of the dissertation because they will be used as an explanatory foundation in the migration-fertility relationship and additionally, their validity and cogency will be tested on the Syrian migrant women in Turkey.

2.1.1. Socialization Hypothesis

The socialization hypothesis or sometimes referred to as 'generational' or 'childhood socialization' based its premise on the argument that fertility views are formed at a very young age especially during childhood and these beliefs have become firmly established over time reflecting the culture, norms and values in the family environment or in the home country. The underlying premise behind socialization postulates that deeply ingrained norms and habits are resistant to altering, and that early exposure to a given culture has a powerful enough influence to outweigh any impacts that migrants may experience when relocating. Thus, as individuals migrate to a different environment, there has been a gradual transition in which immigrants embrace new elements of family formation in the first place. The immediate adaptation of host countries' norms and customs does not happen rapidly, but might extend across several generations. Hence, it is generally expected that first-generation migrants reveal similar fertility rates as in the origin country and only for the second or third generation migrants the fertility convergence with the host environment generally occurs (Kahn, 1988; Stephen and Bean, 1992). Furthermore, socialization perspective is generally used to explain the high fertility levels of migrants in low-fertility settings and assumes that the effects of the migrants' pronatalist culture will continue throughout their lives (Milewski, 2007; Sobotka, 2008).

In essence, the socialization hypothesis prioritizes the contextual factors of the sending country and broadly argue that the fertility levels would be similar both for the origin and destination countries, as childhood socialization holds paramount importance in shaping

fertility behavior and migration is ineffective against this. It also suggests that individuals originating from different geographic locations may display distinctions in familial and reproductive behaviors in the same destination country (Alders, 2000).

2.1.2. Adaptation Hypothesis

On the contrary of the socialization perspective, adaptation hypothesis suggests that fertility ideals and behaviors of migrants are not static and change as they move from the origin country to the host country. Especially individual's social environment and the specific conditions in the place of migration are effective compelling them to adjust their fertility views and actions. In other words, it is more likely that migrants will re-socialize in the place of destination and their fertility behaviors will slowly get accustomed to their new social, cultural and economic environment with time. Afulani and Asunka (2015) describe this process as a multistage one and argue that resources and cultural adaptation affects the migrant fertility levels. Initially, because of the resource constraints associated with having children in the new place, there is a decrease in the fertility of migrants, however, increased interaction with other individuals in the new environment subsequently leads to changes in fertility preferences, contributing to the convergence of fertility patterns with those individuals in the host country. Adaptation hypothesis also considers economic factors associated with raising children such as the relative costs of children and household income as key elements when deciding the family size (Desiderio, 2020).

This theoretical perspective anticipate that socioeconomic conditions and cultural settings trigger a convergence in the fertility behaviors of migrants in the medium term (Kulu and Milewski, 2007). Nevertheless, it is even possible for first-generation migrants to resemble the fertility patterns of the local population in the host country depending on their interaction and integration. Adaptation hypothesis indicates that new immigrants' fertility can initially be higher or lower than that of long-term migrants or natives of that

setting, but it will eventually adjust to match that of the host nation's population. However, the hypothesis does not provide a firm timeframe for when the fertility rates of migrants will converge to the new setting. Hervitz (1985) argues that this process occurs rather rapidly, usually less than ten years; while Stephen and Bean (1992) suggests that it can occur in the first-generation of migrants. On the other hand, a range of social, economic, cultural and individual factors ranging from the migrant's duration of stay to cultural and religious practices as well as their access to health and education services have a certain impact on the speed of the adaptation; thus, there isn't a fixed or standard timeframe for this process.

2.1.3. Selection Hypothesis

The selection or selectivity hypothesis highlights that migrants are a selective set of people who represent particular qualities related to education level, marital status or profession (Hervitz, 1985) thus, their fertility preferences and levels are different from their origin country, but more similar to the population of the host country (Kulu, 2005). This perspective essentially asserts that those who decide to migrate distinguish from those who do not and these differences also extend to their fertility behavior. Selection hypothesis assumes that the decision to migrate is not randomly taken, but an intentional decision in which individuals move to places where the labor market opportunities and the local prices favor their preferences, consumption and behaviors (Majelantle and Navaneetham, 2013). Various factors related to the individuals' traits such as having great ambition, willingness to take risks, language proficiency or specific skill sets are influential realizing this decision. Nevertheless, migration also affects fertility in two aspects; first, it chooses individuals based on specific criteria such as age, education level, ethnic origin or ambitions and second, this careful selection is supported by the certain characteristics related to fertility such as the postponement of childbearing (Bach, 1981). These characteristics or behaviors of migrants usually do not reflect the tendencies of the

general population in their home country; rather overlap with the population they choose to migrate.

The selection hypothesis typically provides an explanation for the low rates of immigrant fertility in the countries of destination. Unlike adaptation and socialization hypotheses, there is no changing fertility behavior as a result of the new setting nor the effect of the childhood environment, but rather the migrants' preferences play a crucial role in this hypothesis. As Ribe and Schultz (1980) reveals migrants even have distinct inclinations for the family size they want and it is the fertility tendencies that influence the selection of destination countries, rather than the place of destination affecting fertility practices. Hence, migrants who desire large families are predicted to travel to high-fertility locations, while migrants who prefer smaller families are likely to migrate to areas with low fertility rates where the conditions and relative advantages promote smaller family sizes.

2.1.4. Disruption Hypothesis

Another major perspective in the migration and fertility nexus is the disruption hypothesis which is interested in migration's temporary and declining impact on fertility rates among migrant populations. The key claim of this hypothesis is that the migration processes interfere with fertility due to the challenges associated with moving to a new location, which often causes a delay or reduction in childbearing and thereby, leading to lengthened birth intervals. The impact of disruption is frequently researched in the context of temporary migration, resulting in decreased fertility among migrants compared to the non-migrants (Chattopadhyay et al., 2006). According to this hypothesis, disrupting circumstances like moving to a new place or being separated from spouses cause migrants to typically have low fertility levels either before or just after the move. However, this process is temporary and the normal or increasing pace of fertility levels gradually occur after the disruptive effects have ended and the adaptation period begins. Nonetheless, the disruption in fertility can still impact the total average number of children ever born (CEB)

depending on the degree of it (Goldstein and Goldstein, 1983). Populations in which fertility is controlled and couples stay together for extended periods of time are anticipated to experience minimal or no overall effects from separation since they have enough time to make up for any missed opportunities for reproduction. (Lindstrom and Saucedo, 2002). On the other hand, prolonged or repeated separations can extend the duration between childbirths, eventually result a decline in completed fertility rates among couples who do not use birth control methods (Bongaarts and Potter, 1979; Menken, 1979).

The disruptive and lowering effect of this hypothesis is challenged by some authors who contend opposite evidence about the impact of migration suggesting elevated fertility levels or increased rates of first childbirths right after the migration due to several occurrences (Ng and Nault, 1997; Mulder and Wagner, 2001; Andersson, 2004). In such cases, migration is not considered as a disruptive event, but rather a triggering phenomenon for the childbearing (Andersson, 2004) or a sign to refute the hypothesis completely (Ng and Nault, 1997). According to one argument, high fertility emerges due to the priorly postponed childbearing before migration (Kulu, 2005) and another view maintains that the emergence of the synchronized events such as migration, marriage or starting a family at the same time have led to increased fertility (Mulder and Wagner, 1993). Milewski (2007) called this phenomenon “interrelation of events” and considers that migration, marriage and the first birth are interrelated, while Sobotka (2008) referred to this occurrence as “family formation hypothesis”. According to this view, if migration occurs around the same time of creation of a family, it is more likely that there will be higher rates of childbirth shortly after or possibly during the timing of migration. A particular example of this situation is observed in marriage migrations in which the timing of childbearing is influenced by migration and typically begins soon after settling in the new location.

Table 2.1. Four Major Migration-Fertility Hypotheses, Their General Characteristics and Predictions

Hypotheses	Characteristics	Factors Affecting Fertility Behavior	Post-Migration Fertility Levels	Fertility Change	Expected Time for Convergence
Socialization	norms, beliefs and habits regarding reproduction established very early and are resilient to change	cultural influences and social norms in the childhood environment	usually high fertility in the new environment, similar to the origin population	gradual	starts with second-generation migrants
Adaptation	immigrants adjust their fertility behaviors to the new environment to cope with challenges	economic resources and conditions in the host society	high or low fertility, but adjusts to the host population within time	multistage	can occur among first-generation migrants
Selection	immigrants have pre-existing fertility features similar to those in the destination country	desire for upward social mobility and labor market opportunities	usually low fertility and similar to the host population rather than origin	non-random	can begin with the first generation of migrants as they are self-selected
Disruption	fertility is temporarily interfered by the process of migration (before or immediately after)	moving to a new place, spousal separation and stress	low or fluctuated fertility followed by a recovery to previous or higher levels or high fertility due to interrelation of events	disruptive	after the causes of disruption are eliminated, adaptation period begins

2.1.5. Assimilation Theory

Another theoretical view that is frequently discussed in relation to immigrant fertility is assimilation theory, which is occasionally referred to as ‘cultural adoption’. This theory is introduced by Park and Burgess (1921) to explain the “melting pot” representation of American immigration experience by explaining the process with diverse immigrant groups blending into a unified, homogeneous culture. According to this analogy, immigrants (especially Mexican originated ones) arriving in the US would gradually shed their distinct cultural traits and identities, assimilating into the dominant American culture and melding together with others by forming a cohesive and integrated society. Assimilation theory primarily highlights the increasing element of cultural exposure in the destination country which will make migrants resemble the native population over time. In the context of fertility, this means that migrants become more acculturated and assimilated into the host country with their fertility behavior begins to correspond with the host population.

Assimilation theory is similar to the socialization hypothesis in terms of stressing that fertility preferences or family size is strongly shaped by culture, norms and values learned during the childhood period. However, assimilation theory also anticipates that there will be a convergence of cultural, familial and ultimately reproductive behaviors between immigrant and host populations over time and in this respect, it resembles adaptation hypothesis. While both assimilation and adaptation perspectives look very identical, there is a nuanced difference in their emphasis. Assimilation process is described as a natural (and sometimes inevitable) process of cultural integration that immigrants have commonly experienced. On the other hand, adaptation is interested in how immigrants navigate, respond and adjust to the specific challenges and circumstances in the host country. Migrants may not completely be assimilated, but can retain certain aspect of their cultural identities while at the same time adapting to the customs and values of the place of destination. Thus, while assimilation theory hints blending of cultural identities

between immigrant and host society, adaptation hypothesis includes a dual process of cultural preservation and adaptation. Similar to the adaptation concept, assimilation is also process that may extend to several generations to finish (Lindstrom and Saucedo, 2002). In contrast to recent migrants who have lived in the host community for a shorter amount of time, it is projected that the fertility levels of later migrant generations or immigrants who have stayed there for a longer period of time will be more similar to the natives. (Brown and Bean, 2006). However, one important and generally overlooked point for the influence of duration on fertility is that the number of births and completed fertility are not influenced by the total duration of stay in the destination country, but what matters most is a woman's reproductive years that are invested in the host country (Mayer and Riphahn, 2000). Since it is difficult to separate socialization and adaptation hypothesis from the assimilation, most studies combine and study them under one heading as adaptation/assimilation or cultural adoption model (Lindstrom, 1995).

2.1.6. Transnationalism Theory

Another theoretical framework that has been widely used in the intersection of sociology, political science and cultural studies and relevant for the context of migration and fertility nexus is transnationalism. The process by which immigrants uphold their active social, economic, cultural, and political ties to their native country beyond international borders is known as transnationalism in the literature. According to a few studies that is conducted, the continued connection with the origin country may be connected to migrants preserving elevated fertility levels (Bledsoe et al., 2007), those with greater transnational ties may be having higher fertility ideals (Afulani and Asunka, 2015). Alternatively, Fargues (2011), proposes that maintaining transnational ties with the origin population may facilitate the transfer of norms and practices associated with low fertility to back to the home country, thereby influencing the fertility ideals of subsequent immigrants. Furthermore, it is also suggested that the various forms of transnational connections might exert the fertility behavior differently. Thus, although it is possible to say that transnationalism has a

possible effect on fertility, it is not easy to make a definitive argument on the strength, size, direction and clarity of its influence.

2.1.7. Cultural Entrenchment Hypothesis

Apart from the four major aforementioned hypotheses (socialization, adaptation, selection and disruption), new extensions of theoretical perspectives have also been discussed regarding migration and fertility relationship. Their general assumptions are very similar to the ones that are aforementioned above, except a few different developments in their arguments. One of these perspectives is the cultural entrenchment hypothesis which is very similar to the socialization hypothesis in terms of discussing the culture and values; but its focus is generally the children or descendants of the immigrants in the host country. ‘Cultural entrenchment’ or an ‘entrenched culture’ is often referred to the firmly established norms, values or practices that have become deeply rooted in a society or group that are difficult to change or replace. In an interdisciplinary study, cultural entrenchment is also defined as “the actual as well as the assumed/expected knowledge shared between individuals in a cultural community” (Karsdorp and Fonteyn, 2019). In terms of immigrant fertility, cultural entrenchment hypothesis emphasizes that fertility of migrants is closely linked with the existence of subcultures and exposure to the preferences and values maintained by the parents (Forste and Tienda, 1994; Milewski, 2010a; Coleman, 1994, 1996). The hypothesis posits that even if they were born in the destination country, some of the later generation migrants or descendants of the immigrants do not necessarily adapt to the norms of the host country or assimilated, but can display different fertility patterns in parallel with the norms of the minority groups (Portes et al., 2005; Mussino et al., 2021). Therefore, certain migrant groups may not experience convergence due to their culturally entrenched ‘fertility preferences’ (Wilson, 2015). Making a case for cultural entrenchment becomes more difficult in this regard if there are no appreciable variations between the fertility rates of immigrants and host country population (Wilson, 2020). Due to the fact that the norms, values or traditions of

the immigrant groups are “culturally entrenched”, this hypothesis is occasionally denoted as “cultural maintenance” in the literature (Abbasi-Shavazi and McDonald, 2002).

2.1.8. Cultural Transmission Theory

Cultural transmission theory is another theoretical approach that is very similar to the cultural entrenchment and socialization hypotheses but differs in nuance and as the name suggests it is interested in how the norms, beliefs, values, behaviors and cultural information are passed down from one generation to the next one and taught to individuals. This theory researches how individuals learn and acquire cultural information from their surroundings, particularly from their family, peers and social institutions. Regarding immigrant fertility behavior, it is argued that parents serve as the primary entities capable of transferring their own beliefs to the children and to guide them towards specific behaviors through the process of socialization. ‘Cultural learning’, ‘cultural evolution’, ‘acculturation’ or ‘enculturation’ are sometimes used as synonyms to this theory, but acculturation is defined as the “cultural transmission from outside one’s own culture” (Taylor and Thoth, 2011).

Although cultural transmission theory is generally researched and applied by sociology, anthropology and psychology fields, its relationship with immigrant fertility is studied frequently from an economic perspective. Numerous studies in the discipline in economics focused on the cultural transmission theory and its relation with the fertility preferences. Baudin (2010) for instance argue that the interplay between economic and cultural factors affect fertility rates over time. On one hand, culture influences rational decisions about fertility, but on the other hand, the transformation of economic circumstances inherently molds the prolonged trends in cultural dynamics. In support of this, another perspective within the economics argue that fertility choice is given rationally by parents, but at the same time it is obtained via the process of socialization (Bisin and Verdier, 2011).

Table 2.2. Other Similar Fertility-Migration Hypotheses and Theories, Their General Characteristics and Predictions

Hypotheses	Characteristics	Factors Affecting Fertility Behavior	Post-Migration Fertility Levels	Fertility Change	Expected Time for Convergence
Assimilation	immigrants adopt host country's norm and values & assimilated in the process	cultural integration	same with the host population	gradual and linear	takes several generations to complete
Transnationalism	immigrants continue to preserve their ties with the origin country	social, political, economic and cultural transnational ties with home country	high fertility similar with the origin population, but may vary depending on the connections	-	not clear
Cultural Entrenchment	immigrants do not necessarily adapt or assimilate, but preserve sub-populations' values	existence of subcultures and exposure to the preferences or values of parents	similar to the minor groups or populations	-	may not occur because of the entrenchment
Cultural Transmission	norms, beliefs, behaviors and cultural information are transmitted from one generation to the next one	interplay between economic & cultural factors	-	-	-

2.3. Literature on Conflict and Fertility Nexus

Conflict and the concomitant violence are widely recognized as significant disruptors of demographic processes across various contexts. These disruptions often manifest in the form of altered family structures, shifts in reproductive behaviors and alterations in childbearing and fertility patterns within affected populations. While short-term conflicts typically impact fertility on a small scale, such as delaying births or the temporarily reducing reproductive capacity due to resource scarcity, long-term conflicts influence broader conditions and often yield ambiguous affects (Castro Torres & Urdinola, 2019). There is a growing literature on the relation between wars (or armed conflicts), forced migration and fertility and a limited body of research examines the factors influencing fertility in countries affected by conflict or its aftermath (Woldemicael, 2008; Avogo & Agadjanian, 2008; Khlat et al., 1997). Although the studies have mixed outcomes regarding this linkage, the literature predominantly focuses on two distinct fertility impacts of the armed conflicts: either an increasing or decreasing fertility levels.

The first strand of thought posits that violent conflicts lead to significant declines in fertility levels, particularly during the conflicts. Agadjanian and Prata (2002), for instance, studied the effect of war on the reproductive preferences in Angola by using a MICS in 1996 two years after a major war and used socioeconomic variables such as the household 's material status and women's education on the probability of birth. According to the result of their logistic regression analyses, women in the war zones are less likely to have births than the women who lives in the areas less affected by war. During the peak of war, women living in the more-affected areas abstain from childbearing, due to the unpleasant memories regarding war and the fear of its possibility to return; but they bridge this gap after the war finishes. It is also found that one to four years of primary education has an impact on the probability of birth compared to no education status of women, while the household's material status has no significant effect on the probability of birth. As supporters of reduced fertility argument, a number of authors have posited that political

instability accompanying a violent conflict also reduces fertility rates. This argument has been tested in several countries such as Angola (Agadjanian and Prata, 2002), Cambodia (Heuveline and Poch, 2007), Ethiopia (Lindstrom and Behanu, 1999), Tajikistan (Clifford et al., 2010), Kazakhstan (Agadjanian et al., 2008) and Eritrea (Woldemicael, 2008). Among these studies, Angola, Cambodia and Ethiopia cases indicate the fertility rebounds after the end of the conflict or war which connects this hypothesis with the undermentioned studies. In the Ethiopia case, it is found that couples delay having children as a tactic to avoid economic hardship in the short-term (Lindstrom and Behanu, 1999). Another short-term impact of conflict manifests as in the form of increased pregnancy losses, while in the long-run, a decline in childbearing is likely to occur due to heightened pessimism about the future (Hill, 2004). Disruptions in food availability during the conflicts may also result famines and because of this condition, it is argued that fertility levels may drastically drop as a result of reduced fecundability (Stein et al., 1975) or increase in induced abortions (Chowdhury and Chen, 1977).

Another group argues that the end of conflict usually results with fertility increase. The possible explanation of this reason is to compensate for the time without children or to replace the loss of a child during the conflict. This phenomenon is referred as the 'replacement fertility' or 'population rebuilding' in the literature. Nobles et al. (2015) studied the linkage between mortality and fertility with the nationally representative multilevel longitudinal data focusing on the 2004 Indian Ocean Tsunami event which killed high numbers of Indonesians. They researched the fertility response to this unexpected and macro mortality incident with different modellings. The results have proven that women who lost at least one child in the tsunami are more likely to bear more children after the tsunami. Additionally, women who had not any children before the tsunami are inclined to start a family and have children after the event. Urdal and Che (2013) also inferred that the violent conflicts breed higher fertility rates in low-income countries by using time-series cross-country data of 1970-2005. Another study highlights the timing of conflict on women's childbearing years and concluded that while women

who have experienced conflict during childhood or adolescence and women who were nearing the end of their fertile years do not show any significant fertility differentials, those who exposed to conflict in their prime childbearing years adapt their fertility and compensate for their lost family members (Schindler and Brück, 2011).

The aforementioned studies demonstrated that conflict-fertility relation is complex and ambiguous. Often, there are multiple mechanisms behind the event affecting the fertility behavior. Intensity and magnitude of the conflict, location and length of it as well as the individual's psychology and physical condition and access to the health care services or family planning are all impact this versatile relationship.

2.4. Conceptual Frameworks about Conflict and Fertility

The question of whether violent conflicts or wars may influence fertility or not has been addressed and discussed frequently in the literature. The outbreak of violent conflicts and the ensuing diverse repercussions do not just merely affect the nations or societies, but they also directly affect individuals, particularly women's fertility and reproductive habits. However, from a theoretical standpoint, there isn't a clear-cut correlation between conflict and fertility. Due to the collection of mixed empirical evidence, it is difficult to conceptualize a theoretical approach, but it is mainly argued that conflicts can result either a fertility increase or fertility decline (Urdal and Che, 2013). And because of the specific circumstances and the differences of the type, magnitude and intensity of the conflict, the connection between fertility and conflict is a multifaceted, unpredictable and context-dependent one. In literature, it is indicated that fertility of women is influenced especially during and after a conflict (Kraehnert et al, 2019). However, evidence is limited to show what kind of violent events may affect the individual fertility in what ways and which mechanisms are behind it, complicating to conceptualize relevant theories or hypotheses. The mainstream theories that attempt to explain the causes and dynamics of violent conflicts and wars such as realism, liberalism, constructivism, game theory or Marxist

theories addresses the international dimension of this relationship focusing on the state behaviors and interactions, and their individual level point of view generally does not touch upon the fertility aspect of the conflicts. And the individual-level hypotheses do not suggest a clear unidirectional relationship, but rather sheds light on the relationship. Thus, below is presented a summarized explanation on different pathways, models and conceptual frameworks about the conflict-fertility link.

One of the conceptual frameworks is structured by Hill (2004) and shows that how a violent conflict or war and the voluntary or forced migration succeeding the war affects the fertility behavior. This framework presents three intermediate variables titled as 1) intercourse, 2) conception and 3) delivery and with these variables it is argued that the impact of conflict on fertility can be studied. According to this conceptual framework, when spouses are separated from each other because of the war, the sexual intercourse is also delayed as a result. Thus, the intercourse as an intermediate variable plays a pivotal role as an influencer of fertility. Abbasi Shavazi et al. (2018) added the element of stress to this equation and argue that stress also may lead to the separation of couples or a decrease in coital frequency. Separation of couples or delay of the intercourse may also derive from the reasons such as military service or the forced conscription or militia joining which can result delayed marriages and disruption of the intercourse. As a second intermediate variable, conception also has an impact on fertility with the combination of four factors. These factors are non(use) of contraception, breastfeeding, (mal)nutrition and disease. When a violent conflict or war occurs, these factors are adversely affected by it and consequently lead to the decline in the rates of conception. Intensity of the violence, access to the contraceptive methods, the local conjuncture and the social norms and values all have a role in the magnitude of the impact, but even the stress as a result of conflict can affect the menstrual cycle of women or the semen quality of men (Verwimp et al., 2020). Third intermediate variable in this theoretical approach is the delivery referring to the childbearing process. During a violent conflict, the crisis situation and the dangers in the area can change the access status to the health services, medical staff and medicines

which may cause miscarriage or stillbirth during the delivery. This framework especially examines the disruptive factors that are experienced during the conflicts and their negative effects on the fertility. Thus, it mainly presents a short-term impact of conflict on fertility; however, it is not mentioned how armed conflicts affect fertility in the long term.

Thiede and colleagues (2020) have proposed a further systematic approach that categorizes the association between fertility and conflict into four distinct routes. These paths include: 1) changes to patterns of cohabitation and marriage; 2) adjustments to the relative costs and hazards of childbirth; 3) adjustments to the objectives and results of reproduction; and 4) an increase in the prevalence of sexual assault. As presented by the authors, the first factor explains that conflict results a disruption in the marriage market, delays age at first marriage and also cause spousal separation. While the direction of these factors is not directly expressed, it is more likely that these disruptions lead to decreased childbearing. The second factor is linked to economy and examines how conflicts typically have a detrimental impact on household wealth and thus fertility decision-making. However reduced wealth or the economic uncertainties lead to two different paths: a) the worsening economic situation might motivate couples to have more children since they are believed to provide economic assistance and contribute to the household income in the future or b) having an extra child might be considered financially unfeasible, especially if children are perceived as consuming more household resources than contributing. The third factor is related with the exposure to conflict and its effect on psychology. If the women, household or the community have lost many people during the conflict, this may alter fertility objectives and results prompting replacement effects via to increase fertility in response to mortality. And lastly, because of the sexual violence during the conflicts, unwanted pregnancies may increase as a result. As explained by the authors, while these pathways offer plausible explanations for the link between conflict and fertility, they don't propose definitive hypotheses with similar strength and direction.

The majority of the findings pertaining to the association between conflict and fertility originate from historical research on World Wars and childbearing patterns in Europe (Torrìsi, 2020) which usually depict a recurrent correlation where the fertility rates decline during wartimes, but subsequently compensated with the baby-booms in the post-war periods (Rindfuss and Sweet, 2006). In a similar manner, the aforementioned frameworks also describe a close pattern to this. As indicated, conflict-induced fertility declines are often experienced during wartimes in times of uncertainty where couples are separated from each other which decreases the coital frequency and thus exposure to pregnancy. Also, in the event of a tragic death during the violent conflict, fertility can be negatively affected as the desire for childbearing decreases. This situation has a detrimental impact on the women's physiological ability to sustain pregnancy, potentially resulting in increased rates of spontaneous abortions (Nobles et al., 2015; Frankenberg et al., 2015). However, these effects are often observed during the conflict or occurs in the short-term after the war. As the studies that were conducted in the last four decade reveal that, fertility rates tend to decline by up-to one third during the periods of conflict and instability, but promptly recover once the conflict concluded (Madsen and Finlay, 2019). However, there are also examples that have found an opposite relationship between conflict and fertility especially in cases that study sub-Saharan Africa. These researches show that an increased fertility may also occur during the conflict. Violent conflicts may cut down the educational attainment of women, incline them to marry at early ages and thus accelerate the childbearing (La Mattina, 2017). Additionally, access to the reproductive health services can be inhibited due to violent conflicts which may also increase fertilities (Verwimp and Van Bavel, 2005). Even the psychological factors can cause fertility increase in the short-term. Terror management theory, for instance, is born from the fear of mortality and the awareness developed against this. During armed conflicts or wars, this theory can drive individuals to seek ways to transcend death and leave a lasting legacy. Increased fertility, in this context, serves as a psychological mechanism to cope with the situation, by fulfilling the expectations, providing continuity with a meaningful legacy.

All of these pieces of evidence and the different fertility pathways that emerge as a result of conflict are organized and synthesized into a logical pattern in Table 2.3 below. The table illustrates the direction of fertility changes as a result of the conflict and various factors influencing fertility dynamics. While it is challenging to formulate clear-cut hypotheses due to variations in the type, severity and duration of the conflicts, the table provides a general understanding of how armed conflicts impact fertility.

Table 2.3. The Impact of Conflict on Fertility and Factors Influencing Fertility Dynamics

Fertility Increase				
Psychological	Physical	Health/ Education	Economical	Political
• replacement effect	• increase in incidences of sexual violence	• disruptions in access to contraceptives → unintended pregnancies	• the notion that children are income providers and insurance for future	• pronatalist discourses
• stress → need for emotional support • desire to normalize life		• disruptions in access to healthcare system		• population policies
• mortality awareness → leaving a legacy		• decline in educational attainment of women → early marriages		
Fertility Decrease				
Psychological	Physical	Health/ Education	Economical	Political
• uncertainty	• spousal separation	• malnutrition	• the notion that children are net consumers of household resources	
• stress → miscarriages	• recruitment to military	• amenorrhea, menstrual or reproductive disorders	• economic hardships → postponement of 1st births	
	• forced migration	• disruptions in access to healthcare system → adverse pregnancy outcomes	• disruptions in marriage market → change in brides money & costs of marriage → delays at age at 1st marriage	

CHAPTER 3. METHODOLOGY

3.1. Data Sources

This dissertation has relied primarily on the 2018 TDHS-S since the main research question concerns immigrant Syrian women living in Turkey and their fertility trajectories. However, in certain parts of the thesis other survey data has utilized and implemented in order to compare specific variables and indicators.

Accompanying the 2018 TDHS-S, two distinct cross-sectional data focusing on the Syrian were incorporated as well as the additional sources of data. These data are 2006 Syrian Arab Republic Multiple Indicator Cluster Survey (2006 SMICS), 2009 Syria Family Health Survey (2009 SFHS) and 2018 Turkey Demography and Health Survey (2018 TDHS). These three datasets were intentionally selected due to the accessibility to demographic data, comprehensiveness of the data and for their suitability for facilitating straightforward comparative temporal analysis between the pre-conflict period in Syria and the post-conflict period in Turkey. While the 2006 SMICS and 2009 SFHS are the most recent accessible demographic datasets for the pre-conflict period in Syria, 2018 TDHS-S is also the most recent and extensive demographic data about Syrian refugees living in Turkey. Utilizing these three datasets in this dissertation present several potential advantages. First, pre-conflict datasets serve as a baseline snapshot of the health and demographic conditions of Syria before the 2011 Syrian Civil War, thus providing valuable insights into the conditions and factors that may have changed during and after the conflict. Second, 2018 TDHS-S captures the period following the civil war and thus the conflict-induced migration of Syrians, hence, juxtaposing this dataset with the pre-conflict datasets of 2006 and 2009 will contribute to a clear understanding of the changing migration dynamics between pre-conflict and post-conflict periods and the impact of displacement on health and demographic indicators as well. Third, examining and comparing the women data and the related variables in these three datasets across different time points enables the assessment of the fertility trajectories and helps identifying

patterns and shifts in reproductive health, fertility patterns and family planning practices among Syrian refugee women in Turkey. Finally, combination of these cross-sectional data from 2006 to 2018 also provide a holistic perspective on the long-term consequences of the conflict allowing to analyze the changes across different phases and settings.

3.1.1. 2018 TDHS-S

The main dataset of the thesis is the 2018 TDHS-S. In the 2018 survey, information on Syrian refugee women living in Turkey is collected for the first time with the additional part of the research that focuses on the Syrian migrant sample. The Syrian migrant part of the survey is actualized the same way as the Turkey DHS only with a separate sampling design. Thus, demographic and health indicators for Syrian migrants living in Turkey is calculated for the first time at the household level. The sample design used a multi-stage, stratified cluster sampling approach. At the household level, a total of 1960 households were selected for the 2018 TDHS-S in which 1932 households were considered occupied and among these households 1826 of them were interviewed for the survey (HUIPS, 2019b). Among these households there were 2391 eligible women but in the final stage 2216 women interviews between 15-49 were conducted. The survey consists of a household questionnaire and woman questionnaire that collect information on household, women and children. The household questionnaire is designed to collect information about the housing characteristics and household population, thus aimed to gather the demographic features of the household. While the individual questionnaire, namely, the woman questionnaire designed to collect information about the characteristics, reproductive behavior and preferences, birth, work and migration history of the 15-49 aged women. In this thesis, the household member and individual data of women for the Syrian migrant sample are both used in the analyses. Household member data is used in the 4.1.1 parts of the thesis that presents the general profile of Syrian refugees in Turkey. In other analyses sections women dataset is frequently utilized.

3.1.2. Other Data

Along with 2018 TDHS-S, three additional data sources were used in some parts of the thesis to compare certain variables, indicators or context of post-migration period in Turkey with pre-migration period in Syria. These data sources are 2006 Syrian Arab Republic Multiple Indicator Cluster Surveys (SMICS) MICS, 2009 Syria Family Health Survey (SFHS) and 2018 Turkey Demographic and Health Survey (TDHS). 2006 SMICS and 2009 SFHS are implemented in the descriptive analysis section, while 2018 TDHS is specifically utilized in survival analysis section.

2006 SMICS dataset is the most recent and only accessible MICS dataset that has information about Syrians before the conflict period. MICS are nationally representative household surveys developed by UNICEF to monitor and collect information specifically on children and women. 2006 SMICS, being the third round of surveys conducted on Syrians, includes a household questionnaire, a women questionnaire intended for 15-49 age group and a children questionnaire for children under age 5. The household questionnaire has collected information on de jure members of the household regarding age, sex and relationship with the household head and it also includes household listing, household characteristics, education, water and sanitation and child labor parts (Syria Central Bureau of Statistics et al., 2008). In the women questionnaire, chapters such as women's characteristics, marriage, contraception, maternal and newborn health, tetanus toxoid, HIV/AIDS and child mortality are included. For the dissertation, relevant parts of the household and women questionnaire of the 2006 SMICS will be used. 2006 SMICS used a two-stage, stratified, cluster sample design and in the selected sampling, 19019 among 20022 households and 25026 women aged 15-49 were interviewed successfully (Ibid.) 2006 SMICS data was requested via MICS's website by selecting the country and year of the survey, and the data was accessed after the access permission was granted by the UNICEF MICS team. 2006 SMICS is only utilized if the variables that are compared are not present in the 2009 SFHS. However, if the variable that is intended to use exist in

both datasets, the most recent dataset for the pre-conflict period -2009 SFHS- is preferred to be used.

The other data that is used for the pre-conflict period is 2009 Syria Family Health Survey (SFHS), which is a project series conducted by Pan Arab Project for Family Health (PAPFAM) and funded by OPEC Fund for International Development (PAPFAM, 2009). This data collection program aims to strengthen the accessibility, availability, range and quality of the reproductive health programs of the sixteen Arab countries and produce reliable data. 2009 SFHS presents the latest available data on Syrians before the 2011 Syrian Civil War. Given its proximity to the civil war's onset, the information it provides is vital for understanding the conditions during the pre-conflict period. This research also includes household and women questionnaires and comprises 15190 interviewed households in which a total of 11352 ever-married women between 15-49 age group were interviewed. However, although the data is available for research, a report or detailed information on the sampling process of the survey in English is not found.

Apart from the 2018 TDHS-S, 2018 TDHS women dataset is also utilized for the survival analysis. 2018 TDHS is the eleventh demographic survey and sixth installment of the Turkey Demographic and Health Survey series, conducted by Hacettepe University Institute of Population Studies (HUIPS) since 1968 (HUIPS, 2019a). Demographic and Health Surveys collect a wide range of data that is crucial for understanding the health, population and demographic dynamics of countries. 2018 TDHS is a nationally representative demographic survey on Turkish population that collects data on women and child health in detail, but information of household members is also obtained with this survey. The survival analysis in Section 4.1.4. is conducted in order to compare Syrian refugee women's transitions to reproductive events such as first marriage, first and subsequent births with the Turkish women. The occurrence and timing of these reproductive events among Turkish women is investigated with this preliminary analysis so that the initial hints regarding socialization and adaptation hypothesis can be obtained by comparing these events with the Syrian refugee women in Turkey.

3.2. Statistical Methods and Design of the Study

Aligned with the primary goal of this thesis, which aims to investigate the fertility trajectories among Syrian women both prior to the conflict in Syria and subsequent to their migration to Turkey, a combined approach involving descriptive and regression analyses are employed. The initial descriptive analyses also hold significance as it assisted in the selection of variables with significant variation and potential relationships that guides the choice of predictors and dependent variables which were latter used in the regression models, while the regression analyses present more detailed and complex relationships between the selected variables. Both analyses are conducted with Statistical Package for the Social Sciences (SPSS), though, while the descriptive analyses were carried out with SPSS version 26, regression analyses were performed with SPSS version 24 due to the compatibility issues of the program after the latest iOS update.

The descriptive analyses part of the thesis composed of four parts. The first part of the descriptive analysis aims to establish a baseline demographic profile of Syrian refugee population by identifying and revealing patterns, central tendencies, and the distribution of variables at the household level. Findings regarding age and sex composition, broad ages and dependency ratios, marital status, educational attainment, employment, orphanhood and living arrangements of children, timing of migration, country of birth, country of citizenship, regions and temporary protection status are presented in this section. This foundational analysis will help identify any initial differences in characteristics such as age and sex composition, marital status and educational attainment, which are crucial for understanding the broader context in which fertility-related trajectories are examined. This part also seeks to provide information about the regions Syrians migrate from and their timing of migration to Turkey, as well as to present other specific demographic, socioeconomic and migration characteristics associated with this population.

The second part of the descriptive analysis utilizes the women dataset and conduct an analysis presenting the demographic and socioeconomic profile of Syrian women living in Turkey. By focusing on key variables regarding Syrian women, this analysis seeks to highlight the unique characteristics of them, but also establishes an understanding of the population under study, which is essential for contextualizing their fertility-related behaviors. For instance, the variable ‘mother tongue’ (ethnicity) can indicate the cultural influences that may impact marriage and fertility patterns of these women, which will be thoroughly used in the regression part of the analyses.

Fertility analysis is the third part of the descriptive analysis that aims to explore the fertility-related behaviors and outcomes of Syrian refugee women in Turkey. By focusing on the key variables such as marital status, age at first marriage, MAAFm, age at first birth, timing of marriage by migration, polygyny, CEB, fertility rates, pregnancy losses and use of contraception method among Syrian women, it seeks to understand how migration impacts the fertility trajectories and how some of the fertility behaviors of these women change compared to pre-migration status. This part of the analysis presents the necessary variables that will be incorporated in the regression analysis as well. Additionally, variables which are common to the 2006 MICS and 2009 SFHS data were also compared in this part.

In the fourth part of the descriptive analysis, a survival analysis is conducted that emphasize the occurrence and timing of the reproductive events such as first marriage, first birth and subsequent births among Syrian women in Turkey. These events are also analyzed based on the pre- and post-migration periods as well as according to educational attainment and ethnicity. The aim of this survival analysis is to understand mainly how migration influences the reproductive behaviors of Syrian refugee women in Turkey, but also to compare the transitions to these events with the Turkish women to observe if there is any difference. By comparing these events across different time periods and demographic factors like education level and ethnicity, this analysis seeks to identify

patterns and shifts in fertility-related trajectories that may be attributed to the processes of socialization, adaptation and disruption.

In the second part of the analysis, regression analyses were conducted by applying Complex Sample procedure. The decision to use Complex Sample derives from the large-scale nature of TDHS which employs a multistage sampling design including stratification and clustering. Complex sample analysis takes into account of the design features such as strata, clusters and weights, thus provide more accurate estimates, standard errors and variance estimation. In this dissertation, (1) binary logistic regression and (2) multiple linear regression analyses were implemented which helped to test these competing hypotheses, capture the different facets of the relationship between variables and allows a more comprehensive analysis of the data. In these two regression analyses, same independent variables will be used; however, they addressed different aspects of the research questions.

After carefully weighing several analytic techniques, binary logistic regression analysis was selected as the best approach in light of the data set and dependent variables. Furthermore, it made more sense to use binary logistic regression considering Syrians' length of stay in Turkey between the 2011 Civil War and the research date. Although the significant changes in marriage and birth behaviors might not be fully realized or reflected in the data, this method still show the initial differences or trends among Syrian refugee women. In a similar vein, multiple linear regression analysis is a useful adjunct to binary logistic regression analysis. It illustrates the early adaptation effects and helps determining if the age at first cohabitation and age at first childbirth are substantially impacted by migration status.

Binary logistic regression analysis is a common statistical technique for modeling the connection between one categorical response variable with binary outcomes and one or more predictor variables. It predicts whether the observation falls into one of the categories of the dependent variable linked with the predictor variables that are

hypothesized to have an effect on the dependent variable. The logistic function ensures that predicted probabilities fall between 0 and 1. Regarding the subject of this research, two binary logistic regression analyses are implemented by using the 2018 TDHS-S women data to determine the likelihood of certain events occurring over time. The dependent variables for these analyses are (1) whether the Syrian refugee women marry before or after migration (in Syria or in Turkey) and (2) whether they had their first birth before or after migration (in Syria or in Turkey). By analyzing these two events as binary outcomes, logistic regression can provide insights into how fertility-related trajectories of Syrian women change over time in response to migration. Categorizing the reproductive events in accordance to the migration status (pre-migration and post-migration) help exploring and determining whether the existence of migration influences the specific marital and fertility behaviors, whether there are differences based on where marriage and childbearing begins and finally whether Syrian women in Turkey has adapted their fertility patterns to the host country or not, given the mix of categorical and continuous predictor variables. Therefore, according to the outcome of analysis, the hypotheses of socialization, adaptation and selection will be tested based on the comparison of factors affecting marriage and childbearing trends among Syrian women in Turkey.

The general formulas for the binary logistic regression for the occurrence of first marriage and first birth in the finalized model can be written as follows:

$$\text{logit} \left(\frac{P(Y_1=1)}{1-P(Y_1=1)} \right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \epsilon$$

$$\text{logit} \left(\frac{P(Y_2=1)}{1-P(Y_2=1)} \right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \beta_{11} X_{11} + \beta_{12} X_{12} + \beta_{13} X_{13} + \epsilon$$

In this formula, Y is the dependent variable representing the likelihood of first marriage before migration (0 is before migration in Syria, 1 is after migration in Turkey), β_0 is the intercept of the model, the sign χ refers to variables and $\beta_1, \beta_2, \dots, \beta_{13}$ refers to the

coefficients for the respective independent variable. Occurrence of first birth is similar to this formula as well with the addition of four independent variables.

On the other hand, multiple linear regression analysis formula for age at first cohabitation and age at first childbirth are defined as:

$$Y_1 = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \epsilon$$

$$Y_2 = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \beta_{11} X_{11} + \beta_{12} X_{12} + \beta_{13} X_{13} + \epsilon_2$$

In these equations, Y is the response variable, β_0 is the intercept of the model, $\beta_1, \beta_2, \dots, \beta_{13}$ are the predictors, while e is the random error term.

3.3. Testing the Hypotheses

Socialization and Adaptation Hypotheses: This incorporation of fertility, survival and regression analyses will provide preliminary testing for socialization and adaptation hypotheses, since they present contrasting perspectives on how migration might influence fertility behaviors. In the fertility analysis, focusing on variables such as age at first marriage, age at first birth, children ever born, usage of contraception and polygyny and comparing the circumstance of Syrian women with the pre-migration data of 2009 SFHS and 2006 MICS contribute to thesis by showing the pre-migration socialization patterns that might continue in the post-migration period as well. The survival analysis also serves the purpose to test socialization and adaptation hypotheses by focusing on the sequential reproductive events among Syrian women who experience these events before migration (in Syria) or after migration (in Turkey). By comparing these events in relative to timing of migration and with Turkish women, initial hints on adaptation and socialization will be provided. With the binary logistic regression analysis, socialization hypothesis will be tested by examining whether the timing of first marriage and first birth among Syrian women aligns more closely with the patterns observed in Syria (before migration). If the

likelihood of marrying or giving birth before migration is significantly higher, this might indicate strong adherence to pre-migration cultural norms. By contrast, if the likelihood of marriage or birth after migration is higher after migration, this might suggest that Syrian women are adapting to the fertility norms and expectations in Turkey. By examining the age at first marriage and age at first birth in multiple linear regression analysis, socialization hypothesis will also be tested. If these ages remain consistent with pre-migration values in Syria, the socialization hypothesis will be supported. On the other hand, adaptation hypothesis can be explored by analyzing the risk factors like duration of stay on age at first marriage and age at first birth. If longer duration of stay is associated with later marriage and childbirth, this could indicate an adaptation to Turkish fertility norms.

Disruption Hypothesis: This hypothesis assumes that migration disrupts fertility patterns and alters fertility behaviors leading to deviations from the expected fertility patterns of both the origin country and the host country. These alterations show themselves in the form of delays in marriage, increase use of contraception and thus, postponement of childbearing during or immediately after migration. Over time, the recovery period begins as the fertility levels align closely with either the norms of the host country (supporting the adaptation hypothesis) or the origin country (supporting the socialization hypothesis), depending on various factors. Since the first births of Syrian women right after migration cannot be calculated, a method including the calculation of mean age at childbearing (MAC) and adjusted fertility rates (AdjTFRs) are implemented to test the disruption hypothesis. According to the study by Koç (2022) which has used the 2018 TDHS and TDHS-S data, delayed fertility behaviors among Syrian refugee women between the 2013-2015 period are observed, which was followed by a recovery in fertility rates between the 2016-2018 period. The 2013-2015 period corresponds to the timing of Syrian Civil, while the 2016-2018 period is described as the immediate aftermath of the war. To infer the presence of disruption, first the tempo effect (tempo distortions) is decomposed on the fertility rates of Turkish and Syrian refugee women and then adjusted TFRs are obtained. While TFR is the most commonly used measure to assess fertility, it is sensitive to changes

in the timing of childbearing. To calculate adjusted fertility rates, a method is adopted which eliminated the tempo effects in TFR (Bongaarts and Feeney, 1998; 2000). The adjusted TFRs were reached by calculating MAC and TFR on a parity basis for at least two consecutive periods, thus AdjTFR values are acquired free from the effect of tempo. This method will indicate whether there is a disruption in the fertility behaviors of Syrian women in Turkey or not, by analyzing the MACs and AdjTFRs during the conflict and post-migration periods.

Selection Hypothesis: The selection hypothesis posits that individuals who choose to migrate are not a random sample of their home country's population, but they may differ in significant ways, such as age, education or wealth status, which can also influence their fertility behaviors. Their fertility patterns are different from their origin country and generally show similarities with the host country they choose to migrate. Although this hypothesis is used together with the other three hypothesis in most studies, it is challenging to test this hypothesis in conflict-induced migration context since the migration decision is not voluntary and the Syrian refugees in Turkey are not a self-selective but rather a heterogeneous group in terms of their socio-economic background age, education and fertility intentions. Therefore, since Syrian refugees in Turkey do not currently meet the requirements of this selection, this hypothesis will not be tested with the analyses.

3.4. Study Variables

A detailed explanation of the dependent and independent variables used in the regression analysis is provided in this subsection. Independent variables presented according to their groups in the modeling and the order in which they were added to the analysis.

3.4.1. Dependent Variables

Timing of First Marriage by Migration: This dependent variable is created by computing date of first marriage (V509) which is in Century Month Code (CMC) in accordance to the Syrian refugees' date of migration (GOCCMC). If the Syrian refugees married before they migrated to Turkey, this category accepted as they had their first marriage in Syria (0) and if they married after they migrated to Turkey, it is accepted that they had their first marriage in Turkey (1). 'Never married' category is excluded from the analysis because of two reasons. First reason is that binary logistic regression analysis requires a dependent variable with a binary nature and a variable with 3 categories is not suitable for analysis. Second, the analysis aims to compare occurrence of first marriage relative to migration, thus including individuals who have never married would not contribute to this comparison as they do not have an event (marriage) that can be categorized as occurring before or after migration.

Timing of First Birth by Migration: Similar to the first marriage, when creating this variable first birth according to the timing of migration is taken into consideration. Therefore, by using date of first birth (V211) in CMC and date of migration (GOCCMC), a formula is constructed based on if Syrian refugees had their first birth before migration, it is accepted that they had their first birth in Syria (0), conversely if they had their first birth after migration, it is determined that they had their first birth in Turkey (1). Women who have not given birth are not included in the analysis by turning into System Missing as women who have experienced first birth as well as a dichotomous variable is needed for the analysis.

Age at First Marriage: This variable corresponds to V511 in the dataset. It is a continuous variable and was used in the multiple linear regression analysis as a predictor.

Age at First Birth: V212 is the other continuous dependent variable that was utilized in multiple linear regression analysis.

3.4.2. Independent Variables

Migration Variables

Duration of Stay: This new variable shows the time spent by Syrians in Turkey. It is obtained and computed by deducting the respondent's year of migration (SH10) from the interview year (V007). The result is truncated and grouped into four categories to disperse the proportions more evenly. Newly produced categories are: '0-2 Years', '3-4 Years', '5-6 Years' and '7+ Years'.

Individual Variables

Age: This variable (V012) shows the current age of the interviewed women in the DHS data. It is a continuous variable that focuses on the ages of women between 15-49.

Education Level: This categorical variable (SEDUC) is based on educational attainment and composed of four levels by completed education. These are 'No Education/Primary Incomplete', 'Complete Primary', 'Complete Secondary' and 'Complete High School/Higher'. For the regression analysis, education levels of secondary and high school and higher are recoded and grouped under 'Complete Secondary and Higher'. Therefore, this variable is transformed into a 3-category one.

Ever-Worked: S731 is the variable that gets the information of whether the women are ever worked since the age 12. It has a binary variable with two categories of 'Yes' and 'No'. For the analysis, these categories are renamed as 'Worked' and 'Not Worked'.

Cultural Variables

Ethnicity (Mother Tongue): This is a categorical variable (S114) that asks the mother tongue of the respondent and is consisting of 4 levels: 'Turkish', 'Kurdish', 'Arabic' and 'Other', respectively. Since the proportion of 'Other' and 'Turkish' are very low (1.4% and 4.6%, respectively) compared to the percentages of Arabic and Kurdish (86.3% and 7.7%), these two categories are recoded and turned into a single category as 'Turkish and Other' for the analysis. Thus, a total of three categories is reached for this variable.

Brides Money: S713\$1 - \$6 are actually variables with five categories which asks the respondents whether the husband/partner or his family paid a brides money during the process of marriage. From first marriage up to the sixth marriage this question asked, however, since the first marriage is in the interest of the regression, only the S713\$1 is used in the analysis. The categories 'In Cash/Gold', 'In Kind', 'Both' and 'Other' are recoded and grouped under one category named as 'Yes'. In the final status, new variable with binary categories is renamed as 'Paid' and 'Not Paid' to be used in the analysis.

Consanguinity: This variable investigates whether the respondent is related to his husband/partner and if the answer is 'yes' it asks the degree of relations between them. Similar to brides money, there are up to six of these variables for each marriage (S715\$1 - \$6) and again only the first variable which corresponds to the first marriage is used in the analysis. Relationship statuses are recoded and grouped as one category 'Yes', thus the final recoded version is used in the analysis. Since in many societies, consanguineous marriages are more common among certain cultural and ethnic groups due to the traditional norms and values, this variable is considered as a cultural variable.

Contextual Variables

Wealth Status: This variable presents the economic status of households and calculated by dividing the household welfare status into three equal parts (wealth index). It is a composite indicator that represent a household's overall standard of living. Normally, this is a quintile in the 2018 TDHS, but since the Syrian refugees in Turkey predominantly migrated from lower socioeconomic segments, a triple index composed of 'Low', 'Medium' and 'High' categories is used instead of five. The index calculation involves detailed questioning regarding access to a number of consumer items, assets and services (ICF, 2018). Since this is a variable that changes over time, its suitability for use in analysis is debatable, however Filmer & Pritchett (2001) discusses that wealth indices constructed from asset ownership can be used for current wealth status but they are also informative about past wealth conditions because certain assets and household characteristics are relatively stable over time and can serve as proxies for earlier or longer-term economic status as well.

Regions (Place of Birth): The variable S103C actually asks the respondents' place of birth (province). It consists of 14 governorates of Syria. This variable is recognized as a proxy for the refugees' place of origin predicated on the notion that their place of birth in Syria is usually where they spent a major amount of their early childhood and typically correlates with their place of origin or residence before they migrate to Turkey. The governorates are recoded and grouped according to the geographical locations under three categories which are 'North East Syria', 'Central Syria' and 'South West Syria'. This aggregated categorization helps in understanding and analyzing the geographical origins of the refugee population.

Marital and Fertility Variables

Age at First Cohabitation (Marriage): This is a numerical variable (V511) in which the information about the age at first cohabitation of the respondent is acquired. Since the

childbirth typically follows marriage, this is a valuable predictor for understanding its impact on first birth and the childbirth patterns. For Syrian refugees, an output ranging between 10 and 46 is obtained from this variable.

Ever Use of Contraception: Instead of V301 which is ‘Knowledge of Any Method’, ‘Ever Use of Any Method’ is preferred as a variable in the analysis because according to survey results, 95% of Syrian refugee women had already prior experience with both traditional and modern methods. V302 corresponds to the ever use contraception in the women data set and normally has four categories as follows ‘Never Used’, ‘Used Only Folkloric Method’, ‘Used Only Traditional Method’ and ‘Used Modern Method. However, there are no cases of women using folkloric methods, thus this variable has only 3 categories.

Table 3.1. Dependent Variables Used in Binary Logistic Regression and Multiple Linear Regression Analyses

Dependent Variables	Categories
Binary Logistic Regression	
Timing of First Marriage by Migration	Married Before Migration Married After Migration
Timing of First Birth by Migration	First Birth Before Migration First Birth After Migration
Multiple Linear Regression	
Age at First Marriage	
Age at First Birth	

Table 3.2. Independent Variables and Their Categories Used in Binary Logistic Regression and Multiple Linear Regression Analyses

Independent Variables	Categories
Timing of Marriage by Migration	Married Before Migration Married After Migration
Timing of Birth by Migration	First Birth Before Migration First Birth After Migration
Duration of Stay	0-2 Years 3-4 Years 5-6 Years 7+ Years
Age	-
Education Level	No Education Complete Primary Complete Secondary and Higher
Ever Worked	Not Worked Worked
Ethnicity	Turkish and Other Kurdish Arabic
Brides Money	Not Paid Paid
Consanguinity	Not Related Related
Wealth Status	Low Medium High
Regions	North East Syria Central Syria South West Syria
Age at First Marriage	-
Ever Used Contraception	Never Used Used Only Traditional Method Used Modern Method

3.4.3 Multicollinearity Tests

Nine independent variables were used for the first part of the binary logistic and multiple linear regression analyses for dependent variables regarding marriage (women who had married before/after migration and age at first marriage) and with the additional two variables that were used in the second analyses, a total of eleven independent variables were used for dependent variables regarding birth (women who had their first birth before/after migration and age at first birth). All of those variables checked for collinearity statistics by using Variance Inflation Factor (VIF) and Tolerance values. The detailed test results of multicollinearity can be reached from Appendix D. While tolerance values above 0.1 or 0.2 is acceptable for multicollinearity, VIF values below 10 or preferably 5 is acceptable levels of multicollinearity. In Table D.1, tolerance values are all above 0.9 and VIF values are all below 1.1, indicating multicollinearity is not a significant concern for the first analysis of the binary logistic regression. Table D.2 also shows that tolerance and VIF values in the second part of this analysis with the additional two variables and it is observed that the values are in the accepted thresholds for concern and do not exhibit multicollinearity. Table D.3 and D.4 for multiple linear regression analyses also present similar values with Tolerance values above 0.9 and VIF values below 1.2. Thus, regression coefficients can be interpreted with confidence in terms of their individual contributions to the model.

3.5. Limitations

One of the constraints of this research arises in the testing of the adaptation hypothesis. Considering the time between the civil war and research year, this interval may not reflect significant changes in marriage and fertility behaviors of Syrian refugee women and may not give the chance to infer whether Syrians adapted to the norms and practices in Turkey and converged their fertility levels or not. While Syrians first began to arrive at Turkey in 2011, the most recent Turkey Demographic and Health Survey in which the data is collected from Syrian immigrants was conducted in 2019. Even though the timeframe to

test this hypothesis may seem like short, the exact time period that is required for adaptation is also not accurately stated in the literature. On the other hand, some authors states that full convergence might appear among first-generation migrants (Afulani and Asunka, 2015), meaning that it might take one generation to wholly adapt to the fertility patterns of the host country. Generation time in demography explains that it takes approximately 20 to 25 years between two consecutive generations, measured as the average interval of time between the birth of parents and the birth of their offspring. Based on this information, it is possible to say that adaptation may take a long time, but at the same time it should be taken into account that the process can vary significantly depending on various factors. Therefore, it is not clear how long time is required for Syrian women to adapt to their fertility patterns in Turkey; however, with the selected methods of analysis (binary logistic regression and multiple linear regression), the initial differences or trends are aimed to be obtained. Thus, early adaptation signs or effects are hoped to be reached with the help of these analyses.

CHAPTER 4. RESULTS

4.1. Results of Descriptive Analysis

4.1.1. A General Profile of Syrian Refugees in Turkey

This part of the thesis aims to give a glimpse on the background of Syrian refugees living in Turkey by using the 2018 TDHS-S. In this section, a basis of sociodemographic characteristics as well as the migration related characteristics for Syrian refugees living in Turkey will be examined and analyzed. To establish this foundation, the SPSS program will be utilized, employing descriptive analysis based on various tables, figures and statistical measures. The descriptive analysis will facilitate the depiction and comprehension of the 2018 TDHS-S data by elucidating key variables, producing essential findings and summarizing these outcomes. With the help of SPSS, an evaluation of the variables, frequency distributions or statistical custom tables will be presented for each variable. In this way, a compact, meaningful and systematic information will be presented for analysis. The data set used in this section is the PR data set of the TDHS which is the household members data set that is produced from the household data. Therefore, the unit of analysis of this dataset and the statistical analysis that will be presented in this section will be based on the characteristics of the household members.

Age and Sex Composition

In the 2018 TDHS-S, a total of 10,897 individuals of de facto population, namely, people who stayed the previous night in the household were interviewed. Among these 10,897 individuals, 5661 were male and 5236 were female creating a sex ratio of 108 males for 100 females (HUIPS, 2019b). Below is Figure 4.1 depicting two population pyramids that belong to Syrians population. The first pyramid on the left based on the 2018 TDHS-S data, namely, illustrating the distribution

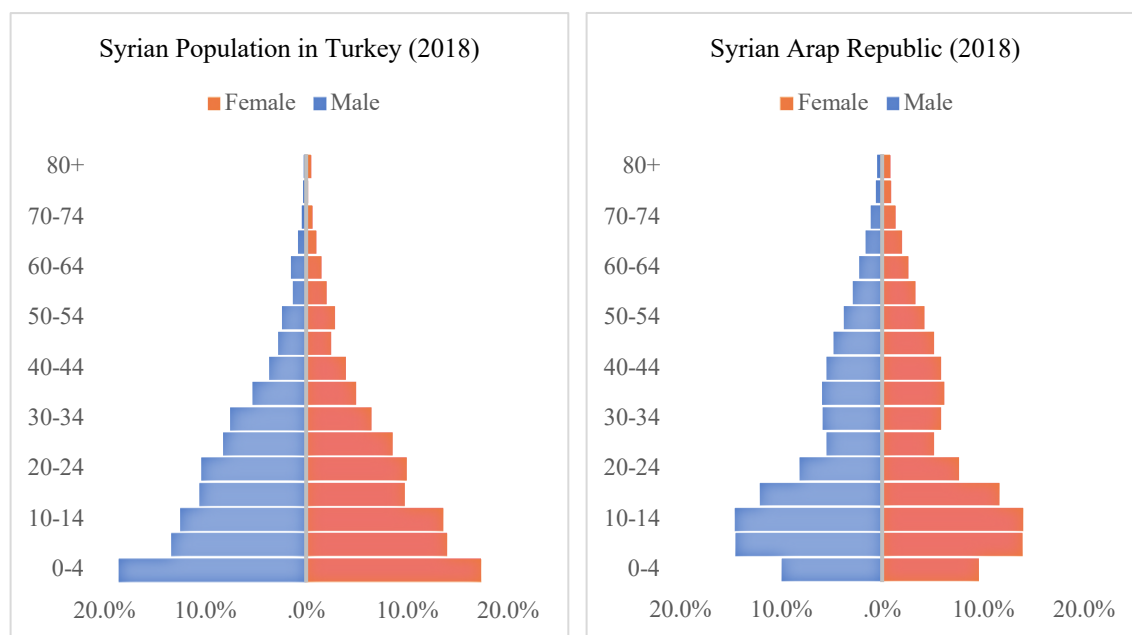
of Syrian refugees in Turkey by age groups and sex as of 2018. The second pyramid on the right represents the 2018 data of Syrians again, but the ones residing in Syria. The first pyramid is significant as it displays the refugee population's demographic dynamics resulting from conflict-induced migration. The second population pyramid is also salient as it shows the demographic characteristics of Syrians who remained in Syria amidst the ongoing conflict.

The demographic structure depicted in the first population pyramid closely resembles a triangular shape, commonly referred to as an expansive population pyramid. The wide base at the bottom indicates high birth rates and larger percentages in younger age groups. As the age increases, subsequent age groups exhibit a reduction in size or proportion compared to the preceding counterparts, indicating a diminishing trend. The configuration of the pyramid also implies a rapid population growth, attributed to the substantial number of births. On the other hand, the narrowing structure towards the top of the pyramid is often associated with factors such as higher mortality rates among older age groups and lower life expectancy. When evaluated in terms of age groups, the wide base of 0-4 age group for both males and females indicate a heightened fertility rate among women. A significant portion of the population comprises young dependents aged 0-14, while elder dependents aged 65 and above constitute a smaller proportion of the overall population. The minor protrusion in the 50-54 and 80+ age groups of females can be associated with the Syrian conflict and the following displacement trends. The higher number of females in these age groups could be linked to family reunification efforts or migration in pursuit of better healthcare access or a desire for an improved quality of life. Conflict and migration generally lead to gender imbalance in certain age cohorts impacting the population pyramid which is also evident in this figure.

On the other hand, the second population pyramid is quite different in shape, resembling a distorted version of the first one. A shape similar to the upper part of the triangle is reached only after the 35-39 age group. The baseline in the pyramid is narrower compared

to 5-9 and 10-14 age groups, suggesting lower birth rates and reduced number of children being born, indicating disrupted birth patterns due to the impact of the conflict. The outflow of refugees to neighboring countries, may have also contributed to changes in the age structure of the population. Families with young children may have been more likely to flee from the conflict, leading to smaller cohorts in the 0-4 age group staying within Syria itself. The first population pyramid in Turkey from the same year is actually an indicator of this situation. Notches or gaps in certain age groups are also noteworthy specifically within the younger age cohort aged 25-29 and 30-34, signifying that the corresponding populations are displaced or living as refugees in other countries.

Figure 4.1. Population Pyramids, Percent Distribution of Syrian Household Population in Turkey and in Syria, 2018 TDHS-S and 2018 Syrian Arab Republic



Source: Data of the 2018 Syrian Arab Republic is taken from <https://www.populationpyramid.net/syrian-arab-republic/2018/> and the pyramid is re-created by summing the values of age groups 80 and over.

Broad Ages and Dependency Ratios

Dependency ratio is another key demographic indicator that provides a quantitative measure of the relationship between the economically dependent (comprising young and elderly) and the segment of the working-age population. According to the 2018 TDHS-S data, the largest proportion of the Syrian population in Turkey is composed of by the working age group of 15-64, (53%) followed by the 0-14 young age group (45%) and elder population of 65+ (2%). Table 41. demonstrates the dependency age groups and dependency ratios according to sex. In terms of age, the young and working-age male population is slightly higher than the females, while the 65+ elder population is higher for females compared to the males.

As per table, the overall dependency ratio is 87.7 meaning that for every 100 individuals in the working-age population, there are approximately 87.7 dependents comprising both children and elderly. This indicates a moderate to high level of economic dependency on the working-age group to support the dependent groups. The child dependency ratio is 83.8 signifying a significant reliance on the working-age group to provide for the needs of children. On the other hand, the fact that the old age dependency ratio is 3.9 implies a relatively low burden on the working-age population in terms of supporting elderly individuals. In the general picture, the relatively high dependency ratio is primarily driven by a substantial child dependency ratio, indicating a larger proportion of the population in the youthful age group. While the old age dependency ratio is comparatively low, the combined effect of child and old age dependency contributes to the overall economic burden on the working-age population.

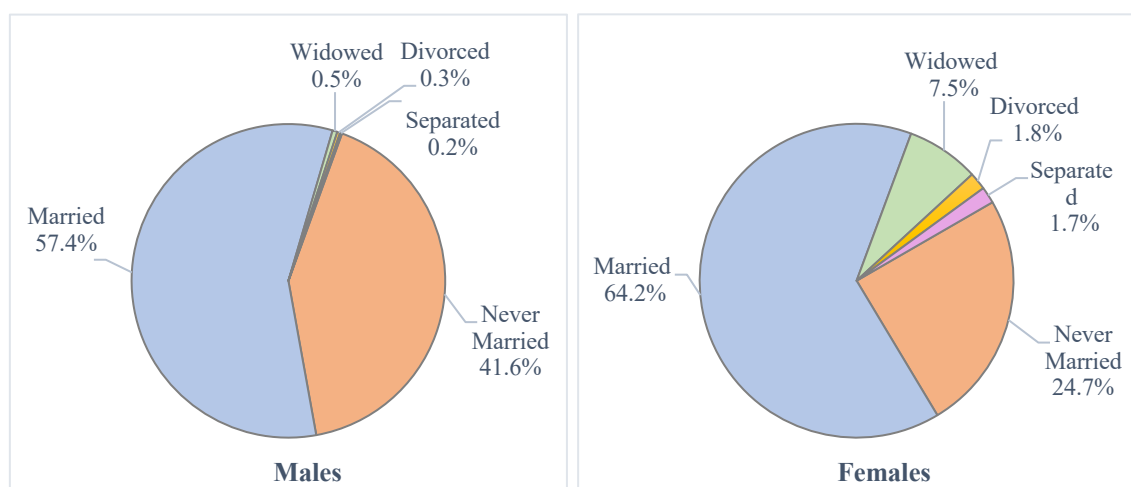
Table 4.1. Dependency Age Groups and Dependency Ratios by Sex

Age Group	Male		Female		Total	
	Number	Percent	Number	Percent	Number	Percent
0-14	2554	51.6	2391	48.4	4945	100.0
15-64	3089	52.4	2811	47.6	5900	100.0
65+	105	45.2	127	54.8	231	100.0
Total	5747	51.9	5329	48.1	11076	100.0
Dependency Ratio	86.1		89.6		87.7	
Child Dependency Ratio	82.7		85.1		83.8	
Old Age Dependency Ratio	3.4		4.5		3.9	

Marital Status

Figure 4.2, shows the percent distribution of marital status of the Syrian migrants living in Turkey by sex regardless of age. This means that early and child marriages are also included among these percentages. According to the chart, percentage of married population is high among other statuses, corresponding to 57% for males and 64% for females. The proportion of individuals who have never married is highest among males, accounting for 42%, whereas among females, this figure stands at 25% for. It has been observed that the proportion of women who are widowed is notably high at 7.5%, potentially indicative of the impact of the conflict as they may lost their spouses during the conflict in Syria. Divorced and separated women's proportion residing at 1.8% and 1.7% respectively, much higher than their male counterparts.

Figure 4.2. Percent Distribution of Syrians in Turkey by Marital Status, according to Sex, 2018 TDHS-S



Educational Attainment

Table 4.2 provide information on educational attainment of Syrian household population age 6 and over according to background characteristics such as age groups, residence and place of birth by sex. Based on the total percentages categorized by sex, it is observed that the proportion of females who have no education or have not completed primary education (40%) is higher than males (35%). Another striking finding is that the total percentages of educational attainment for males surpass those for females in primary, secondary and high school education categories. Among females, 37% have completed primary level education, 13% have completed secondary level and 8.9% received education at high school level or higher; while the corresponding percentages are respectively 38%, 15% and 11% for males. In terms of age groups, not receiving education at all or not completing primary level education appear to be high among the 10-14 group in both sexes who are supposed to complete primary level education at those ages. For women who are 50 years or higher having no education or not completing primary level are extremely high reaching up to 60.4% in 50-54 age group and 75% in 60-64 age group, while for males these percentages are trending in 22% and 35%.

Table 4.2. Percent Distribution of De Facto Household Population Age 6 and Over by Educational Attainment and Sex, According to Age Groups, Residence and Place of Birth 2018 TDHS-S

	No Educ/Prim. Incomp.	Complete Primary	Complete Secondary	Complete High School/Higher	Don't Know/Missing	Total	Number of Individuals
Females							
Age							
6-9	98.9	1.1	0.0	0.0	0.0	100.0	583
10-14	43.7	47.1	9.2	0.0	0.0	100.0	719
15-19	18.4	51.2	22.6	7.1	0.6	100.0	511
20-24	11.3	41.2	29.0	18.2	0.4	100.0	521
25-29	16.9	40.8	17.8	24.5	0.0	100.0	447
30-34	22.3	49.0	14.2	14.1	0.6	100.0	342
35-39	25.8	49.7	13.0	11.5	0.0	100.0	260
40-44	22.1	54.9	10.7	12.3	0.0	100.0	207
45-49	39.4	44.1	10.2	6.1	0.3	100.0	131
50-54	60.4	28.5	6.8	3.6	0.7	100.0	151
55-59	69.6	19.2	5.1	6.2	0.0	100.0	106
60-64	74.9	13.9	7.0	2.8	1.4	100.0	78
65+	83.8	10.7	0.9	4.6	0.0	100.0	119
Residence							
Non-Camp	40.3	37.2	13.2	9.0	0.2	100.0	3983
Camp	39.7	39.5	14.1	6.5	0.2	100.0	192
Place of Birth							
Turkey	84.9	15.1	0.0	0.0	0.0	100.0	22
North East Syria	43.6	38.1	11.3	6.7	0.3	100.0	3275
Central Syria	29.3	35.8	19.5	15.3	0.0	100.0	628
South West Syria	20.0	33.0	23.1	23.5	0.5	100.0	226
Total	40.3	37.3	13.2	8.9	0.2	100.0	4175

Table 4.2. (Continued) Percent Distribution of De Facto Household Population Age 6 and Over by Educational Attainment and Sex, According to Age Groups, Residence and Place of Birth 2018 TDHS-S

	No Educ/Prim. Incomp.	Complete Primary	Complete Secondary	Complete High School/Higher	Don't Know/Missing	Total	Number of Individuals
Males							
Age							
6-9	98.3	1.5	0.0	0.0	0.2	100.0	638
10-14	47.2	44.9	7.9	0.0	0.0	100.0	717
15-19	24.2	53.3	18.7	3.7	0.2	100.0	595
20-24	14.1	44.3	25.7	15.1	0.9	100.0	589
25-29	15.5	38.6	16.7	26.5	2.7	100.0	466
30-34	16.7	44.9	16.9	20.8	0.8	100.0	427
35-39	17.5	46.3	20.7	14.8	0.7	100.0	300
40-44	13.1	50.1	23.6	12.0	1.2	100.0	207
45-49	24.1	37.2	17.4	20.3	0.9	100.0	154
50-54	21.6	35.8	21.0	20.5	1.1	100.0	133
55-59	16.6	48.2	17.1	18.1	0.0	100.0	75
60-64	34.6	27.3	12.1	20.8	5.2	100.0	84
65+	39.6	23.8	15.7	19.8	0.0	100.0	98
Residence							
Non-Camp	34.8	38.3	14.9	11.2	0.8	100.0	4306
Camp	35.2	34.1	18.7	10.8	1.2	100.0	181
Regions							
Turkey	75.3	15.4	9.3	0.0	0.0	100.0	24
North East Syria	38.3	39.3	13.1	8.6	0.7	100.0	3481
Central Syria	22.0	36.1	22.5	18.4	1.0	100.0	671
South West Syria	21.4	32.0	20.7	24.3	1.5	100.0	286
Total	34.8	38.2	15.0	11.2	0.8	100.0	4487

According to non-camp and camp residences, educational attainment does not vary much for both sexes, but among females and in non-camp areas, the percentage of who complete high school and higher education is slightly higher with 9%, while it is 6.5% in camp areas. Similarly, regional analysis reveals that male educational attainment is slightly elevated

in general compared to females, though the percentages exhibit only minor distinctions. The disparity becomes more evident in Central Syria, particularly when considering educational attainment at the secondary and high school levels. On the other hand, in North East Syria, a substantial proportion of both males (38%) and females (44%) having no education or have not completed primary level education, while in Central and South West Syria these percentages are comparatively lower.

Employment Status

This section provides information about working status of Syrian refugees in Turkey and examines whether Syrians who are aged 12 and over are engaged in a paid employment or not. According to the Table 4.3 which depicts the employment issue of the households, percentage of males working in a paid job (53%) is higher than the females (5.8%). On the other hand, the percentage of unemployed female migrants (94%) are much higher than the male migrants (48%). Thus, it can be inferred that the majority of Syrian women living in Turkey do not work in any income generating job. As for the place of residency, a large proportion of Syrian migrants living in camps and non-camps also do not work in any paid job. Across age groups, the highest percentages who are working in a paid job are 30-34 (42%) and 35-39 (41%) age groups. As the age increases in the working age groups, the percentage of employment also seems to be increases until the 40-44 age groups. After 40-44 age group, the percentages drop gradually. However, the general picture of unemployment is still higher than the unemployed percentages in terms of all age groups.

Table 4.3. Percent Distribution of Syrians Age 12 Years and Over Working in a Paid Job by Age Groups, Educational Attainment and Residence, According to Sex, 2018 TDHS-S

Age	Male	Female	Total	Number of Individuals
12-14	4.1	11.3	4.8	100
15-19	16.4	17.1	16.5	344
20-24	22.6	10.4	21.5	448
25-29	17.2	15.1	17.0	355
30-34	15.7	18.1	15.9	332
35-39	11.0	11.5	11.1	231
40-44	6.8	9.8	7.1	148
45-49	3.4	3.6	3.5	72
50-54	1.7	2.6	1.7	36
55-59	0.4	0.6	0.4	9
60-64	0.3	0.0	0.3	7
65-69	0.2	0.0	0.2	4
70-74	0.0	0.0	0.0	0
75-79	0.1	0.0	0.1	1
80 and +	0.0	0.0	0.0	0
Education Level				
No Educ/Prim. Incomp.	19.1	31.2	20.2	418
Complete Primary	46.4	32.4	45.1	930
Complete Secondary	18.8	10.4	18.0	372
Complete High School/Higher	15.7	26.0	16.7	344
Residence				
Non-Camp	98.2	97.7	98.1	2048
Camp	1.8	2.3	1.9	39
Total	100.0	100.0	100.0	2087

Orphanhood and Children's Living Arrangement

As the most vulnerable part of the population, children are often exposed to the adverse effects of the conflict in the form of forced migration, family separation, orphanhood, child labor and change of living arrangements. In this part of the thesis, orphanhood statuses and living arrangements of children who are living in Turkey will be examined. Table 4.4 demonstrates the different orphan status of children under age 18 according to different background characteristics. The terminology on orphanhood is diverse, but several distinct definitions of orphans have gained prominence and commonly accepted in the literature. A child who is under 18 years of age and lost one or both biological parents to any cause of death is defined as 'orphan'; a child whose mother has died but father alive is accepted as a 'maternal orphan', a child whose father has died but mother alive is described as 'paternal orphan' and lastly if the child's both parents have died, the status is defined as a 'double orphan' (UNAIDS, UNICEF and USAID, 2004).

In accordance with the table, among children under age 18, 94% are non-orphans and 5.7% are orphans. It appears that paternal orphanhood is more prevalent with 4.8% compared to maternal orphanhood and the case in which both parents have died, namely, double orphanhood corresponds to only 0.1%. Based on age groups, paternal orphans contain bigger proportions among all orphanhood types, especially adolescents age 15-17 have highest percentage with 9.6%, followed by 10-14 age group with 6.7%. Double orphanhood among 15-17 age group also higher compared to other age groups. The incidence of orphanhood is elevated among children who have attained secondary school education. Among this group, it is observed that 10.7% of children have lost their father. In terms of regions where they come from, paternal orphanhood is more commonly experienced among children for all regions. Among children from North East Syria, the proportion of paternal orphans is 6.1%, while it is 14% for children who are from South West Syria.

Table 4.4. Percent Distribution of Children under Age 18 by Orphanhood Status, According to Age, Sex, Education and Regions, 2018 TDHS-S

	Non- Orphans	Maternal Orphans	Paternal Orphans	Double Orphans	Total	Number of Children
Age						
0-4	98.0	0.2	1.8	0.0	100.0	1958
5-9	94.6	0.2	5.1	0.1	100.0	1491
10-14	91.8	1.4	6.7	0.1	100.0	1424
15-17	87.0	2.5	9.6	0.9	100.0	605
Sex						
Male	94.0	0.8	5.0	0.3	100.0	2876
Female	94.5	0.8	4.7	0.0	100.0	2603
Education Level						
No Educ/Prim. Incomp.	95.6	0.5	3.8	0.1	100.0	4239
Primary	90.5	1.3	7.8	0.3	100.0	963
Secondary	85.5	3.4	10.7	0.4	100.0	265
High School/Higher	94.7	0.0	5.3	0.0	100.0	7
Region						
North East Syria	92.5	1.1	6.1	0.2	100.0	3048
Central Syria	92.9	1.3	5.6	0.2	100.0	509
South West Syria	85.8	0.5	13.6	0.0	100.0	208
Total	94.2	0.8	4.8	0.1	100.0	5510

Living arrangements of Syrian children also differs according to different background characteristics. In Table 4.5 this is depicted based on age, sex, survival status of parents and wealth status. As per table, children who are living with both of their parents is 86%, while children who do not live either with the parents is 2.9%. Living with a single parent, especially with a mother is high standing at 9.7%, whereas the percentage of children living only with the father is 1.6%. Regarding age, among adolescents in 15-17 age group, not living with either parent is high compared to other living arrangements, standing at 17%. Similarly, adolescents in 10-14 age group living only with their mother is again

elevated compared to other living arrangements, corresponding to 12%. Among children whose parents have died, the proportion of those living only with their mother is high, reaching 75%. On the other hand, among children whose both parents alive, percentage of living only with mother is 5.7%. Across middle and high wealth status, the proportion of children living only with their mother is consistent at around 9.5%, while it displays as 10%, becoming the highest occurrence among different living arrangements.

Table 4.5. Percent Distribution of Living Arrangements of Syrian Children under Age 18, by Age, Sex, Survival Status of Parents and Wealth Status, 2018 TDHS-S

	Living with Both Parents	Living with Only Mother	Living with Only Father	Not Living with Either Parent	Total	Number of Children
Age						
0-4	91.9	6.8	0.8	0.5	100.0	1958
5-9	89.0	9.1	1.0	0.8	100.0	1491
10-14	82.8	12.4	2.5	2.2	100.0	1424
15-17	65.8	13.8	3.1	17.2	100.0	605
Sex						
Male	85.4	9.9	1.8	2.8	100.0	2876
Female	86.4	9.4	1.3	2.9	100.0	2603
Survival Status of Parents						
One of Both Parents Dead	0.0	75.1	11.3	13.5	100.0	316
One of Both Parents Alive	91.1	5.7	1.0	2.2	100.0	5163
Wealth Status						
Low	85.3	10.2	1.0	3.5	100.0	1889
Middle	86.2	9.3	1.9	2.7	100.0	1898
High	86.2	9.5	1.9	2.4	100.0	1691
Total	85.9	9.7	1.6	2.9	100.0	5510

Timing of Migration

The timing of Syrian refugees' migration to Turkey after the conflict is another important variable that can be obtained from the 2018 TDHS-S data. This variable provides valuable insights to analyze trends and patterns in refugee movements of Syrians, especially understanding the magnitude of migration and demonstrating the influx according to years. In Table 4.6, the information on the timing of Syrian refugees' arrival to Turkey is given based on sex. As per data provided in the table, it is apparent that migration to Turkey occurred in very low numbers prior to 2011, whereas the majority of influx arrived after 2011, coinciding with the initiation of the armed conflict. It is observed that a considerable number of Syrians migrated to Turkey, particularly in the years 2013, 2014 and 2015, constituting the 55% of the total population alone. Although there was a steady increase until 2013, there has been a subsequent decrease in the overall number of arrivals since then. Especially from 2015 to 2018, a rapid decline in the immigrant Syrian population to Turkey can be observed from the table. Multiple factors could contribute to this decline such as the subsided intensity of conflict, improved political and security conditions in Syria or the increased challenges faced by refugees in Turkey. All in all, the significant increase in the number of arrivals immediately after the conflict and the gradual decrease in the number of people arriving after a few years is a key outcome that can be deduced as how conflict affects the intensity of migration.

Table 4.6. Percent Distribution and Frequency of Syrian Refugees' Timing of Migration by Sex and Years They've Arrived, 2018 TDHS-S

Year	Male		Female		Total	
	Count	Percent	Count	Percent	Count	Percent
2006	0	0.0	1	0.0	1	0.0
2007	1	0.0	0	0.0	1	0.0
2008	1	0.0	0	0.0	1	0.0
2009	0	0.0	1	0.0	1	0.0
2010	1	0.0	9	0.2	10	0.1
2011	110	1.9	107	2.0	217	2.0
2012	547	9.6	500	9.4	1047	9.5
2013	1198	21.0	1157	21.9	2355	21.4
2014	1034	18.1	917	17.3	1951	17.7
2015	905	15.9	818	15.4	1722	15.7
2016	559	9.8	541	10.2	1100	10.0
2017	321	5.6	294	5.5	615	5.6
2018	175	3.1	202	3.8	377	3.4
Born in Turkey	853	14.9	749	14.1	1602	14.6
Total	5705	100.0	5296	100.0	11000	100.0

The second table below (4.7), presents percent distribution of migration timing according to sex and age groups. Year 2014 is chosen as the midpoint of the migration timing since there is only a handful of migrations before year 2011 and the research is conducted in year 2018. Following the information on the table, it is observed that the number of arrivals by sex does not significantly differ from one another. Among the migrants who migrated to Turkey after 2014, male population are higher in some age groups such as 30-34 age group with 8.8% and 15-19 age group with 13%; while females have a higher proportion in 5-9 and 10-14 and 50-54 age groups, residing at 16% and 15% respectively. Furthermore, it is also evident that the predominant demographic of migrants who arrived after the conflict comprises of a young population, primarily falling within the 5-29 age group. The total population in this age range alone constitute more than 50% of the total immigrant population with 53% among men and 64% among women. For both sexes, the

age distribution decreases beyond the 20–24 age range. Another important data that can be derived from the table is the considerable percentage of Syrian children who were born in Turkey (17% of children in the 0-4 age group). While the percentage of children age 0-4 who migrated to Turkey after 2014 is around 7.6% for both sexes, the proportion of children who were born in Turkey is elevated reaching more than 92% for both sexes.

Table 4.7. Percent Distribution of Syrian Refugees' Timing of Migration by Sex and Age Groups, 2018 TDHS-S

Age	Male				Female			
	Born in Turkey	Pre-2014 Migration	Post-2014 Migration	Total	Born in Turkey	Pre-2014 Migration	Post-2014 Migration	Total
0-4	94.1	0.0	7.9	18.2	92.8	0.0	7.6	17.1
5-9	5.9	14.2	15.1	13.4	7.2	14.3	15.7	14.0
10-14	0.0	17.0	13.4	12.6	0.0	17.8	14.7	13.6
15-19	0.0	12.3	12.7	10.6	0.0	12	11.1	9.8
20-24	0.0	12.5	12.2	10.5	0.0	10.8	12.3	10.0
25-29	0.0	9.1	10.0	8.2	0.0	9.2	10.4	8.5
30-34	0.0	9.0	8.8	7.6	0.0	8.9	6.9	6.6
35-39	0.0	7.6	5.4	5.3	0.0	6.6	5.3	5.0
40-44	0.0	5.1	3.9	3.7	0.0	4.7	4.6	4.0
45-49	0.0	3.2	3.3	2.8	0.0	3.3	2.6	2.5
50-54	0.0	3.2	2.6	2.4	0.0	3.7	3.2	2.9
55-59	0.0	1.8	1.4	1.3	0.0	3.0	2.0	2.0
60-64	0.0	2.2	1.5	1.5	0.0	2.0	1.6	1.5
65-69	0.0	1.4	0.6	0.8	0.0	1.5	1.1	1.1
70-74	0.0	0.3	0.7	0.5	0.0	1.0	0.5	0.6
75-79	0.0	0.6	0.2	0.3	0.0	0.4	0.1	0.2
80 and +	0.0	0.3	0.3	0.2	0.0	1.0	0.3	0.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of Individuals	853	1858	2994	5705	749	1775	2772	5296

Country of Birth

In 2018 TDHS-S, place of birth data was collected based on country and provinces. For the country of birth, a question is asked “In which country born?” followed by “In which province was born?” to get the information on the province of birth among Syrian migrants in Turkey. Table 4.8 presents the data on the country of birth variable according to background characteristics such as sex, broader age groups and residence. As per table, among the Syrian migrant population, individuals who were born in Syria constitutes the majority (84%), followed by the Syrian population who were born in Turkey with 16%. Drawing from this information and considering the percentages in age groups, it is possible to suggest that this population primarily composed of children born in Turkey after the conflict-induced migration. 0-14 age group whose country of birth is Turkey corresponds to 35%, while this ratio is very low in other age groups. The country of birth referred to as “Other” includes countries Iraq, Germany and Russian Federation but with very low percentages. Most of the migrants residing in both camp and non-camp regions are Syrian nationals. Nonetheless, people who were born in Turkey make up 20% of the Syrians who resides in the camp regions.

Table 4.8. Percent Distribution of Syrian Migrants’ Country of Birth by Sex, Broader Ages and Residence, 2018 TDHS-S

	Turkey	Syria	Other	Total	Number of Individuals
Sex					
Male	16.0	83.4	0.6	100.0	5747
Female	15.2	84.3	0.5	100.0	5329
Broader Ages					
0-14	34.6	64.9	0.5	100.0	4945
15-64	0.2	99.2	0.6	100.0	5900
65 and +	0.5	99.5	0.0	100.0	231

Table 4.8. (Continued) Percent Distribution of Syrian Migrants' Country of Birth by Sex, Broader Ages and Residence, 2018 TDHS-S

	Turkey	Syria	Other	Total	Number of Individuals
Residence					
Non-Camp	15.4	84.1	0.6	100.0	10590
Camp	20.3	79.2	0.5	100.0	486
Total	15.6	83.9	0.6	100.0	11076

Regions

Apart from the country of birth, information regarding the province of birth was also acquired from the 2018 TDHS-S. Administratively, the Syrian Arab Republic is structured into 14 governorates, 107 districts and 2480 subdistricts, nevertheless the data available pertains exclusively to the fourteen governorates. However, due to the considerable number of these governorates also for the ease of comparison in the majority of the following parts, these were recoded in the data with SPSS. Based on their geographical locations, the Syrian Arab Republic's fourteen governorates are divided into three primary regions. The areas that have been recoded are as follows: Central Syria (Hama, Homs, Latakia, and Tartus), North East Syria (Aleppo, Deir ez-Zor, Al-Hasakah, Idlib, and Raqqa), and South West Syria (Damascus, Daraa, Quneitra, Dimashq, and As-Suwayda). The five demographic areas of Turkey—West, South, Central, North, and East—are likewise represented by the grouping of 81 provinces; however, the North of Turkey was not included in the sampling as very few numbers of Syrians are residing in there.

The map in Figure 4.3 below, illustrates all of the 14 governorates of Syria as well as the newly categorized 3 regions of the Syrian Arab Republic. The map clearly shows Turkey shares borders with five governorates in Syria, namely, Latakia, Idlib, Aleppo, Raqqa and Al-Hasakah. Around 65% of the Syrian population in Turkey migrated from these governorates, with more than half of them originating from Aleppo alone. Following

Aleppo, the highest number of immigrants come from Idlib (7.4%), Hama (5.5%), and Homs (4.6%), respectively, albeit with significantly lower percentages.

Figure 4.3. Map of Syrian Arab Republic



Source: Map is obtained from UN Geospatial (2012) and modified for clarity and relevance.

When examining the geographical distribution of Syrian refugees in Turkey based on their arrival time in Turkey, Table 4.9 provides valuable information. In line with the table, the majority of immigrants from Aleppo migrated in years 2013 and 2014, accounts the 52% of total arrivals from this governorate. While the bulk of individuals migrating from Idlib, Hama, Hasakah, Quneitra, Tartus and Dimashq appears to be arriving in 2013; from Damascus, Homs and Raqqa arrived the majority of people migrated in 2015 during the heightened times of the civil war. On the other hand, it is also observed that 32% of those from Deir Ez-Zor migrated to Turkey in 2017 and 60% of those from Daraa arrived to Turkey in 2018. Variations in the migration flow from different governorates over the years may be attributed to the shifting dynamics of conflict across various regions in the country.

Table 4.9. Percent Distribution of Syrian Refugees' Place of Arrival according to Their Timing of Migration, 2018 TDHS-S

	2006- 2010	2011	2012	2013	2014	2015	2016	2017	2018	Born in Turkey	Total	Number of Individuals
Damascus	0.00	0.8	7.9	14.8	18.5	28.6	8.8	13.6	6.9	0.0	100.0	409
Daraa	0.00	0.0	0.0	0.0	5.8	19.8	5.0	9.9	59.5	0.0	100.0	44
Deir Ez-Zor	0.00	1.1	1.3	4.2	8.5	20.5	14.3	32.3	17.7	0.0	100.0	412
Dimashq	0.00	3.1	9.4	28.7	26.3	6.3	6.3	13.6	6.3	0.0	100.0	104
Halep	0.20	2.1	11.0	27.3	25.0	16.3	12.0	4.1	1.9	0.0	100.0	5505
Hama	0.00	3.4	15.8	37.3	10.6	17.8	8.4	4.7	2.0	0.0	100.0	607
Hasakah	1.00	11.3	17.9	36.0	19.1	9.6	1.4	1.4	2.4	0.0	100.0	232
Homs	0.00	0.0	2.9	12.6	19.6	36.1	16.1	10.2	2.4	0.0	100.0	501
Idlib	0.00	3.1	17.1	31.0	10.5	14.1	11.5	3.9	8.7	0.0	100.0	813
Latakia	0.10	6.6	27.3	18.4	15.5	22.2	6.6	2.5	0.8	0.0	100.0	265
Raqqqa	0.30	0.0	6.0	12.2	22.3	27.6	19.6	8.1	3.9	0.0	100.0	367
Quneitra	0.00	0.0	13.4	43.3	0.0	10.0	3.4	20.0	10.0	0.0	100.0	11
Suwayda	0.00	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	2
Tartus	0.00	0.0	7.0	72.1	0.0	7.0	0.0	7.0	7.0	0.0	100.0	16
Total	0.10	2.0	9.6	21.4	17.8	15.6	10.0	5.5	3.4	14.6	100.0	10952

The aforementioned data is shown in Table 4.10 according to the background features of the Syrian migrants to Turkey, including sex, age groups, place of residency, and time of migration. As derived from the table, 66% of the Syrian migrants in Turkey was born and arrived from the governorates in North East Syria, followed by Central Syria with 13% and South West Syria with 5.2%. Regarding the regions in Turkey, the highest percentage belongs to East part with 6% followed by South region with 5.7%. The ratios for West 2.8% and Central 1.1% are comparatively lower than the other regions. The percentages of those arriving on a gender basis are almost similar to each other in both categories. When analyzed based on age, it is notable that the percentages within the 0-4 age group in the Turkish regions are significantly higher than other age categories. Among these children, the East region has the highest percentages reaching 30%, followed by the South region ranking second at 29%. The higher rates in these regions compared to the other

ones can be explained by their close proximity to Syria in terms of distance. Furthermore, examination of age groups according to Syrian regions also reveals that 0-4 age group has the lowest percentages for all regions. Among the 75-79 age group, the percentage that migrated from North East Syria is lower compared to other age groups, while the Central and South West Syria regions are elevated conversely. It is also observed from this age group again that 3.6% of the Syrian individuals were born in East part of Turkey. When the regions are analyzed by residence, it is observed that although the percentages of people living outside the camps is higher than those living in the camps, among the individuals living in camps, only people coming from the East and South regions are encountered. Regarding the timing of migration, it is evident that the predominant share of arrivals, both preceding and following the conflict, originated from the North East region of Syria, pursued by Central and South West Syrian regions.

Table 4.10. Percent Distribution of Syrian Refugee's Regions by Sex, Age Groups, Residence and Timing of Migration, According to Regions, 2018 TDHS-S

Sex	Syrian Regions			Turkish Regions				Total	Number of Individuals
	North East Syria	Central Syria	South West Syria	West	South	Central	East		
Male	65.8	12.6	5.5	2.7	5.8	1.2	6.4	100.0	5713
Female	67.4	12.6	4.8	3.0	5.6	1.0	5.6	100.0	5302
Age									
0-4	15.4	2.4	1.6	15.3	29.2	6.1	30.1	100.0	1978
5-9	74.2	13.1	5.1	0.5	3.2	0.0	4.0	100.0	1505
10-14	81.1	13.9	4.9	0.0	0.0	0.0	0.1	100.0	1435
15-19	83.1	12.1	4.8	0.0	0.0	0.0	0.0	100.0	1123
20-24	78.4	14.7	6.8	0.0	0.0	0.0	0.1	100.0	1121
25-29	73.9	17.9	8.0	0.0	0.0	0.0	0.2	100.0	917
30-34	75.4	16.0	8.1	0.0	0.1	0.0	0.3	100.0	778
35-39	77.8	17.0	5.2	0.0	0.0	0.0	0.0	100.0	569
40-44	78.8	14.9	6.1	0.0	0.0	0.0	0.3	100.0	420
45-49	78.4	15.9	5.3	0.0	0.4	0.0	0.0	100.0	290
50-54	76.6	18.0	5.4	0.0	0.0	0.0	0.0	100.0	291
55-59	76.6	16.0	5.7	0.6	0.6	0.0	0.6	100.0	187
60-64	75.2	14.2	9.3	0.0	0.6	0.0	0.6	100.0	169
65-69	76.5	18.0	5.4	0.0	0.0	0.0	0.0	100.0	101
70-74	81.0	13.5	5.5	0.0	0.0	0.0	0.0	100.0	59
75-79	51.8	33.8	10.8	0.0	0.0	0.0	3.6	100.0	30
80 and +	75.9	21.4	2.7	0.0	0.0	0.0	0.0	100.0	41
Residence									
Non-Camp	67.1	12.1	5.3	2.9	5.6	1.1	5.8	100.0	10531
Camp	53.5	23.3	2.8	0.1	9.0	0.0	11.4	100.0	484
Timing of Migration									
Born in Turkey	0.0	0.0	0.0	18.6	37.3	7.3	36.8	100.0	1602
Pre-2014 Migration	80.0	15.8	4.1	0.0	0.0	0.0	0.1	100.0	229
Post-2014 Migration	77.3	14.3	7.4	0.1	0.2	0.0	0.8	100.0	9122
Total	66.2	12.5	5.2	2.8	5.7	1.1	6.0	100.0	11015

Country of Citizenship

The country citizenship variable reveals the specific citizenship to which the Syrian refugee in Turkey is affiliated. As can be observed from Table 4.11, while 83% of Syrians are citizens of the Syrian Arab Republic, just 1% of them have Turkish citizenship based on the data collected during the time of the interview. A noticeable outcome shows that 16% of individuals either self-identify or refer to their relatives as stateless. The prevalence of statelessness particularly conspicuous among the children aged 0-4 comprising 78%, followed by 5-9 age group with 9.7%. Furthermore, it is also observed that Syrian citizenship in the 0-4 age group is comparatively low at 19.2% when juxtaposed with statelessness. However, in the subsequent age group of 5-9, Syrian citizenship reaches to 89% signifying that due to the impact of conflict and migration, parents may not have promptly register and secure citizenship for their children but acquired it at a later stage. On the other hand, stateless individuals also elevated based on the gender and residence surges to 16% and in camp areas it is increased to 20%. As per the percentage distribution results based on the overall column total, Syrian individuals with Turkish citizenship, despite the relatively smaller observations, exhibit the highest number of observations in 0-4, 5-9 and 10-14 age groups, accounting for 37%, 16% and 14%. respectively.

Table 4.11. Percent Distribution of Syrian Refugees' Country of Citizenship by Sex, Age Groups and Residence, 2018 TDHS-S

Sex	Stateless	Turkey	Syria	Other	Total
Male	16.0	1.1	82.0	0.9	100.0
Female	15.4	0.9	82.9	0.9	100.0
Total	15.7	1.0	82.5	0.9	100.0
Age					
0-4	78.3	2.0	19.2	0.5	100.0
5-9	9.7	1.2	88.5	0.6	100.0
10-14	1.1	1.1	96.8	1.1	100.0
15-19	0.4	0.1	98.6	0.9	100.0
20-24	0.1	0.4	98.8	0.7	100.0
25-29	0.1	0.7	97.9	1.3	100.0
30-34	0.3	1.0	97.5	1.3	100.0
35-39	0.2	1.1	97.9	0.8	100.0
40-44	0.0	1.1	97.3	1.6	100.0
45-49	0.7	0.0	98.1	1.1	100.0
50-54	0.4	0.0	98.9	0.7	100.0
55-59	0.6	1.8	96.5	1.2	100.0
60-64	1.3	0.6	95.5	2.6	100.0
65-69	0.0	0.0	100.0	0.0	100.0
70-74	0.0	0.0	100.0	0.0	100.0
75-79	0.0	0.0	96.4	3.6	100.0
80 and +	0.0	0.0	100.0	0.0	100.0
Residence					
Non-Camp	15.5	1.0	82.6	0.9	100.0
Camp	19.9	0.1	79.6	0.4	100.0
Total	15.7	1.0	82.5	0.9	100.0
Number of Individuals	1737	107	9133	99	11076

Temporary Protection Status and Identity Document

In the 2018 TDHS-S, Syrian refugees were asked whether they have identity documents and temporary protection status. The answers to these questions were presented in Table 4.12 according to sex and age groups. As per table, Syrians in Turkey with identity documents constitute 95%, while the 99.5% of them having temporary protection status at the time of the interview. Therefore, it is clear that the predominant number of Syrians in Turkey possess both identity documents and temporary protection status. Regarding sex, 94% of the males and 95% of females have identity documents in total, while the proportion who have temporary protection status corresponds to 99.5% for both sexes.

Temporary protection status is granted to any Syrian nationals, migrants or stateless persons who are coming to Turkey from Syria under the normal circumstances to seek protection from the authorities as a part of the temporary protection regime. Table 4.12 below shows comparable data regarding the status of temporary protection in accordance with this information. The majority of Syrian migrants residing in Turkey, as indicated by the table, are covered by temporary protection status. Just 0.3% of Syrians do not have temporary protection status, compared to 94% who have.

Syrian migrants who are admitted to Turkey have a registration procedure where they are issued a temporary protection identification document. This identity document verifies the individual's status as a temporary protection beneficiary. It includes a Foreigners Identification Number (YKN) provided by the Directorate General of Population and Citizenship Affairs, which facilitates access to government services for legal migrants. As Table 4.12 shows that, 94% of the Syrian migrants have this document and only 5.1% lack an identity document. Consequently, since most Syrian migrants reside in Turkey lawfully, they are able to take advantage of the services offered.

Table 4.12. Percent Distribution of Syrian Refugees Who Have Identity Document and Temporary Protection Status by Sex and Age Groups, 2018 TDHS-S

Sex	Having Identity Document			Having Temporary Protection		
	Yes	No	Number of Individuals	Yes	No	Number of Individuals
Male	94.3	5.7	5705	99.5	0.5	5378
Female	94.7	5.3	5296	99.5	0.5	5016
Age						
0-4	92.6	7.4	1945	99.6	0.4	1801
5-9	97.0	3.0	1508	99.8	0.2	1464
10-14	96.5	3.5	1440	99.5	0.5	1389
15-19	92.4	7.6	1128	99.6	0.4	1041
20-24	91.8	8.2	1128	99.5	0.5	1035
25-29	91.2	8.8	922	99.2	0.8	841
30-34	95.7	4.3	778	98.8	1.2	744
35-39	95.9	4.1	569	99.6	0.4	546
40-44	96.6	3.4	420	99.2	0.8	405
45-49	96.5	3.5	291	98.8	1.2	281
50-54	95.5	4.5	291	99.6	0.4	278
55-59	96.4	3.6	183	100.0	0.0	177
60-64	98.0	2.0	167	99.3	0.7	163
65-69	100.0	0.0	101	98.9	1.1	101
70-74	98.2	1.8	59	100.0	0.0	58
75-79	100.0	0.0	29	100.0	0.0	29
80 and +	97.3	2.7	41	100.0	0.0	40
Total	94.5	5.5	11000	99.5	0.5	10394

4.1.2. A Demographic Profile of Syrian Women in Turkey

Mother Tongue (Ethnicity)

Mother tongue of Syrian women not just present the linguistic diversity within this demographic but also provide information about their ethnicity and cultural background since it is typically learned from family and community reflecting the cultural heritage and identity.

The information on mother tongue, namely, ethnic background is illustrated in Table 4.13. Based on it, Syrian women mainly originated from three different ethnic groups which are Turkish, Kurdish and Arabic. Arab women in Turkey constitutes the highest proportion with 86%, followed by Kurdish women standing at 8.4% and Turkish women with 4.2%. Other ethnicities correspond to 1.3% and has a smaller proportion. In terms of age groups, it is observable that a significant proportion of women are situated within the younger age cohorts for all ethnic origins. 20-24 age group has the highest percentages of women having 27% of Kurdish and 21% for Arabic and Turkish women. Besides that, 45-49 age group has the lowest percentages across all women except women outside these three categories defined as ‘other’ with 14.5%. Based on birthplace, the data shows that most Arabic-speaking women (79%) are from North East Syria, with Central Syria (15%) and South West Syria (6.5%) coming in second and third, respectively. Turkish-speaking Syrian women also have a similar pattern as the 83.2% accounting for North East Syria, followed by Central Syria with 14% and 2.5% of Central Syria. On the other hand, almost all Kurdish-speaking women originate North East Syria comprising 98% of the total.

Table 4.13. Percent Distribution of the Ethnicity of Syrian Women by Age and Regions, 2018 TDHS-S

	Turkish	Kurdish	Arabic	Other	Total
Age					
15-19	17.1	17.5	21.8	10.8	21.1
20-24	20.7	27.4	20.9	21.6	21.5
25-29	11.6	21.6	17.8	20.5	17.9
30-34	15.0	12.2	15.1	7.3	14.7
35-39	11.6	12.7	10.8	14.5	11.1
40-44	15.0	5.7	8.1	10.8	8.2
45-49	9.0	2.9	5.5	14.5	5.5
Total	100.0	100.0	100.0	100.0	100.0
Regions					
North East Syria	83.2	98.3	78.6	79.6	80.5
Central Syria	14.3	0.6	14.9	16.8	13.7
South West Syria	2.5	1.1	6.5	3.6	5.9
Total	100.0	100.0	100.0	100.0	100.0
Number of Women	94	186	1907	29	2216

Literacy

Literacy is used here based on the DHS definition which describes whether a respondent who attended primary and secondary schooling can read a whole or part of sentence” or “a respondent who attained higher education ... could read a whole sentence” that are shown to them during the interview (ICF, 2018). Table 4.14 presents the literacy rates of Syrian women residing in Turkey between the ages of 15 and 49, categorized by various background variables. The table shows that 22% of Syrians are completely illiterate, whereas 78% of people are literate. Of the literate women, 67% could read the entire sentence, whereas 11% could only read some passages.

In all age groups, percentage of literacy is higher than the proportion that cannot read. Specifically, literacy is higher in young age groups of 20-24 and 15-19. Among 20-24 age group, 86% of women are literate, while 14% cannot read at all. For women in 45-49 age group, the percentage of being unable to read is also quite high, accounting for 45%. Based on place of residence, women who are literate is 83%, while 17% of women are illiterate. On the other hand, in non-camp area, women who cannot read at all is slightly higher with 22%. Being literate and illiterate do not change much according to marital status, as the corresponding values are more or less the same. However, based on place of birth, women who arrived from North East Syria has the highest proportion of illiteracy in comparison with the other regions, standing at 25%. Among women from poorer backgrounds, the proportion of illiteracy is high with 31%, while this tends to decrease as the wealth status improves dropping to 13% among women from richer households.

Table 4.14. Percent Distribution of Literacy of Women Age 15-49 by Age Group, Residence, Marital Status, Regions and Wealth Status, 2018 TDHS-S

	Cannot Read at All	Blind/Visually Impaired	Literate	Total	Number of Women
Age					
15-19	19.1	0.0	80.9	100.0	467
20-24	13.7	0.0	86.3	100.0	476
25-29	20.4	0.0	79.6	100.0	397
30-34	24.1	0.0	75.9	100.0	326
35-39	28.5	0.1	71.3	100.0	245
40-44	24.9	0.0	75.1	100.0	183
45-49	45.1	0.0	54.9	100.0	123
Residence					
Camp	16.9	0.4	82.6	100.0	90
Non-Camp	22.1	0.0	77.9	100.0	2126

Table 4.14. (Continued) Percent Distribution of Literacy of Women Age 15-49 by Age Group, Residence, Marital Status, Regions and Wealth Status, 2018 TDHS-S

	Cannot Read at All	Blind/Visually Impaired	Literate	Total	Number of Women
Marital Status					
Never Married	21.5	0.1	78.4	100.0	369
Married	21.9	0.0	78.1	100.0	1734
Divorced/Widowed/Separated	23.3	0.0	76.7	100.0	113
Regions					
North East Syria	25.2	0.0	74.7	100.0	1771
Central Syria	8.1	0.0	91.9	100.0	301
South West Syria	8.2	0.0	91.8	100.0	129
Wealth Status					
Low	31.0	0.0	69.0	100.0	734
Middle	22.2	0.0	77.8	100.0	735
High	12.6	0.0	87.4	100.0	747
Total	21.9	0.0	78.1	100.0	2216

Employment Status

Based on the findings, the majority of 15-49 aged Syrian women residing in Turkey were unemployed during the time of the research. Out of 2216 women, 2023 of them (91%,) were not working, while only 193 women (8.7%) were working in a job. As presented in Table 4.15, among working women, the highest percentage belongs to women aged 15-19 with 19%, followed by 18% of 30-34 age group. Conversely, among those who are not working, women in the youngest age groups of 15-19 and 20-24 constitute the majority with 21% and 22%, respectively. In the context of marital status, the highest proportion of unemployed is found among married women, comprising 80% of the total. Similarly, married women also constitute the largest segment within the working category, accounting for 58% of the total, followed by never-married women at 33%. Regarding

education, among women who are working and those who are not, those who finished primary school have the highest percentages, with figures reaching 40% and 48%, respectively. The percentage of employed women, even among those who have completed high school or further education, is only 11%. Lastly, among both employed and unemployed women, the highest percentages are attributed to those who migrated after 2014. Among employed women, 59% are those who immigrated to Turkey after 2014.

Table 4.15. Percent Distribution of the Employment Status of Women Age 15-49 by Age, Marital Status, Education and Timing of Migration, 2018 TDHS-S

	Not Currently Working	Currently Working	Total
Age			
15-19	21.3	18.9	21.1
20-24	21.9	16.9	21.5
25-29	18.1	16.3	17.9
30-34	14.5	17.5	14.7
35-39	10.7	15.2	11.1
40-44	7.9	11.6	8.2
45-49	5.7	3.5	5.5
Total	100.0	100.0	100.0
Marital Status			
Never Married	15.1	32.9	16.6
Married	80.2	57.5	78.3
Divorced/Widowed/Separated	4.7	9.6	5.1
Total	100.0	100.0	100.0
Education Level			
No Educ./Prim. Incomp.	18.5	26.5	19.2
Primary	47.9	40.4	47.2
Secondary	19.9	15.5	19.5
High School/Higher	13.7	17.6	14.0
Total	100.0	100.0	100.0

Table 4.15. (Continued) Percent Distribution of the Employment Status of Women Age 15-49 by Age, Marital Status, Education and Timing of Migration, 2018 TDHS-S

	Not Currently Working	Currently Working	Total
Timing of Migration			
Born in Turkey	0.0	0.0	0.0
Pre-2014 Migration	38.8	41.3	39.0
Post-2014 Migration	61.2	58.7	61.0
Total	100.0	100.0	100.0
Number of Women	2023	193	2216

4.1.3. Fertility Analysis: Key Factors on Fertility Patterns among Syrian Refugee Women in Turkey

This section of the thesis examines and analyzes diverse factors affecting the fertility behaviors and trends among Syrian women in Turkey and aims to present a descriptive analysis of fertility. The chapter comprises three subsections and in the initial subheading, the characteristics of women pertaining to marriage are investigated, encompassing marital status, place of marriage relative to the migration, age at first cohabitation, median age at first marriage (MAAFM) and incidences of polygamy. In the subsequent subsection, the focus shifts to the fertility behaviors exhibited by women, delving into significant aspects such as the total number of CEB, age-specific and total fertility rates (ASFR and TFR) and age at first childbirth. In the third segment, women's use of contraceptive methods is emphasized, their knowledge of various contraceptive methods, ever and current usage of methods are scrutinized. Regarding the related sections, the pre-conflict fertility data will also be presented and significant changes will be compared with the post-migration period, if relevant information is available in the 2009 SFHS or 2006 SMICS data.

4.1.3.1. Marriage Factors

Marital Status

The percentages of women aged 15 to 49 by present married status, subdivided by different background variables, are displayed in Table 4.16 below. According to the information illustrated in the table, the majority of the Syrian women in Turkey age 15-49 are married with a 78%, while the 17% have never married, 2.7% widowed, 1.5% divorced and 0.9% are separated. Women who are never married sharply declines as the age of women increase. While the proportion of single people in the 15–19 age group is 51%, it decreases to 12% in the 20–24 age group and 6% in the 25–29 age group. The percentages for women in their late 30s and early 40s drop even more, to 4.7% and 3.6%, respectively. Women who are widowed has the highest percentage in the 40-44 age group with an 8.1%, while women in the 15-19 age range have this occurrence less frequently (0.7%). Divorce and separation are also seen rarely for the Syrian migrant women as their percentages are comparatively lower than the other marital status categories.

Regarding place of residence, 75% of women who are living in camps are married, while the percentage is 78.4 in the non-camp areas. As for the education level, it is noticeable from the table that the marriage percentages of uneducated and educated women are generally close to each other in each category.

Before the conflict, the marital status distribution in Syria based on the 2009 Syria Family Health Survey, showed similar percentages of married and divorced women, while the percentage of widowhood is 1.8%. It is noticeable that in post-conflict period, this proportion increases up to 2.7%, while the percentage of separated women has risen from 0.2% to 0.9%. Based on age groups, especially for women in 30-34 and 40-44 age categories, the widowhood corresponds to 1.1% and 3.2% respectively in the pre-conflict period in Syria, whereas these percentages are 4.5% and 8.1% in the post-conflict period.

Table 4.16. Percent Distribution of Syrian Women’s Marital Status by Age Groups, Place of Residence and Educational Attainment, 2018 TDHS-S

Age	Never Married	Married	Widowed	Divorced	Separated	Total	Number of Women
15-19	51.4	46.4	0.7	0.9	0.7	100.0	467
20-24	11.6	84.9	1.0	2.3	0.2	100.0	476
25-29	6.0	91.0	1.6	1.2	0.3	100.0	397
30-34	7.9	84.4	4.5	1.9	1.3	100.0	326
35-39	4.7	88.1	3.9	2.0	1.3	100.0	245
40-44	4.5	84.3	8.1	0.6	2.5	100.0	183
45-49	3.6	87.5	5.4	1.7	1.7	100.0	123
Residence							
Camp	19.9	75	3.1	1.6	0.4	100	90
Non-Camp	16.5	78.4	2.7	1.5	0.9	100	2126
Education Level							
No Education/Prim.							
Incom.	17.9	77.8	2.1	1.3	0.8	100.0	426
Primary	14.1	80.0	3.4	1.5	1.0	100.0	1047
Secondary	19.0	75.5	2.8	1.7	1.0	100.0	433
High Sch./Higher	20.2	76.7	1.0	1.8	0.3	100.0	311
Total	16.6	78.3	2.7	1.5	0.9	100.0	2216

Age at First Cohabitation (Marriage)

Age at first cohabitation refers to women who were first married or have a consensual union at specific exact ages. Notably, the proportion of individuals prior to the ages 15 and 18 is significant as such marriages are recognized as ‘child marriages’ (UNICEF, 2022). The percentage of women in the 15–49 age group who were married for the first time by the precise ages of 15, 18, 20, 22, and 25 is displayed in Table 4.17 below, along with the matching percentage of women who have never married.

In the light of the information that is obtained from the table, 11% of Syrian women age 20-49 are married before 15 years old, while the 40% of them are married before 18 years old. Among women in 25-49 age group, 55% of them marry by age 20 and 83% marry by

age 25, and the percentages who enter marriage before the ages of 15 and 18 are respectively, 12% and 38%. Among the 15-19 age group, the percentage is high as the 13 out of every 100 girls are married before the age of 15, while the proportion is 9.2% for 20-24 age group and 7.4% for 25-29 age group. It is also noted that as the age at first cohabitation increases, the proportion of women marrying at these precise ages also rises. Consequently, it seems that more than 80% of women in all age categories get married before the age of 25.

MAAFM is 18 years for 20-49 age group and 19 years for 25-49 age group women meaning that half of the women in this age group marry before the ages of 18 and 19 respectively. Mean age at first marriage is 19.5 years for 20-49 age group and 20 years for 25-49 age group women generally higher than the median ages, indicating that there are some women within these age groups who marry at older ages pulling the average higher.

Based on the 2009 SFHS, 7.8% of Syrian women between the ages of 20 and 29 get married before turning 15, while women who marry before 18 years old is 33%, having lower proportions compared to the post-conflict period. MAAFM for age groups 20-24, 25-29 and 25-29 remained consistent at 18, 19 and 19 years in both pre-conflict and post-conflict periods. On the other hand, for 40-44 and 45-49 age group, Syrian women seemed to marry 2 years later in the pre-conflict period, corresponding to 20 and 19, respectively.

Table 4.17. Percent Distribution of Women Age 15-49 who were First Married by Specific Exact Ages, Mean and Median Age at First Marriage by Current Age, 2018 TDHS-S

Current Age	15	18	20	22	25	Never Married	Number of Women	Median Age at First Marriage	Mean Age at First Marriage
15-19	13.4	na	na	na	na	51.4	467	a	a
20-24	9.2	44.8	70.7	na	na	11.6	476	18.0	18.0
25-29	7.4	40.4	56.4	71.4	89.1	6.0	397	19.0	19.2
30-34	10.1	33.4	49.7	63.6	79.0	7.9	326	20.0	20.5
35-39	13.2	32.5	52.9	67.7	80.7	4.7	245	19.0	20.5
40-44	14.2	41.9	59.4	70.8	81.2	4.5	183	18.0	20.1
45-49	24.1	50.2	61.1	73.4	84.0	3.6	123	17.0	19.8
20-49	11.1	40.0	59.2	na	na	7.4	1749	18.0	19.5
25-49	11.8	38.3	54.9	68.8	83.3	5.8	1273	19.0	20.0

Median Age at First Marriage (MAAFM)

Table 4.18 demonstrates the MAAFMs of Syrian women in Turkey age 15-49 according to the background characteristics. For women age 20-49 and 25-49, MAAFMs for those who married before the migration is 18 years, while it corresponds to 20 years and 24 years respectively, for those who married after the migration to Turkey. The elevated median age within the 25-49 age group women following the migration underscores the influence of migration on marriage dynamics. According to educational attainment, women who marry at a median age of 21 years for those who have completed high school or higher education, and 18 years for those who have not completed elementary school or have no education at all. There have also been some regional variations in the patterns of marriage. Additionally, there have been variations in the MAAFMs between different

geographic areas. The highest MAAFm among women from South West Syria who arrived in Turkey is 20 years for both age groups. However, it is two years lower in North East Syria and Central Syria regions for women aged 20-49.

Table 4.18. Median Age of First Marriage for Women Aged 20-49 and 25-49 by Background Characteristics, 2018 TDHS-S

	Age of Women	
	20-49	25-49
Timing of First Marriage by Migration		
Married Before Migration	18.0	18.0
Married After Migration	20.0	24.0
Residence		
Camp	19.0	19.0
Non-Camp	18.0	19.0
Education Level		
No Educ. / Prim. Incomp.	18.0	18.0
Primary	18.0	18.0
Secondary	18.0	19.0
High School / Higher	a	21.0
Regions		
North East Syria	18.0	19.0
Central Syria	18.0	19.0
South West Syria	20.0	20.0
Total	18.0	19.0

Timing of First Marriage by Migration

A significant variable that can be obtained from the dataset is the proportion of Syrian refugee women who get married prior to migrating to Turkey (in Syria) or after migrating to Turkey (in Turkey). The percent distribution of those women is shown in Table 4.19

for various background variables, including the women's age, duration of stay in Turkey, place of birth, and wealth status. In regard to this, women in the 15–19 and 20–24 age categories make up 79% of the Syrian refugee women who are married in Turkey. There is a notable disparity in the percentages of marriages occurring in Turkey within the 15-19 age group, with a substantial 35%, whereas the corresponding percentage among women marrying in Syria is merely 3.3%. The fact that 12% of the marriages among the 35 percent are in the 15-17 age group indicates the prevalence of early marriages among Syrian adolescents following their immigration to Turkey. On the other hand, women who experienced their first marriage in Syria exhibits slightly higher percentages in the 25-29 and 30-34 age groups with 23% and 21% compared to other age groups.

Among the women who get married in Turkey, 66% have residing in Turkey for 3-5 years, a proportion similar to that of women who experienced their initial marriage in Syria, standing at 62%. In terms of place of birth, the majority of women who both married in Syria and Turkey arrived from North East Syria region (more than 79%), followed by Central Syria (more than 13%). Regarding the wealth status of women, middle wealth level stands out as the highest among women who married in Turkey with 36%, while for women who married in Syria, wealth levels have similar proportions to each other.

Table 4.19. Percent Distribution of Syrian Women's Timing of First Marriage by Migration according to Age, Duration of Stay in Turkey, Place of Birth and Wealth Status, 2018-TDHS-S

	Married Before Migration	Married After Migration	Total
Age			
15-19	3.3	35.3	21.1
15-17	0.8	12.2	11.2
18-19	2.5	23.1	9.9
20-24	14.4	44.1	21.5
25-29	22.6	14.2	17.9
30-34	21.0	4.3	14.7
35-39	17.0	1.5	11.1
40-44	12.9	0.3	8.2
45-49	8.7	0.3	5.5
Total	100.0	100.0	100.0
Duration of Stay			
0-2 Years	25.6	17.5	22.3
3-5 Years	62.3	66.3	63.7
6+ Years	12.1	16.2	14.0
Total	100.0	100.0	100.0
Regions			
North East Syria	78.8	82.2	80.5
Central Syria	14.7	12.5	13.7
South West Syria	6.5	5.2	5.9
Total	100.0	100.0	100.0
Wealth Status			
Low	33.9	29.0	33.1
Middle	32.6	35.9	33.2
High	33.5	35.1	33.7
Total	100.0	100.0	100.0
Number of Women	1327	518	2216

Polygyny

The state of polygynous marriages in the DHS is indicated by the married women who declare in their interviews that their husbands have other spouses. In Table 4.20, the results were presented according to the background characteristics. According to the tabulated data, 9.8% of married Syrian women residing in Turkey report that their husbands maintain polygamous relationships with a second wife. The frequency of occurrence especially highest for women over the 30-34 age group reaching to 17% for 35-39 and 45-49 age groups. Regarding residence, women living in camp facilities exhibit a higher prevalence of involvement in being a polygynous union compared to their counterparts living outside camp areas. By region, Syrians who arrived to Turkey from the governorates located in South West Syria has a higher proportion of polygynous unions than the other regions. Educational attainment of women is a significant determinant influencing the incidence of polygamous unions. Specifically, women lacking education or possessing only primary-level education has the highest proportions of being a co-wife with 12% and 11% respectively, while women with secondary or higher educational backgrounds demonstrate lower percentages standing at 5.9% and 9.1% respectively.

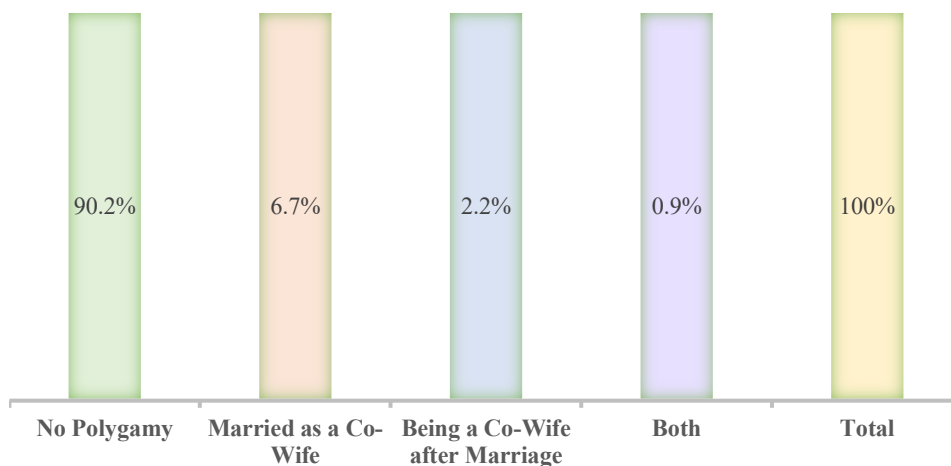
In the 2009 SFHS data, information regarding polygynous marriages is also available and 5.2% women remarked that there was a second wife. Similar with the post-conflict period, women with no formal education have the highest proportions of being a second wife (9.8%). As education level increase, the incidences of being second wife decreases significantly, with only 2.4% of Syrian refugee women who have attained high school level or more reporting this. In terms of residence, it stands at 4.1% in Syria's urban areas and 6.6% in its rural areas.

Table 4.20. Percent Distribution of Currently Married Syrian Women Age 15-49 with a Second Wife by Age Groups, Residence, Regions and Education, 2018 TDHS-S

Age	No Second Wife	A Second Wife	Total	Number of Women
15-19	95.1	4.9	100	216
20-24	95.4	4.6	100	404
25-29	92.8	7.2	100	361
30-34	84.8	15.2	100	275
35-39	83.5	16.5	100	216
40-44	87.7	12.3	100	154
45-49	83.6	16.4	100	107
Residence				
Camp	85.3	14.7	100	67
Non-Camp	90.4	9.6	100	1667
Regions				
North East Syria	90.1	9.9	100	1374
Central Syria	90.9	9.1	100	243
South West Syria	89.0	11.0	100	105
Education Level				
No Educ./Prim. Incomp.	88.1	11.9	100	331
Primary	89.4	10.6	100	838
Secondary	94.1	5.9	100	327
High School/Higher	90.9	9.1	100	238
Total	90.2	9.8	100	1734

Meanwhile, Figure 4.4 illustrates the status of polygamy and timing of the co-wife situation among Syrian women residing in Turkey. Based on the table, among the 9.8% of polygamy, 2.2% of women become a co-wife after the marriage, 6.7% married as a co-wife and 0.9% of women have experienced both situations.

Figure 4.4. Percent Distribution of Polygamous Marriages among Syrian Refugee Women Aged 15-49, 2018 TDHS-S



4.1.3.2. Fertility Factors

Children Ever Born (CEB)

The total number of children a woman has given birth in her lifetime is known as CEB. It is a crucial measure for assessing fertility patterns within a population, thus providing insights into the reproductive behaviors of women over time. Table 4.21 shows the number of children born to Syrian women who are currently married, ranging from 0 to 7+, based on age groups and marital location. The distribution of CEB by age groups in the table shows that 26% of Syrian women have never given birth, however among married women, the percentage reduces to 10%. It is observed that the percentage of women who have never given birth decreases as women get older. Among all women aged 15-19, the highest proportion at 69%, comprises those who have never experienced childbirth. In contrast, among currently married women, the highest proportion, at 40%, is represented by those with a single child. In the 20-24 age group, there is a higher proportion of women who have two children, whereas the prevalence of women with three children is higher in the 25-29 age group among all women and currently married women.

Mean number of CEB among all Syrian women is 2.7, whereas it stands at 3.2 among currently married Syrian women. The first number includes women who may no longer be married or are not currently in union and indicate that, on average, each Syrian woman has given birth to approximately 2.7 children. Conversely, 3.2 reflects the fertility behavior of the currently married women who are likely to be in their childbearing years. Syrian women who are currently married have a greater mean number of CEB to them overall, suggesting that marital status is linked to increased fertility rates. As they get closer to the end of their reproductive years, the mean number of CEB for women in the 45–49 age group increases, reaching 6 for all women and 6.4 for married women. Additionally, among all women who married in Syria, mean number of children is 4 children, whereas for those who married in Turkey, this figure corresponds to 1. For currently married women, the corresponding numbers are slightly higher, but they do not change drastically.

2006 MICS data reveals that 49% of all women and 7.8% currently married women had never given birth in the pre-conflict period. On the other hand, women with 3 or more children have noticeably higher as percentages for each category prior to conflict compared to the period in Turkey. This situation is especially noticeable for women who have 7 or more children reaching to 16%, while it is approximately 10% in Turkey. Among currently married women aged 15-19, the childless percentage is 49%, while women with 1 child is 35%, indicating early marriage practices and early childbearing.

Table 4.21. Percent Distribution of All Women and Currently Married Women Age 15-49 by Number of Children Ever Born and Mean Number of Children Ever Born, according to Age Group and Place of Marriage, 2018 TDHS, S

All Women											
Age	0	1	2	3	4	5	6	7+	Total	Number of Women	Mean Number of CEB
15-19	69.4	18.6	10.3	1.7	0.0	0.0	0.0	0.0	100.0	467	0.44
20-24	24.6	25.7	31.0	14.3	3.7	0.8	0.0	0.0	100.0	476	1.49
25-29	12.5	13.2	20.4	25.8	16.8	8.1	2.7	0.4	100.0	397	2.58
30-34	11.2	6.5	13.4	19.7	22.0	12.6	8.5	6.1	100.0	326	3.42
35-39	8.3	3.2	4.9	12.9	17.2	15.2	16.4	21.8	100.0	245	4.79
40-44	7.8	2.3	4.8	7.1	12.9	19.9	16.7	28.5	100.0	183	5.14
45-49	7.4	1.7	4.0	1.7	7.7	18.7	14.4	44.4	100.0	123	6.02
Timing of Mar. by Mig.											
Married Before Migration	4.1	7.1	16.1	19.3	17.2	13.0	9.5	13.7	100.0	1327	4.01
Married After Migration	28.5	39.1	25.3	6.3	0.6	0.2	0.0	0.0	100.0	518	1.12
Total	25.8	13.4	15.6	13.0	10.4	7.8	5.7	8.2	100.0	2216	2.67
Currently Married Women											
15-19	37.0	39.7	19.7	3.6	0.0	0.0	0.0	0.0	100.0	216	0.90
20-24	13.6	28.9	35.6	16.8	4.1	1.0	0.0	0.0	100.0	404	1.72
25-29	6.8	13.7	21.6	27.8	17.9	8.9	3.0	0.4	100.0	361	2.77
30-34	2.8	5.4	14.2	21.7	24.1	14.6	10.1	7.2	100.0	275	3.84
35-39	3.1	3.6	5.1	13.0	18.9	16.3	16.7	23.3	100.0	216	5.02
40-44	2.3	2.1	5.0	8.4	11.2	22.2	18.5	30.4	100.0	154	5.47
45-49	3.3	2.0	2.6	2.0	7.8	19.4	13.5	49.4	100.0	107	6.43
Timing of Mar. by Mig.											
Married Before Migration	3.7	6.5	15.8	20.0	17.1	13.4	9.6	13.9	100.0	1231	4.05
Married After Migration	27.1	39.9	25.7	6.5	0.6	0.2	0.0	0.0	100.0	501	1.14
Total	10.4	16.1	18.8	16.1	12.3	9.6	6.8	9.9	100.0	1734	3.21

Fertility Rates

ASFR and TFR of Syrian women in Turkey are calculated three-year periods preceding the survey and presented in Table 4.22 below. According to the table, TFR of Syrian women in Turkey is 5.3 for three-years preceding the survey. The estimates which are

calculated more retrospectively shows that there is an overall decreasing trend of TFRs from 5.9 (2006-2003) to 5.3 (2018-2015) over the years and it is also observed that during the most heightened years of the conflict, namely, between 2009 and 2012, total fertility rate is lower compared to other periods which can be partially attributed to the consequences of civil war.

Table 4.22. Age-Specific and Total Fertility Rates for 3-Year Periods Preceding the Survey by Age Group, 2018 TDHS-S

Age Group	Number of Years Preceding the Survey				
	0-2	3-5	6-8	9-11	12-14
15-19	209	135	139	140	117
20-24	312	254	284	278	315
25-29	218	239	269	309	310
30-34	176	181	250	218	281
35-39	105	98	143	141	160
40-44	28	53	104	240	na
45-49	13	22	na	na	na
Total	1060	981	1190	1326	1183
TFR	5.3	4.9	5.9	6.6	5.9

Figure 4.5 displays the ASFRs for the various age groups. It increases sharply from 15-19 age group to the 20-24 age group reaching to the highest point. For 25-29 age group the fertility rate experiences a trough and for the following age groups this trend continues as the fertility rates descend continuously. 45-49 age group women has the lowest fertility rates among all women.

Figure 4.5. Age-Specific Fertility Rates of Syrian Women for 3 Years Preceding the Survey, 2018 TDHS-S

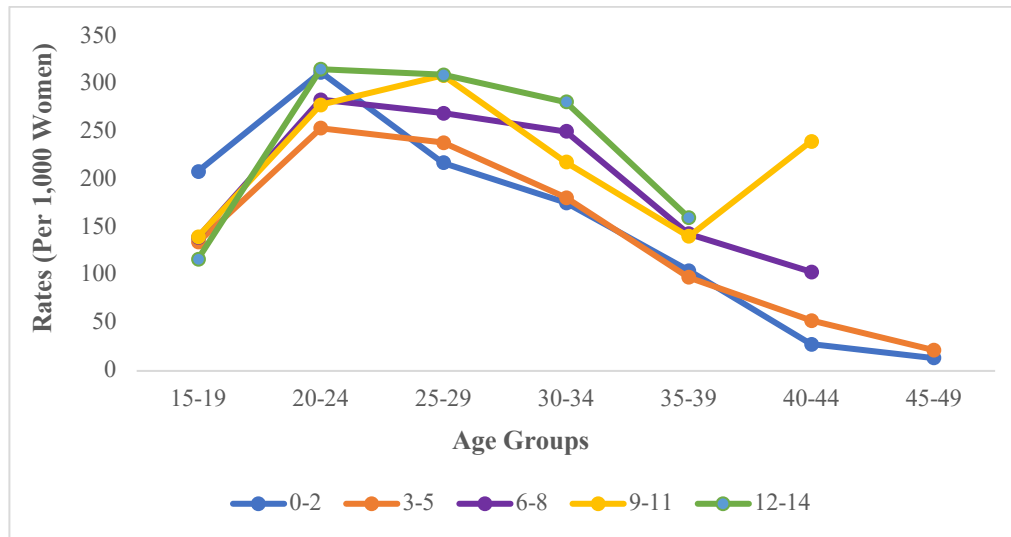


Table 4.23 below presents information on total fertility rates, percentage of women being pregnant at the time of the survey and CEB among women 40-49 age group, according to different background characteristics of Syrian refugee women. As demonstrated in the table, TFRs change according to the different features, but generally appears as a value close to 5.3. Women with low levels of education has the highest TFR with 5.8 compared to women who completed high school and higher education which is 4.1. Syrian women who migrated from North East Syria has the highest TFRs corresponding to 5.4 and it is observed that this rate decreases as moving down the Syrian map, namely, towards the south parts of Syria (4.6). TFR is also higher among women who have never worked and who are included in low or middle wealth status, compared to women who have experienced working and in the high-income groups.

On the other hand, 14% of the women were carrying children at the time of the study, and women in the 40-49 age group gave birth to 5.5 children on average. Highest proportions of currently pregnant women are observed among those with high school or higher education, arrived to Turkey from South West Syria, reside in non-camp areas, married

after migration, has never worked, belong to Arabic ethnic background and fall within the middle wealth status category. Nevertheless, the highest mean number of CEB to women aged 40-49 is found among those with no education or have incomplete primary education, originated from North East Syria, reside in non-camp areas, married prior to migration, have no work history, identify as Kurdish and fall within the low wealth status. Compared to Turkish and Arabic originated women, Kurdish women has a higher TFR standing at 5.9.

Table 4.23. Total Fertility Rates, Percent Distribution of Currently Pregnant Women Age 15-49 and Mean Number of Children Ever Born to Women Age 40-49, by Education, Regions, Residence, Timing of Marriage, Ever Worked Before, Ethnic Origin and Wealth Status, 2018 TDHS-S

	TFR	Percentage of Women Age 15-49 Currently Pregnant	Mean Number of CEB to Women Age 40-49
Education Level			
No Education/Primary Incomplete	5.8	13.1	6.2
Primary	5.5	13.5	5.6
Secondary	4.9	12.3	4.8
High School/Higher	4.1	16.5	3.9
Regions			
North East Syria	5.4	14.0	5.8
Central Syria	5.1	10.7	4.5
South West Syria	4.6	14.7	4.5
Residence			
Camp	5.5	11.0	4.6
Non-Camp	5.3	13.7	5.5
Worked Before			
Ever-Worked	4.2	13.3	5.4
Never Worked	5.7	13.7	5.6

Table 4.23. (Continued) Total Fertility Rates, Percent Distribution of Currently Pregnant Women Age 15-49 and Mean Number of Children Ever Born to Women Age 40-49, by Education, Regions, Residence, Timing of Marriage, Ever Worked Before, Ethnic Origin and Wealth Status, 2018 TDHS-S

	TFR	Percentage of Women Age 15-49 Currently Pregnant	Mean Number of CEB to Women Age 15-49
Ethnic Origin			
Turkish	5.0	7.1	5.2
Kurdish	5.9	11.3	5.9
Arabic	5.2	14.2	5.5
Other	6.3	10.8	4.8
Wealth Status			
Low	5.5	14.8	5.7
Middle	5.6	15.1	5.6
High	4.8	11.0	5.2
Total	5.3	13.6	5.5

Age at First Birth

Table 4.24 gives information about the percentages of women age 15-49 who had their first child according to their current age. Derived from the table, among women in 25-49 age group, 74% gave birth to their first child by age 25, 55% gave birth by age 22 and 39% have their first child by age 18. Additionally, 2.6% of women gave birth to their first child at age 15 and 19% of women gave birth to their first child at age 18.

Syrian women in Turkey, ages 25 to 49, gave birth to their first child by age 21. Based on these age groupings, the median age at first birth (MAAFB) is approximately 20 years for women in the 20–24 and 45–49 age groups, and approximately 22 years for women in the age ranges of 30-34 and 35–39.

Table 4.24. Percent Distribution of Women Age 15-49 who Gave Birth by Exact Ages, Percentage who Have Never Given Birth and Median Age at First Birth by Current Age, 2018 TDHS-S

Age	15	18	20	22	25	Never Given Birth	Number of Women	Median Age at First Birth
15-19	2.3	na	na	na	na	69.4	467	a
20-24	1.8	22.6	50.5	na	na	24.6	476	20.0
25-29	1.9	22.9	42.1	58.2	79.0	12.5	397	21.0
30-34	0.5	12.5	35.9	49.5	70.0	11.2	326	22.0
35-39	4.3	15.7	33.7	50.0	71.5	8.3	245	22.0
40-44	2.3	20.4	41.4	57.6	73.7	7.8	183	21.0
45-49	7.7	9.2	46.7	62.7	74.5	7.4	123	20.0
20-49	2.4	19.9	42.3	na	na	14.1	1749	a
25-49	2.6	18.9	39.3	54.7	74.1	10.2	1273	21.0

Pregnancy Losses

Women may experience pregnancy loss for a variety of reasons. Instances such as spontaneous abortion (miscarriage), stillbirth and induced abortion can potentially impact the fertility levels of women resulting psychological or physical implications. These circumstances prompt women to undergo recovery processes, re-evaluate their decisions before attempting another pregnancy or might even lower their chances for further childbearing, consequently affecting their future fertility and reproductive health.

In the medical terminology, a baby who is born with no signs of life is referred as a stillbirth, though there exist specific thresholds for the minimum number of weeks the pregnancy must have lasted to be classified as stillbirth according to different organizations. While The American College of Obstetricians and Gynecologists (ACOG) defines stillbirth as when a fetus dies in the uterus after 20 weeks of pregnancy (ACOG,

2020), World Health Organization (WHO) consider the time period to be after 28 weeks and The Perinatal Mortality Surveillance Report (CEMACH) specifies stillbirth the cases where baby died after the completion of 24 completed weeks of pregnancy (RCOG, 2010). Spontaneous abortion is another early pregnancy loss and defined as the spontaneous termination of an intrauterine pregnancy before the fetus reaches viability which is usually before 20 weeks' gestation although the medical literature has been transitioning away from the phrase (Alves and et al., 2023). Induced abortion, on the other hand, happens when a pregnancy is ended intentionally and can also refer the ones that are ended for medical reasons.

In TDHS, Syrian women are queried regarding the instances of stillbirths, spontaneous abortions or induced abortions that took place in the five years prior to the survey. Table 4.25 and Table 4.26 present the percentage distribution of ever-married women who have encountered these events. Table 4.25 showcases women who have undergone at least one pregnancy loss, detailing the number of spontaneous or induced abortions and stillbirths they have experienced. With reference to the data in this table, spontaneous abortion emerges as the predominant form of pregnancy loss among women. Among Syrian women in Turkey, the incidence of at least one spontaneous abortion is 27%, induced abortion is 5% and stillbirth is 2.9%. While the majority of women who have had spontaneous abortions experienced only one, there is still a notable proportion who have had multiple spontaneous abortions, with the percentage decreasing as the number of abortions increases.

Table 4.25. Percent Distribution of Ever-Married Women by Number of Spontaneous or Induced Abortions and Stillbirths, 2018 TDHS-S

Number of Terminations	Spontaneous Abortions	Induced Abortions	Stillbirths
None	72.6	95.0	97.1
1	16.6	3.5	2.4
2	5.9	1.0	0.3
3	1.9	0.3	0.0
4	1.7	0.2	0.1
5 or more	1.3	0.0	0.1
Total	100.0	100.0	100.0
At Least 1 Pregnancy Loss	27.4	5.0	2.9
Number of Women	1847	1847	1847

Table 4.26 below displays women who have ever encountered spontaneous abortions, induced abortions and stillbirths based on several different background characteristics that may influence such occurrences. Based on age groups, while the occurrence of stillbirths and induced abortions are residing at lower percentages for women, the proportion of spontaneous abortion is much higher standing at 13% and in 35-39 age group this percentage increases up to 41% among ever-married women. Induced abortions among 15-19 age group are 1.4, while this number corresponds to 10% among 40-44 age group women. Similarly, proportion of women who have experienced stillbirth in the 15-19 age group is 0.9%, while it is noticeable that this percentage is higher among women who are approaching the end of their reproductive years standing at 6.5% in 45-49 age group women.

Women who have 5 or more children exhibit the highest percentages of ever experiencing spontaneous abortions, induced abortions and stillbirths with 36%, 9.1% and 6.1%, respectively. The underlying cause of this phenomenon may stem from the correlation between higher parity and advanced maternal age, as women who have born more children

tend to be older and advanced maternal age is known to be linked with an elevated susceptibility to pregnancy complications, including instances of spontaneous or induced abortions and stillbirths. In a similar fashion, while these events occur at a higher proportion among women with longer durations of marriage, they are less prevalent among those who have recently entered into marriage.

According to camp and non-camp locations, the percentage of Syrian women who have ever been married and experienced these events varies slightly. Similarly, based on educational attainment, these occurrences show consistency, although one outlier is notable among women who completed high school or higher education, with the lowest proportion of stillbirths at 1.3%. Yet, another important finding indicates that among women with higher wealth status, the proportion of induced abortions reaches its peak at 7.1%, compared to 3.8% and 4.1% among women with low and middle wealth statuses, respectively.

Table 4.26. Percent Distribution of Ever-Married Women Ever Having Spontaneous or Induced Abortions and Stillbirths by Age Group, Number of Living Children, Marriage Duration, Residence, Education and Wealth Status, 2018 TDHS-S

Age	Spontaneous Abortions	Induced Abortions	Stillbirths	Number of Women
15-19	13.0	1.4	0.9	227
20-24	21.3	1.6	1.1	421
25-29	25.6	5.6	2.1	373
30-34	30.6	5.0	3.6	301
35-39	40.7	7.5	4.2	233
40-44	35.5	10.3	5.8	174
45-49	35.4	9.5	6.5	118

Table 4.26. (Continued) Percent Distribution of Ever-Married Women Ever Having Spontaneous or Induced Abortions and Stillbirths by Age Group, Number of Living Children, Marriage Duration, Residence, Education and Wealth Status, 2018 TDHS-S

	Spontaneous Abortions	Induced Abortions	Stillbirths	Number of Women
Number of Living Children				
0	19.9	2.7	1.5	206
1-2	22.9	2.9	1.2	669
3-4	28.9	5.2	2.9	543
5+	35.9	9.1	6.1	430
Marriage Duration				
0-4	20.6	1.9	0.8	584
5-9	23.3	4.1	2.0	413
10-14	27.3	5.3	5.3	300
15-19	38.7	6.1	2.4	229
20-24	40.1	11.0	5.1	146
25-29	34.8	11.2	6.2	107
30+	33.5	9.4	6.8	67
Residence				
Camp	25.5	5.4	3.4	72
Non-Camp	27.5	5.0	2.9	1776
Education Level				
No Educ./Prim. Incomp.	26.7	4.5	2.7	350
Primary	27.9	5.7	2.9	899
Secondary	27.9	4.8	4.2	350
High School/Higher	25.9	3.4	1.3	248
Wealth Status				
Low	26.8	3.8	3.5	600
Middle	27.4	4.1	3.1	620
High	27.9	7.1	2.0	628
Total	27.4	5.0	2.9	1847

4.1.3.3. Family Planning Factors

Knowledge of Contraceptive Methods

According to the 2018 TDHS-S, knowledge of contraceptive methods is widespread among Syrian women living in Turkey as 94% of the women have a knowledge of modern methods, while 0.2% knows only traditional methods and 5.5% knows no method that is also revealed in Table 4.27 For currently married women, the percentage who are knowledgeable of modern contraceptive methods reaches to 99%, while women who don't acquainted with any method stands at 0.9%.

Among different age groups, it is visible that especially the younger women between 15-19 age group lacks knowledge of contraceptive methods as the 20% of them don't know any method, however this proportion decreases substantially to 2.4% for married women. Over 96% of women who are married during the time of the survey are aware of modern methods of contraception across all age categories. Women originating from North East Syria exhibit the highest percentage of lacking knowledge of any contraceptive method, standing at 6.4%, but this drops to 1.0% for currently married women.

In terms of education, 8.9% of women lack awareness of any approach, and 91% of women with no education or only a primary education is uninformed of modern techniques. As educational attainment increases, there is a clear trend indicating a rise in the proportion of women who are knowledgeable about modern contraceptive methods. Higher educated women are less likely to be unaware of any form of birth control—the percentage is 4.1% among all women and 0% among married women. In contrast, the percentages for women who are uneducated or who did not finish their elementary education are 2.2% for married women and 8.9% for all women.

Table 4.27. Percent Distribution of All Women and Currently Married Women's Knowledge of Contraceptive Methods by Age, Regions, Education and Wealth Status, 2018 TDHS-S

	All Women				Currently Married Women			
	Knows No Method	Knows Only Traditional Method	Knows Modern Method	Number of Women	Knows No Method	Knows Only Traditional Method	Knows Modern Method	Number of Women
Age								
15-19	20.2	0.5	79.3	467	2.4	1.0	96.6	216
20-24	3.0	0.4	96.6	476	1.6	0.5	97.9	404
25-29	0.6	0.3	99.1	397	0.3	0.3	99.4	361
30-34	1.5	0.0	98.5	326	0.0	0.0	100.0	275
35-39	1.4	0.0	98.6	245	1.0	0.0	99.0	216
40-44	0.6	0.0	99.4	183	0.0	0.0	100.0	154
45-49	1.5	0.0	98.5	123	1.0	0.0	99.0	107
Regions								
North East Syria	6.4	0.3	93.3	1771	1.0	0.4	98.6	1374
Central Syria	1.7	0.0	98.3	301	0.0	0.0	100.0	243
South West Syria	2.6	0.0	97.4	129	2.0	0.0	98.0	105
Education Level								
No Educ. / Prim. Incomp.	8.9	0.5	90.6	426	2.2	0.6	97.1	331
Primary	4.8	0.1	95.1	1047	1.0	0.1	98.9	838
Secondary	4.9	0.5	94.6	433	0.0	0.6	99.4	327
High School / Higher	4.1	0.0	95.9	311	0.0	0.0	100.0	238
Wealth Status								
Low	8.1	0.4	91.4	734	1.3	0.6	98.1	555
Middle	4.8	0.1	95.1	735	0.9	0.2	98.9	582
High	3.7	0.1	96.2	747	0.5	0.2	99.3	597
Total	5.5	0.2	94.3	2216	0.9	0.3	98.8	1734

Based on the marital status, not knowing any method is the highest among the never married women with 29%; for married, divorced, separated and widowed women this percentage is extremely low. Another significant finding is the variation in contraceptive knowledge based on wealth status. The percentage of women in the low wealth status who don't know how to use any kind of birth control is highest (8.1%). This proportion drops to 4.8% among women in the middle wealth status and further reaches to 3.7% among women in the high wealth status.

Ever Use of Contraceptive Methods

Table 4.28 shows the ever use of contraceptive methods for 15-49 age group for all and currently married Syrian women according to the background characteristics. Among 15-49 aged Syrian women living in Turkey, 58% has ever used any contraceptive method, while this percentage corresponds to 71% for currently married women. Across all sub-categories, it is apparent that the percentages of currently married women exceed those in all women.

Based on age groups, it is observed that the prevalence of contraception utilization with advancing age cohorts. It is notable that the proportion of contraception use among women, particularly within older age groups, is much higher compared to the women in younger age segments. According to the residence, there is not a significant difference between camp and non-camp areas in ever-used contraceptive usage, but the percentages of usage are higher for currently married women compared to all women. It is clear that, at 49%, the percentage of women with no education who have never used a form of contraception is the highest of all education levels. However, among currently married women, it is observed that the tendency of not ever using any contraceptive method has an inverse relationship with education; as the education level increases, the prevalence of not using any method diminishes proportionally. Among working women, the percentage of those who have ever used any contraceptive method stands at 49% across all women, while it notably rises to 76% for currently married women. Syrian women who know modern

methods have also uses contraceptive methods, but women the ever use of contraception is low for women who knows only traditional method. Finally, the percentage of women who use contraception is 65% among all women and 78% among married women in the high wealth status; the figures seem to be lower for women in the low and medium wealth status categories.

Table 4.28. Percent Distribution of All Women and Currently Married Women Age 15-49 Who Has Ever Used Any Contraceptive Method by Age, Residence, Education, Current Working Status, Knowledge of Contraceptive Methods and Wealth Status, 2018 TDHS-S

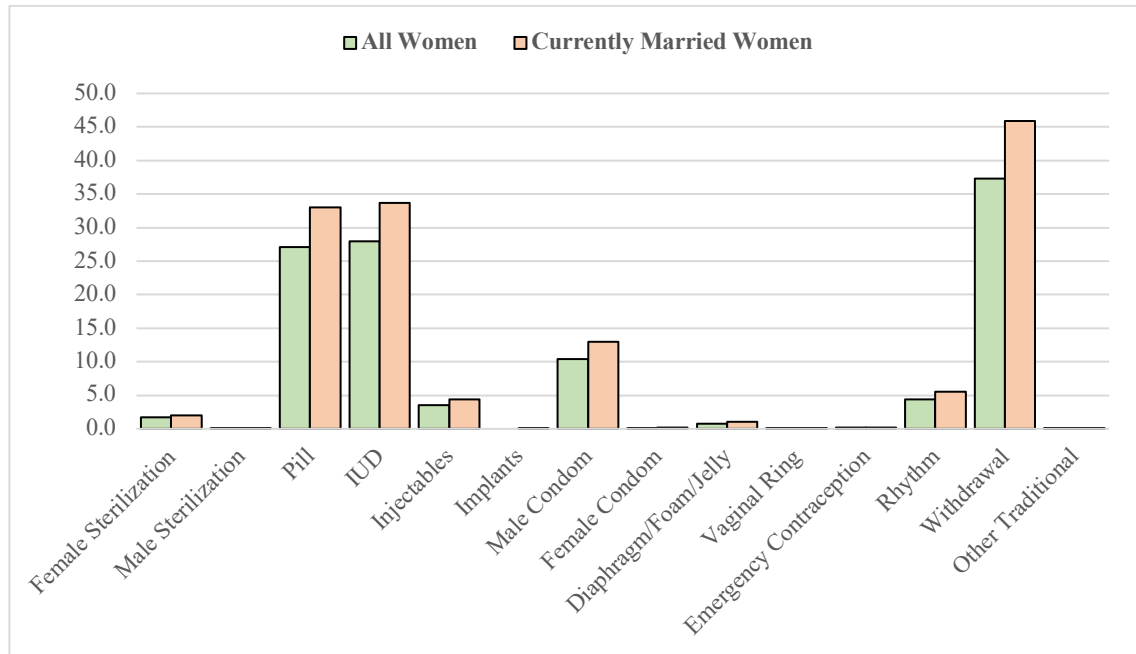
	All Women			Currently Married Women		
	Yes	No	Total	Yes	No	Total
Age						
15-19	15.1	84.9	100.0	32.1	67.9	100.0
20-24	52.9	47.1	100.0	61.0	39.0	100.0
25-29	71.1	28.9	100.0	76.4	23.6	100.0
30-34	76.8	23.2	100.0	84.9	15.1	100.0
35-39	79.6	20.4	100.0	85.6	14.4	100.0
40-44	78.8	21.2	100.0	83.1	16.9	100.0
45-49	81.4	18.6	100.0	86.2	13.8	100.0
Residence						
Camp	58.5	41.5	100.0	73.8	26.2	100.0
Non-Camp	58.4	41.6	100.0	70.9	29.1	100.0
Education Level						
No Education / Prim. Incomp.	51.7	48.3	100.0	64.6	35.4	100.0
Primary	60.3	39.7	100.0	70.7	29.3	100.0
Secondary	58.8	41.2	100.0	74.3	25.7	100.0
High School / Higher	60.6	39.4	100.0	76.4	23.6	100.0
Current Working Status						
No	59.3	40.7	100.0	70.6	29.4	100.0
Yes	48.9	51.1	100.0	76.3	23.7	100.0

Table 4.28. (Continued) Percent Distribution of All Women and Currently Married Women Age 15-49 Who Has Ever Used Any Contraceptive Method by Age, Residence, Education, Current Working Status, Knowledge of Contraceptive Methods and Wealth Status, 2018 TDHS-S

	All Women			Currently Married Women		
	Yes	No	Total	Yes	No	Total
Knowledge of Contracep. Methods						
Knows Only Traditional Method	20.0	80.0	100.0	20.0	80.0	100.0
Knows Modern Method	61.9	38.1	100.0	71.8	28.2	100.0
Wealth Status						
Low	50.4	49.6	100.0	61.5	38.5	100.0
Middle	59.5	40.5	100.0	72.4	27.6	100.0
High	65.1	34.9	100.0	78.4	21.6	100.0
Total	58.4	41.6	100.0	71.0	29.0	100.0

In terms of method that have been used, Figure 4.6 demonstrates the type of methods for all women and currently married women. Among the modern contraceptive methods, pill and intrauterine devices (IUDs) emerge as the preferred choices among women. Specifically, approximately 27.1% of all women and 33.0% of married women opt for oral contraceptive pills, whereas the utilization rates for IUDs stand at 28.0% and 33.7%, respectively. The prevalence of other contemporary means of contraception typically stays below the 5.0% threshold, with the male condom ranking as the third most widely used technique at 10.4% for all women and 13.0% for married women. It is observed that modern methods such as male sterilization, implants, female condom, vaginal ring and emergency contraception are not preferred by Syrian population living in Turkey. On the other hand, among the traditional methods withdrawal stands out as the most commonly used contraceptive method corresponding to 37% for all women and 46% for currently married women.

Figure 4.6. Percentage of All Women and Currently Married Women Age 15-49 Who Has Ever Used Contraceptive Methods by Method Types, 2018 TDHS-S



4.1.4. Survival Analysis: Occurrence and Timing of the Reproductive Events among Syrian Refugee Women in Turkey

This sub-section of the thesis applies a survival analysis demonstrating the sequential reproductive events that Syrian refugees have experienced through survival curves, survival tables (can be reached from Appendix A) and median transition times. In the book chapter of ‘Syrian Refugees in Turkey’, a more comprehensive analysis is conducted focusing on the “timing of reproductive events”, specifically from menarche to menopause, among native women and Syrian women in Turkey (Saraç and Koç, 2021). This thesis investigates and analyzes only the events related to first marriage, first birth and subsequent births concentrating primarily on the Syrian refugee population in Turkey. The findings of progression to first marriage, first birth, second and following births are also presented for Turkish women for comparability reasons. The curves depict the reproductive occurrences for Syrian refugee women specifically providing a detailed

breakdown on these events and based on variables such as educational attainment and ethnic background. Furthermore, the occurrence of these reproductive events is also analyzed based on the locations of Syrian women before and after migration specifically, focusing on whether they experience these events in Syria or in Turkey. Therefore, comparing these events across different time periods and based on different factors like education and ethnicity, patterns and shifts in fertility-related trajectories that may be attributed to the processes of socialization and adaptation is aimed to be presented.

Transition to First Marriage

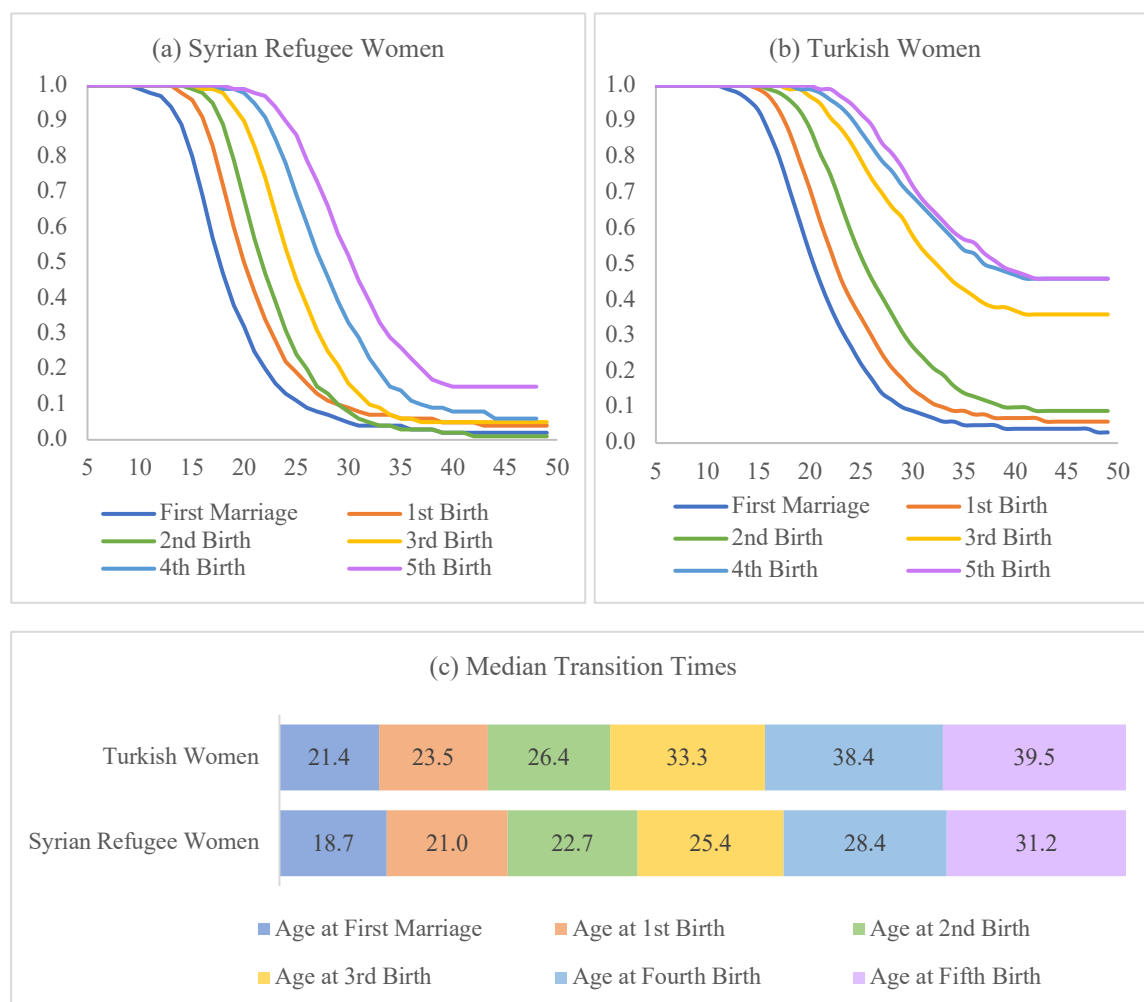
In Figure 4.7 (a) and (b) below, Syrian refugee women's and Turkish women's transition to reproductive events are demonstrated in survival curves to depict the probability of survival of these events. Following the curve, it can be observed that first marriage begins at very young ages for Syrian women in Turkey suggesting the incidences of child marriages among girls. The curve drops from 1 to 0 for the first time at age 10 representing that at least one individual has undergone marriage. Although the probability of marrying at these early ages are low, Syrian girls still experience this event between the ages of 10 to 15. While at age 15, the percentage of individuals getting married is 20%, the probability increases by the age of 18, reaching to 53%. The majority of Syrian women are getting married by the age of 22 with a transition probability of 80% and at age 25, the probability rises even higher to 89%. The MAAF_M is 18.7 years meaning that 50% of the population has experienced the event of marrying at a relatively young age (Figure 4.9). On the other hand, MAAF_M for Turkish women is 2.7 years lower, corresponding to 21.4 years. The respective percentages marrying at ages 15 and 18 are 7% and 29%, much lower compared to Syrian refugee women. At age 25, 78% of the population gets married and at age 35, the majority of Syrian women and Turkish women progress to the marriage with 95%. At the end of their reproductive periods, only 2% of Syrian women and 3% of Turkish women opt not to get married.

According to the educational attainment of women, transition to the first marriage differs among Syrian refugees especially for women with high school and higher education. In Figure 4.8 (a), (b), (c) and (d), this difference is demonstrated through survival curves based on levels of education. Following the data on these figures, transition to first marriage by age 15 is 29% among uneducated women, 26% among women who have attained primary level education, 16% among women who obtained secondary school and 4% among women with high school and further education. Hence, it is observed from the information that as the education level increases, the probability of women marrying at early ages decreases gradually and in the transition from secondary to high school, it appears to be dropping more sharply. The likelihood of a woman being married for the first time at the age of 18 rises with education level, reaching 55% for uneducated women and 60% for those who have finished primary school. Conversely, women who attained high school or further education, the probability decreases into 23%. At age 25, the probability of marrying reaches to percentages exceeding 80%. While among women with no education transition probability is 87%, it rises to 91% for primary and 93% for secondary level educations. Nevertheless, 82% of the Syrian refugee women who have attained high school or further education has the probability of marrying at age 25. Median transition times of Syrian refugee women according to educational attainment also depicted in Figure 4.9. The median age of women without any formal education is 18.5 years, which is slightly higher than the median age of women with a primary education of 18.0 years. It is interesting to note that women who finished secondary school have a median age of 18.4, which points to a tendency that is comparable to that of people who never attended school. Nonetheless, women who have completed high school or further education have a markedly greater median age at which they get married (21.4 years). This implies that among Syrian refugee women living in Turkey, higher levels of education are correlated with a delay in marriage.

Regarding ethnic background, transition to the sequential reproductive events is displayed in Figure 4.10 (a), (b), (c) and (d). In the light of the survival curves and data affiliated

with the lifetables, transition to first marriage at age 15 is lower among Kurdish origin women with 9%, while it corresponds to 16% and 21% among women of Turkish and Arabic origin, respectively. By the age of 18, 52% and 55% of Turkish and Arabic women getting married, but the proportion of Kurdish origin women getting married resides at a lower percentage corresponding to 33%. In brief, Arab originated women experience first marriage with the highest percentages at early ages, followed by Turkish origin and Kurdish origin women, in the indicated order.

Figure 4.7. Syrian Refugee and Native Turkish Women's Survival Curves of Transitions to First Marriage, First, Second, Third and Subsequent Births and Median Transition Times, 2018 TDHS-S and 2018 TDHS



Transition to First Birth

The progression to first birth among Syrian refugees begins at age 14 for the first time with a probability of 2% and by the age of 18, this rises up to 28%. A substantial majority of the Syrian refugee women experience their initial childbirth by the age of 25 with 81% probability. Furthermore, the likelihood of not having a one child at age 40 is very low with 5% meaning that women deliver their first child long before this age. The MAAFB appears to be 21.0 years (Figure 4.7.c) indicating that half of the population have their first child by that age; this also suggests that childbearing typically occurs shortly after marriage. The difference between the MAAFM and MAAFB ($21.0 - 18.7 = 2.3$ years) indicating that there is an average time of 2.3 years between marriage and the first birth among Syrian women in Turkey. The gap may reflect various factors including socio-economic circumstances, the impact of migration, cultural or religious preferences or contraceptive usage and family planning practices. Among native women in Turkey, the median transition age is 23.5 years, 2.5 years higher than the Syrian refugee women. Turkish women also make transition into their first birth within a similar timeframe, approximately 2.1 years after marriage, akin to Syrian women. Women in Turkey also experience the event of first birth at later ages compared to Syrian refugee women. At age 18, the percentage of women having their first child is only 13% and by the age of 25 this increases up to 65%. Similar to Syrian women, at age 40, majority of women have already conceived their first child with 93%.

In terms of education, the percentage of Syrian refugee women with primary or secondary school education who become mothers for the first time at the age of 18 is above the general percentage corresponding to 35% and 30%, respectively (Figure 4.8.b). Conversely, women who have high school or higher education, the probability of giving their first is very low standing at 7%. Women who gave their first birth at the age of 25 is increases up to 84% and 86% for those completed primary and secondary school and also increases to 71% for those attained high school or higher education. Another finding worth mentioning obtained from the graph is that 9 out of 10 women have already given birth to

their first child by the time they reach the age of 32. The median transition age at first birth varies among Syrian refugee women in Turkey based on their education levels. Women who have not attained any education have a MAAFB of 21.2 years, followed closely by those who have completed primary and secondary school with a median age of 20.3 and 20.4 years. Women who obtained high school or further education exhibit the highest median age, at 23.4 years (Figure 4.9).

With respect to ethnicity based on Figure 4.10.b, transition to first birth also displays some similar patterns as the transition to first marriage. Giving first birth at an early age is highest among women of Arab origin. At age 18, percentage of Arab origin women having their first childbirth is 30%, while it is 22% and 16% among Turkish and Kurdish origin women. However, by the age of 25, 88% of the Turkish origin women giving their first birth is highest among other ethnic origins. As the women reach age 30, the percentages who deliver their firstborns is 91% for Turkish and Arab originated women, while it stands at 84% for Kurdish origin women.

Figure 4.8. Survival Curves of Transitions to First Marriage, First, Second and Third Births by Educational Attainment, 2018 TDHS-S

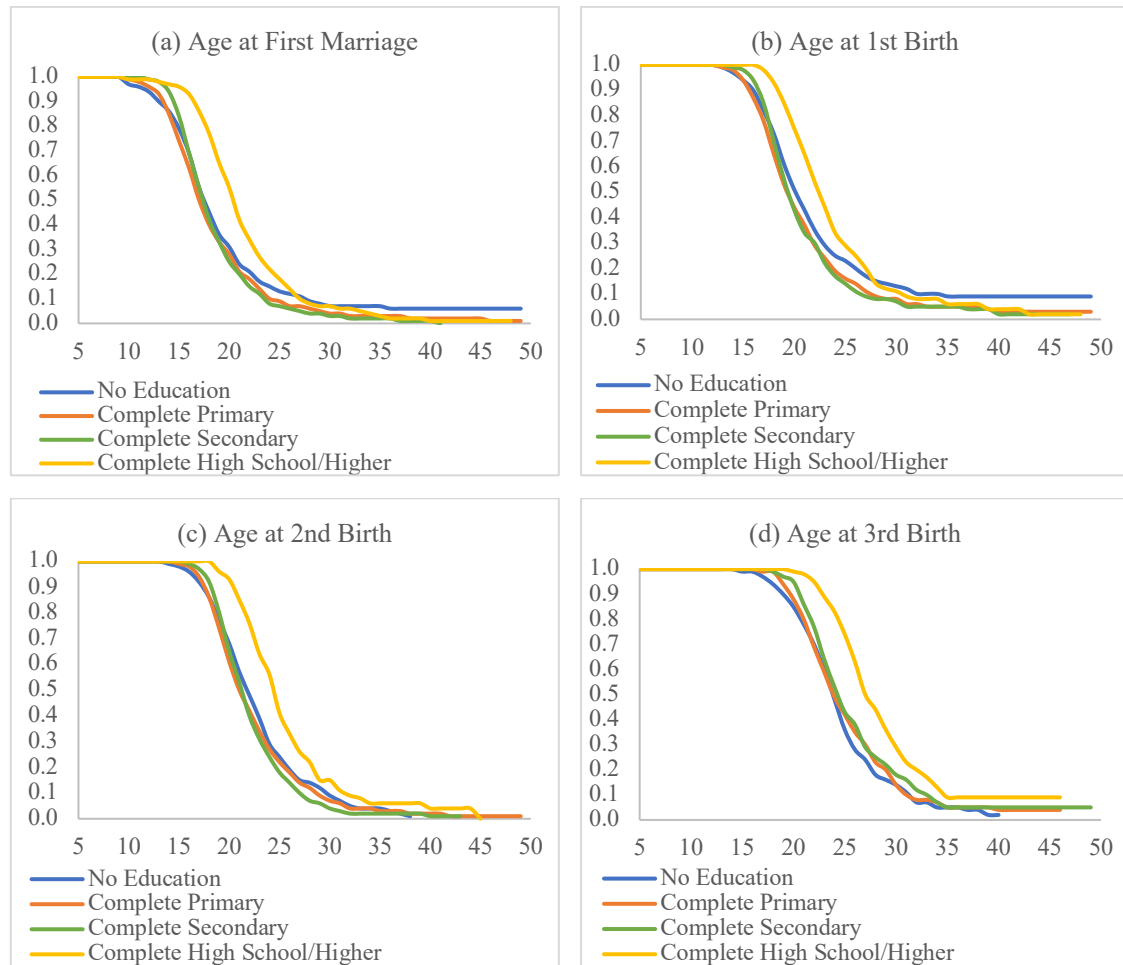
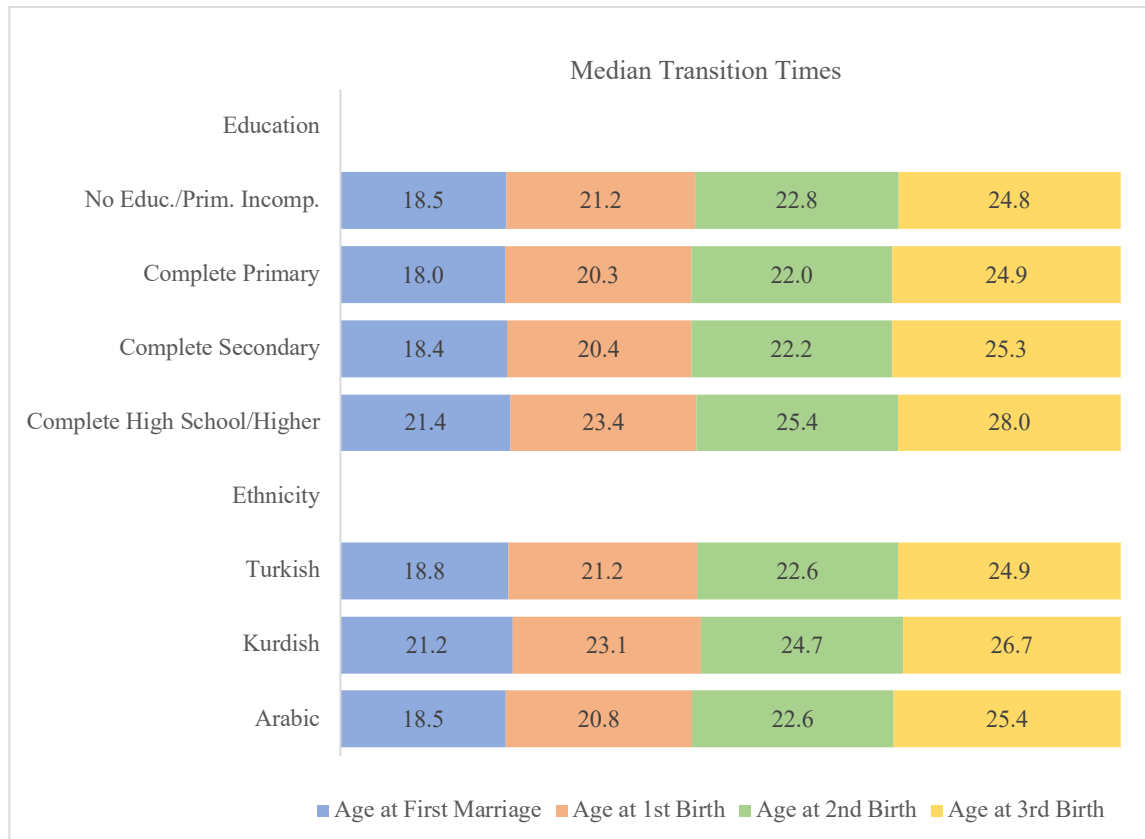


Figure 4.9. Median Age at Transitions to the Reproductive Events by Education and Ethnicity, 2018 TDHS-S



Transition to Second Birth

The survival analysis shows that the progression to second birth begin at age 15, at age 18 it increases up to 11% and around age 26, 80% of women have already have their second child. At the end of their reproductive age, women who do not have their second child is only 1% indicating that the majority of the Syrian women have at least two children. The median age at second birth 22.7 years (Figure 4.7.c) and the 1.7 years gap between first birth and second birth represents the typical interval between childbirths, revealing the reproductive behavior of the Syrian women in Turkey. Conversely, median transition time of Turkish women is 26.4 years (Figure 4.7.c) and there has been a gap of 3.7 years with Syrian women. The probability of Turkish women having their second birth at age 18 is

only 4%, while at age 25 this percentage increases up to 48%. By the age of 30, native Turkish women are more likely to have their second birth with a probability of 73%. Furthermore, the likelihood of not having a second child increases to 9% near the conclusion of their reproductive cycle.

Based on the educational attainment, while the proportion of Syrian mothers with no education or primary school education who give birth for their second child at the age of 18 is 14%, the probability increases to approximately 76% for women who reaches to 25 years old. Furthermore, over 91% of the Syrian women have already delivered a second child by the time they are 30 years old. Women who have obtained secondary or higher education have been observed to postpone having a second child as their education level rises. While women who give their second birth at age 18 among high school or higher education, it seems that majority of women in this group give birth at age 30 with 85% probability. On the other hand, at the end of their reproductive period, 4% of the women who obtained high school or further education remain childless. The median age of women without education or primary and secondary level education is approximately 22 years, in contrast, for women who have achieved high school or further education, median age increases to 25.4 years (Figure 4.9).

From an ethnic standpoint, the probability of mothers with one child delivering birth to their second child at age 25 is 77% among Arab origin women, while it is 74% for Turkish and 60% for Kurdish origin women (Figure 4.10.c). On the other hand, by the age of 30, more than 90% of Kurdish and Turkish women give birth to their second child, while this percentage is 82% among women with Arab origin. This indicates that Arab origin women welcome their second child at an earlier age, while the majority of women from Kurdish and Turkish ethnic origin preferred to have their second child at later ages.

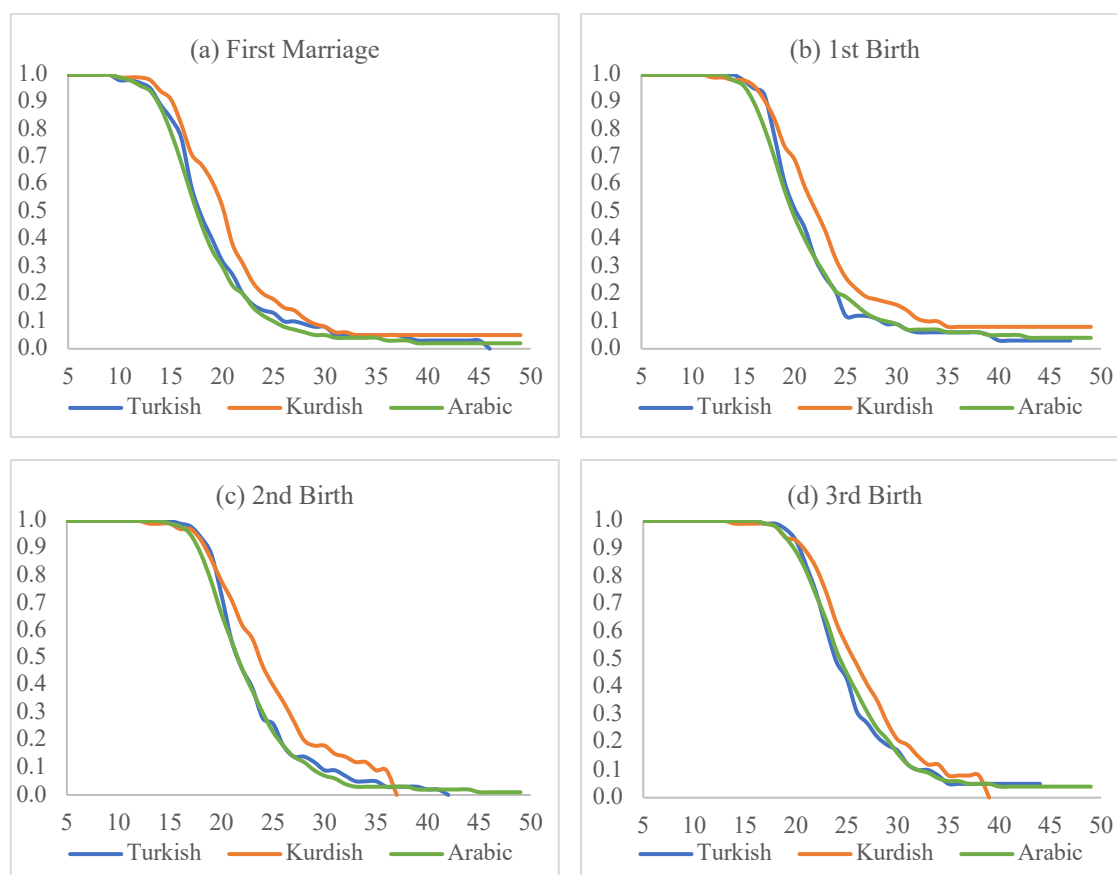
Transition to Third and Subsequent Births

Two-child Syrian women in Turkey have transitioning to the third birth with the probability of 55% at the age of 25. By the age of 28, the probability further rises corresponding to 75% and by the time they are 30 years old, 90% of women have had their third child. The median age at third birth is 25.4 years (Figure 4.7.c.) and between the second and third birth ($25.4 - 22.7 = 2.7$) there has been a gap of 2.7 years. While the time period between the first and the second birth is notably shorter (1.7 years), it is observed that the time elapsed between the second and the third births is more extended compared the time between the first and second birth. It is also apparent that by the time their reproductive period ends, 5% of Syrian women who have two children do not conceive another child. For the host country women in Turkey, median transition time of the third birth is 33.3 years (Figure 4.7.c.) a much later age compared to the Syrian refugee women. On the other hand, the probability of having third birth at age 18 is very low corresponding only to 1%, with the increasing age, the probability increases very slowly. By the age of 35, only 57% of host country women have the probability of having a third child, while this proportion is 94% for Syrian refugees in Turkey. By end of their reproductive period 36% of women chose not to have a third child, while for Syrian refugees this corresponds to 5%.

The probability of Syrian women with have no education who gives their third birth at age 25 is 64% and with the increase in the education level, this probability decreases to 26% for women who have completed high school and higher education. Nevertheless, by the age 30, percentage of uneducated and primary level educated women giving birth to their third child is 86%, however this only drops slightly to 71% for women who attained high school or higher education. Yet, the highest median transition ages as well as the highest gaps are witnessed at the third birth. Women with no education have a median age of 24.8 years, while those with high school or more education have a median age of 28 years.

When examined on the basis of the fourth birth, it is observed that the likelihood of having a fourth child is 31% at age 25 and by the age 30 it increases up to 67%. Third-child Syrian women at age 37 have a 90% probability of having a fourth child. On the other hand, the median age at fourth birth is 28.4 years residing at a much older age, consequently the birth interval between the third and fourth births widen, with an approximate time of 3 years. This larger gap between median ages signifies that there is a longer interval between the third and fourth births compared to the interval between earlier births. By the end of their reproductive cycle, 6% of Syrian women stops at third child and do not achieve any subsequent pregnancies.

Figure 4.10. Survival Curves of Transitions to First Marriage, First, Second and Third Births by Ethnicity, 2018 TDHS-S



Reproductive Transitions of Syrian Women in the Context of Migration

This section of the thesis examines how migration impacts the timing of successive reproductive occurrences among Syrian women. The first marriage, first childbirth, and subsequent births among Syrian refugee women in Turkey are depicted with two different survival curves in Figure 4.11 and Figure 4.12. In Figure 4.11 these reproductive events are categorized according to whether they took place in Syria or Turkey, namely, before or after Syrian women migrated to Turkey. On the other hand, Figure 4.12 demonstrates the survival curves on these reproductive events separately and presents pre- and post-migration differences in these figures. The curves bear significance since the transitions to first marriage or childbirth according to the migration timing offer valuable insights about reproductive behavior as well as the adaptation or socialization processes of Syrians in Turkey. Differences in the timing of reproductive events between those occurring in Syria versus Turkey may reflect the extent to which Syrian refugee women preserve or adapt their cultural practices in their new environment.

Figure 4.11(a) and (b) show that, at the ages of 15 and 18, respectively, 26% and 61% of Syrian women got married in their country, while the probability of marrying at these exact ages are 17% and 55% in Turkey. 95% of Syrian women married in Syria and 92% of them married in Turkey by the age of 25. The proportions of women aged 18, 25, and 30 who experienced their initial childbirth in Syria stand at 33%, 87%, and 96%, sequentially. Conversely, the corresponding percentages for Syrian women who gave birth in Turkey to their first child are 26%, 81%, and 90%, in the indicated order. Even if women in Syria experiences first marriages and first births sooner than in Turkey, there is a greater difference in Syria when it comes to second and third birth transitions. For 78% of Syrian mothers, the second child transitions occur at age 25, and for 94% of women, it happens at age 30. Conversely, in Turkey, these rates are lower, with 60% of women experiencing their second birth by the age of 25 and 78% by the age of 30. In essence, a woman who bear her second child by age of 25 in Syria typically does so at the age of 30 in Turkey. This information indicates that a higher percentage of Syrian women in Syria

experience their second birth at younger ages compared to those in Turkey. Hence, it can also be inferred that the timing of the second birth was slightly delayed upon arrival in Turkey. Similarly, the transition to the third birth occurs earlier in Syria, with 57% of women experiencing it by age 25 and 85% by age 30, while these percentages correspond to 29% and 51%, respectively, for women in Turkey.

The median transition times (Figure 4.11.c) of the reproductive events among Syrian women also differentiate depending on whether they experience these events in Syria (before migration to Turkey) or in Turkey (after migration to Turkey). Prior to migration to Turkey, Syrian women marry at the age of 18.0, give birth to their first child at 20.4 years and have their second and third children at the ages of 22.4 and 25.2, respectively. Conversely, after moving to Turkey, Syrian women marry at the age of 18.6, and they have their first, second, and third children at the ages of 21.2, 24.8, and 28.8, respectively. This difference highlights shifts in reproductive timing associated with migration indicating that both marriage and reproductive events happen at later ages compared to occurrences before migration. Specifically, the delayed childbirth among Syrian women after migrating to Turkey is evident in the median transition ages of first, second and third children. While median transition age at first child is slightly higher compared to pre-migration ages; for second and third births the median ages are considerably higher after migration to Turkey.

Figure 4.11. Survival Curves of Transitions to Reproductive Events in Pre- and Post-Migration Periods, 2018 TDHS-S

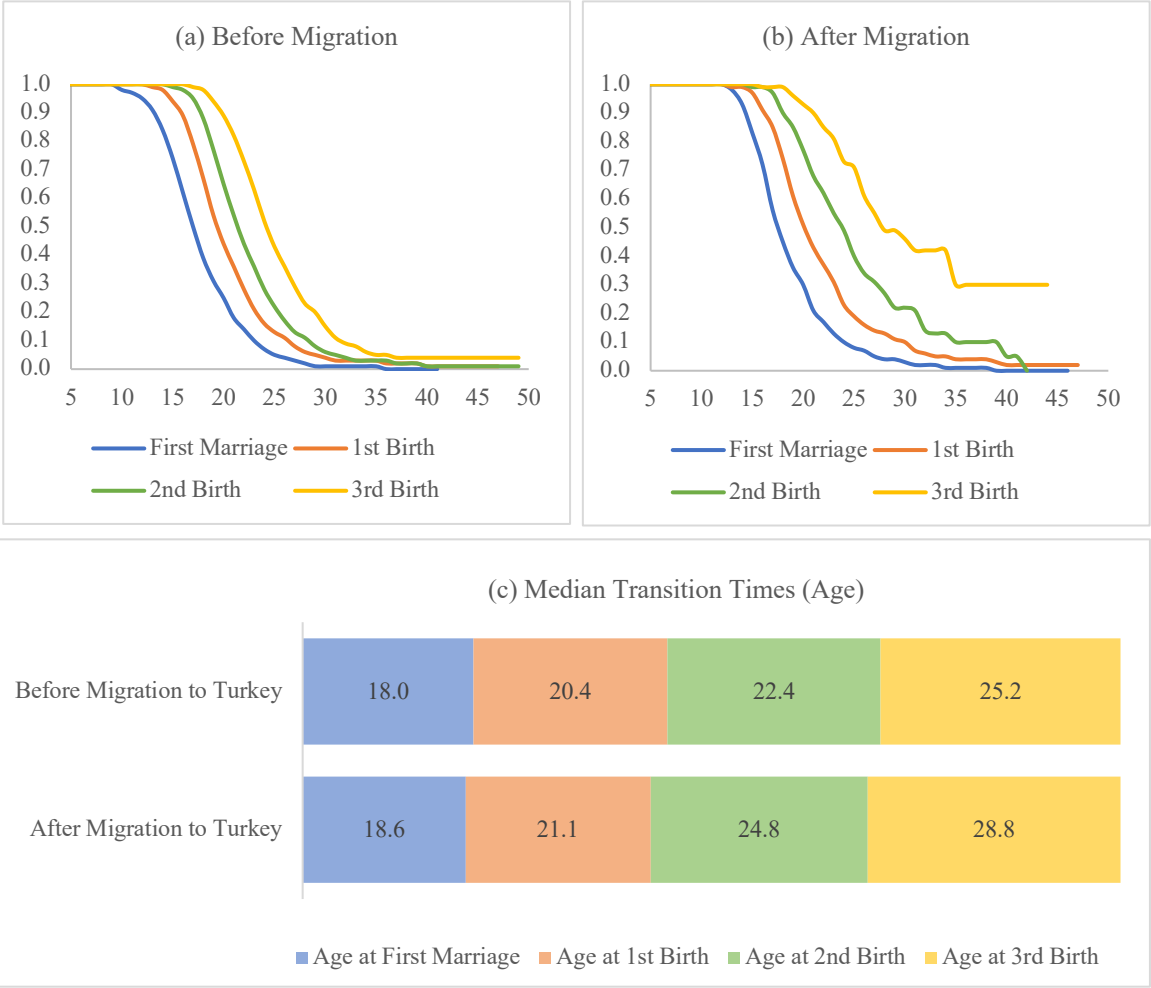
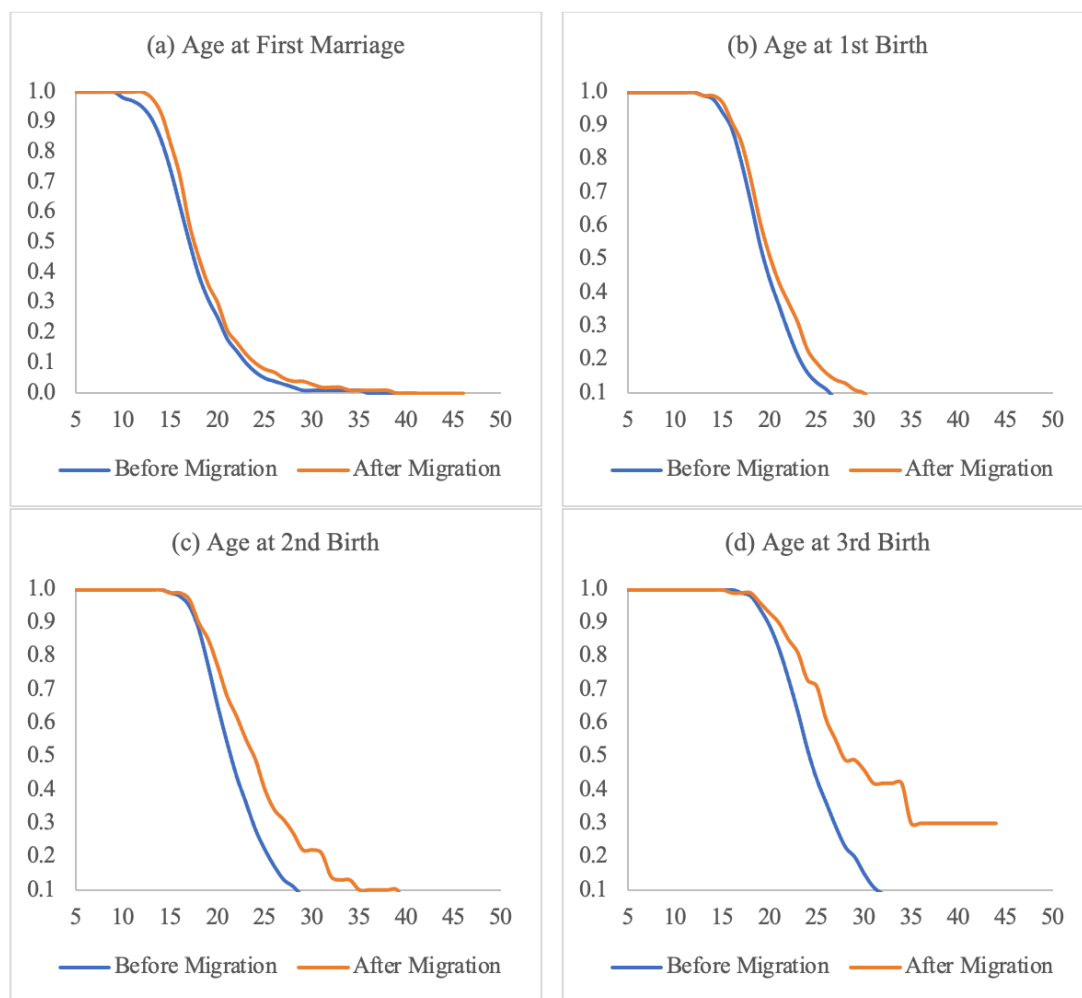


Figure 4.12. Survival Curves of Transitions to First Marriage, First, Second and Third Births by Timing of Migration, 2018 TDHS-S



4.2. Results of Regression Analyses

4.2.1. Binary Logistic Regression: Timing of First Marriage by Migration in the Post-Migration Period

In this section of the thesis, a binary logistic regression analysis is implemented in order to assess the risk factors on Syrian refugee women who has married after migration to Turkey compared to who has married before migration in Syria. The dependent variable that is used has two categories: Syrian refugee women who entered their first marriage before migration (in Syria) and Syrian refugee women who entered their first marriage after migration (in Turkey). Since the main research question scrutinizes how fertility-related trajectories and reproductive behaviors of Syrian refugee women have changed after their migration to Turkey, reference category is selected as the “Syrian women who had their first marriage in Syria”. In this way, the odds and likelihood of experiencing this event after migration is aimed to be understood.

A total of nine independent variables are utilized in the analysis, each of which is covered thoroughly in the chapter on “Data and Methodology”. These independent variables are categorized into four specific groups and added into the analysis in a stepwise manner; thus, four models are obtained in total in the final stage. While stepwise modeling is typically available in standard logistic regression procedure, the complex sample logistic regression does not have this feature, therefore the variables are added manually and in a systematic way until the final model is reached. Odds ratios in these analyses are presented together with their statistical significance denoted with * sign. At the bottom of the table, Nagelkerke’s R^2 values are displayed, indicating the overall variation that the model can account for. Additionally, N values that represent the number of observations (sample size for the cases) that were used in the analysis excluding the invalid cases are presented at the end of each table as well.

In Model 1, duration of stay is used in the analysis and the model is found to be significant ($p < 0.05$, Nagelkerke $R^2 = 0.013$). However, the results show that only the last two category of duration of stay is found to be statistically significant. Syrian women who have stayed in Turkey 5-6 years have 57% higher odds of getting married after migration compared to women who have stayed in Turkey 0-2 years. Similarly, Syrian women who have stayed in Turkey 7 or more years have much higher odds of getting married indicating that getting married after migration increases substantially with longer durations of stay.

Model 2 introduces age, education and ever-worked into the analysis and the model is found to be significant with Nagelkerke R^2 increases from 13% to 46% meaning that the model explains approximately 46% of the variance in the dependent variable ($p < 0.05$, Nagelkerke $R^2 = 0.461$). Among the newly added variables, age is a significant variable and the odds ratio signifies that for each additional year of age, the odds of getting married after migration decrease by approximately 24%. The negative association is significant suggesting that younger Syrian women are more likely to marry after migration compared to older women. On the other hand, categories of education are not statistically significant, whereas work experience is a significant variable indicating that Syrian women who have ever worked in their life are more likely to get married after migration compared to those who have never worked.

Ethnicity, brides money and consanguinity were introduced into the Model 3 in which the overall model is significant ($p < 0.05$, Nagelkerke $R^2 = 0.481$). Syrian women with Arab origin is statistically significant, whereas the category of Kurdish origin is not significant. The odds of 0.511 suggests that Arabic originated Syrian women have about 49% lower odds of getting married after migration compared to women with Turkish and other origin. Similarly, Syrian women whose husbands or parents paid brides money have 32% lower odds of getting married after migration compared to those who did not. Consanguineous marriages are also a statistically significant result which is associated with a lower

likelihood of marrying after migration compared to those who married someone unrelated (29%).

In Model 4, wealth status and regions are added into the analysis and the model is statistically significant ($p < 0.05$, Nagelkerke $R^2 = 0.483$). However, these newly added variables and their categories are not statistically significant in the analysis. On the other hand, variables such as duration of stay, age, education, ever-worked, ethnicity, brides money and consanguinity which were significant in the previous model continues to be statistically significant in the final model.

Table 4.29. Odds Ratios for Syrian Refugee Women Who Had Married After Migration

	Model 1	Model 2	Model 3	Model 4
Duration of Stay				
0-2 Years (Ref.)	1.000	1.000	1.000	1.000
3-4 Years	1.234	2.212*	2.208*	2.241*
5-6 Years	1.574**	3.786*	3.424*	3.442*
7+ Years	2.286*	10.241*	9.243*	9.585*
Age	NA	0.762*	0.757*	0.758*
Education Level				
No Education (Ref.)	1.000	1.000	1.000	1.000
Complete Primary	NA	0.785	0.827	0.796
Complete Secondary and Higher	NA	1.404	1.621**	1.571**
Ever Worked				
No (Ref.)	1.000	1.000	1.000	1.000
Yes	NA	1.800*	1.660*	1.653*
Ethnicity				
Turkish and Other (Ref.)	1.000	1.000	1.000	1.000
Kurdish	NA	NA	1.468	1.413
Arabic	NA	NA	0.511**	0.526**
Brides Money				
No (Ref.)	1.000	1.000	1.000	1.000
Yes	NA	NA	0.680*	0.652*

Table 4.29. (Continued) Odds Ratios for Syrian Refugee Women Who Had Married After Migration

	Model 1	Model 2	Model 3	Model 4
Consanguinity				
Not Related (Ref.)	1.000	1.000	1.000	1.000
Related	NA	NA	0.712**	0.711**
Wealth Status				
Low (Ref.)	1.000	1.000	1.000	1.000
Medium	NA	NA	NA	1.301
High	NA	NA	NA	1.311
Regions				
North East Syria (Ref.)	1.000	1.000	1.000	1.000
Central Syria	NA	NA	NA	0.741
South West Syria	NA	NA	NA	1.154
Nagelkerke R²	0.013	0.461	0.481	0.483
N	1844	1844	1844	1835

‘NA’ indicates not applicable because the values are not in the model

* indicates statistically significant with $p < 0.01$; ** indicates statistically significant with $p < 0.05$

4.2.2. Binary Logistic Regression: Timing of First Birth by Migration in the Post-Migration Period

Similar to the occurrence of first marriage relative to the migration, the occurrence of first birth among Syrian refugees was incorporated into the regression analysis as the second dependent variable. This variable comprises two categories: Syrian refugee women who experienced their first before migration (in Syria) and those who had their first birth after migration (in Turkey). Similar to the approach that is applied in first marriage, the reference category and the setup for the occurrence of first birth were selected as “Syrian refugee women who had their first birth in Syria”.

The same set of independent variables that were utilized in the occurrence of first marriage were also employed in this analysis. Additionally, age at first marriage and ever-use

contraception variables were introduced into the analysis in the final model. Consequently, a total of eleven independent variables were considered in the analysis. The stepwise inclusion of variables elucidates the respective contributions of each variable group to the model and their impact on the likelihood of the dependent variable.

Model 1 is statistically significant with $p < 0.05$ and Nagelkerke R^2 equals to 0.020. It introduces duration of stay into the model which is found to be significant for the last two categories. According to the results, Syrian women who have stayed in Turkey for 5-6 years are 1.9 times more likely to have their first birth after migration to Turkey compared to who have stayed 0-2 years. The odds have increased for Syrian women who have stayed in Turkey for 7 or more years reaching to 2.6 times compared to women who have stayed 0-2 years. This finding indicates that the longer the duration of stay in Turkey, the higher likelihood of having the first birth after migration.

With Model 2 individual variables were introduced to the analysis and the overall model is found to be statistically significant with Nagelkerke R^2 reaching to %55 ($p < 0.05$, Nagelkerke $R^2 = 0.549$). Education level is not significant, whereas age and work experience are found to be significant. According to the results, the likelihood of having first birth after migration to Turkey decreases by 27% with each additional year of age indicating that older Syrian women are less likely to have their first birth after migrating to Turkey compared to younger women. On the other hand, Syrian women who have ever worked are 1.7 times more likely to have their first birth after migration compared to those who have not worked suggesting that work experience is associated with a higher likelihood of having first after migration.

Model 3 is also statistically significant with $p < 0.05$ and the model explains the %57 of the variance in the dependent variable. In this model cultural variables such as ethnicity, brides money and consanguinity were added into the analyses and only consanguinity and one category of ethnicity are found to be significant. Syrian women with Kurdish origin

are 3.1 times more likely to have their first birth after migration compared to women with Turkish and other origin. As the results indicate consanguinity is associated with a lower likelihood of having the first birth after migration. Syrian women who have consanguineous marriages are 29% less likely to have their first birth after migration compared to those who do not have these kinds of marriages.

Wealth status and regions were introduced into Model 4 and the model is found significant ($p < 0.05$, Nagelkerke $R^2 = 0.572$). While the categories of the variable 'regions' are not statistically significant, the last category of wealth status emerge as significant. According to the results presented in Table 4.34, Syrian women with higher wealth backgrounds are 1.8 times more likely to have their first birth after migration compared to women from lower wealth backgrounds.

The final model is statistically significant and the model explains 75% of the variance in the dependent variable ($p < 0.05$, Nagelkerke $R^2 = 0.753$). Among the newly introduced variables in Model 5, age at first marriage is statistically significant indicating predictor indicating that for each additional year in age at first marriage, the odds of having first birth after migrating to Turkey are nearly doubled. Specifically, a one-year increase in the age at first marriage is associated with a 98% increase in the likelihood of having the first child after migration. This finding suggests that Syrian women who marry at an older age are much more likely to have their first birth after their migration to Turkey. On the other hand, another variable that is included in the final model is ever-use contraception in which its last category found to be statistically significant. The findings on this variable predictor that Syrian women who used modern contraceptive methods are 41% less likely to have their first birth after migration compared to those who have never used any method. Therefore, using modern contraception is associated with a lower likelihood of having first birth after migration.

Table 4.30. Odds Ratios for Syrian Refugee Women Who Had Their First Birth After Migration

	Model 1	Model 2	Model 3	Model 4	Model 5
Duration of Stay					
0-2 Years (Ref.)	1.000	1.000	1.000	1.000	1.000
3-4 Years	1.426	3.026*	2.968*	2.993*	6.348*
5-6 Years	1.925*	6.409*	5.943*	5.825*	22.059*
7+ Years	2.624*	14.339*	12.370*	12.651*	85.713*
Age	NA	0.731*	0.727*	0.725*	0.479*
Education Level					
No Education (Ref.)	1.000	1.000	1.000	1.000	1.000
Complete Primary	NA	0.661	0.707	0.656	0.681
Complete Secondary and Higher	NA	1.249	1.412	1.307	0.823
Ever Worked					
Not Worked (Ref.)	1.000	1.000	1.000	1.000	1.000
Worked	NA	1.741*	1.679*	1.654*	1.347
Ethnicity					
Turkish and Other (Ref.)	1.000	1.000	1.000	1.000	1.000
Kurdish	NA	NA	3.108*	3.221*	2.091
Arabic	NA	NA	0.794	0.895	1.420
Brides Money					
Not Taken (Ref.)	1.000	1.000	1.000	1.000	1.000
Taken	NA	NA	0.906	0.864	0.952
Consanguinity					
Not Related (Ref.)	1.000	1.000	1.000	1.000	1.000
Related	NA	NA	0.715**	0.711**	0.905
Wealth Status					
Low (Ref.)	1.000	1.000	1.000	1.000	1.000
Medium	NA	NA	NA	1.476	1.639**
High	NA	NA	NA	1.749*	1.907*
Regions					
North East Syria (Ref.)	1.000	1.000	1.000	1.000	1.000
Central Syria	NA	NA	NA	0.716	0.719
South West Syria	NA	NA	NA	0.873	0.739
Age at First Marriage	NA	NA	NA	NA	1.981*

Table 4.30. (Continued) Odds Ratios for Syrian Refugee Women Who Had Their First Birth After Migration

	Model 1	Model 2	Model 3	Model 4	Model 5
Ever Use Contraception					
Never Used Method (Ref.)	1.000	1.000	1.000	1.000	1.000
Used Only Traditional Method	NA	NA	NA	NA	1.067
Used Modern Method	NA	NA	NA	NA	0.591**
Nagelkerke R²	0.020	0.549	0.565	0.572	0.753
N	1647	1647	1647	1640	1640

‘NA’ indicates not applicable because the values are not in the model

(*) indicates statistically significant with $p < 0.01$; (**) indicates statistically significant with $p < 0.05$.

4.2.3. Multiple Linear Regression: Age at First Marriage

In this part of the thesis, Multiple Linear Regression analysis is conducted using age at first marriage as the dependent variable in order to understand the risk factors influencing the age at first marriage among Syrian refugee women, including the marriage timing, socioeconomic characteristics, cultural traditions, and regional differences. First, an analysis on all Syrian women is conducted with the addition ‘timing of marriage by migration’ as an independent variable. Following this, the subpopulation is selected as Syrian women married before and after migration separately so that the pre- and post-migration differences can be compared. Each analyses shows the coefficients (B) as well as the p-values (significances) of the variables denoted with the * mark. Introducing ‘timing of marriage by migration’ as the first independent variable allows to establish a baseline understanding of their influence before controlling for other factors like age, education, ethnicity or other factor and helps to isolate the effect of migration timing on the dependent variables.

Table 4.35 presents the results on age at first marriage for all Syrian women with a total of five models. In Model 1, migration-related marriage timing is primarily added into the

analysis as the first variable to assess the impact of the timing of marriage relative to migration on age at first marriage among Syrian women in Turkey and the model was found significant ($p < 0.05$, Nagelkerke $R^2 = 0.016$). The results indicate that Syrian women who married after migration in Turkey tend to marry 1.3 years later compared to those who married before migration.

In addition to the timing of marriage, duration of stay is added into the analysis in Model 2 and the second model is also found significant ($p < 0.05$, Nagelkerke $R^2 = 0.019$). Even accounting duration of stay, Syrian women who married after migration still tend to marry 1.3 years later compared to those who married before migration reinforcing the idea that migration delays age at first marriage. On the other hand, although their coefficients are negative, the categories of the duration of stay are found not statistically significant. This means that there is no strong evidence showing that the length of stay in the host country (up to 7 years) affects the age at first marriage holding other variables constant.

Model 3 introduces the newly added variables of age, education level and work experience into the analysis and the model was found significant. Nagelkerke R^2 increases compared to previous model indicating that the model explains approximately 19% of the variance in the dependent variable ($p < 0.05$, Nagelkerke $R^2 = 0.188$). The coefficient of migration-related marriage timing increases compared to previous models which suggests a more substantial delay in age at first marriage (3.2 years) for those who marry after migration compared to women who marry before migration. In this model categories of duration of stay also found significant suggesting that the longer women stay in Turkey, the earlier they tend to marry. More specifically, Syrian women who have been in Turkey 3-4 years and 5-6 years tend to marry approximately 1.2 years earlier than those who have been in Turkey for 0-2 years. As the length of stay increases, namely, 7 and more years, women tend to marry 1.5 years earlier compared to the reference category (0-2 years). As the strongest effect among categories, this suggests that the longer the duration of stay, the earlier the age at first marriage. Age is also found significant indicating that an increase

in the woman's current age is associated with an increase in the age at first marriage. On the other hand, only the 'Secondary and Higher' category of education is found to be significant indicating that Syrian women who have higher education levels tend to marry 1.8 years later compared to women who have no education. Lastly, having worked is also a positive and significant coefficient suggesting that women who have ever experience working are more likely to marry at later (0.7 years).

In Model 4, the newly introduced variables are ethnicity, brides money and consanguinity and the model is significant ($p < 0.05$, Nagelkerke $R^2 = 0.215$). The variables which were significant in the previous model continues to be significant in this model as well. On the other hand, Kurdish origin of ethnicity is the only significant category of this variable exhibiting that Kurdish women tend to marry 1.2 years later than the Turkish and other ethnicities. The effect of the brides money on age at first marriage is not statistically significant, while the consanguinity is found to be significant presenting that women who married with their relative tend to marry 1 year earlier than those who marry outside the family. This suggests that consanguineous marriages are associated with earlier marriage ages.

In the final model, wealth status and regions are added into the analysis for the first time and the model is significant overall explaining 22% of the variance of the dependent variable ($p < 0.05$, Nagelkerke $R^2 = 0.218$). Though, wealth status and regions are not statistically significant. The variables which were significant in the previous model are still significant and their direction is also same. Syrian women who married after migration marry 3 years later compared to Syrian women who marry before migration in the final model. The increase in the estimate for "women who marry after migration" from Model 1 to Model 5 is evident. Initially, without controlling for other factors, the effect of marrying after migration appears moderate. However, once variables such as age, education, work experience and the other variables in the final model are included, the true effect of migration timing is better isolated, leading to an increase in the estimate.

Table 4.31. Age at First Marriage among All Syrian Refugee Women: Multiple Linear Regression Results, 2018 TDHS-S

	Model 1	Model 2	Model 3	Model 4	Model 5
Variables					
Timing of Marriage by Migration					
Before Migration (Ref.)	-	-	-	-	-
After Migration	1.261*	1.277*	3.195*	2.989*	3.012*
Duration of Stay					
0-2 Years (Ref.)	-	-	-	-	-
3-4 Years	NA	-0.664	-1.129*	-1.131*	-1.093*
5-6 Years	NA	-0.519	-1.160*	-1.315*	-1.260*
7+ Years	NA	-0.406	-1.519*	-1.767*	-1.726*
Age	NA	NA	0.210*	0.212*	0.213*
Education Level					
No Education (Ref.)	-	-	-	-	-
Primary	NA	NA	0.300	0.385	0.446
Secondary and Higher	NA	NA	1.759*	1.842*	1.952*
Ever Worked					
Not Worked (Ref.)	-	-	-	-	-
Worked	NA	NA	0.743*	0.674*	0.666*
Ethnicity					
Turkish and Other (Ref.)	-	-	-	-	-
Kurdish	NA	NA	NA	1.170*	1.109*
Arabic	NA	NA	NA	-0.607	-0.689
Brides Money					
Not Related (Ref.)	-	-	-	-	-
Related	NA	NA	NA	-0.141	-0.084
Consanguinity					
Not Related (Ref.)	-	-	-	-	-
Related	NA	NA	NA	-1.031*	-1.043*
Wealth Status					
Low (Ref.)	-	-	-	-	-
Middle	NA	NA	NA	NA	-0.465
High	NA	NA	NA	NA	-0.376

Table 4.31. (Continued) Age at First Marriage among All Syrian Refugee Women: Multiple Linear Regression Results, 2018 TDHS-S

	Model 1	Model 2	Model 3	Model 4	Model 5
Regions					
North East Syria (Ref.)	-	-	-	-	-
Central Syria	NA	NA	NA	NA	-0.187
South West Syria	NA	NA	NA	NA	0.283
Nagelkerke R²	0.016	0.019	0.188	0.215	0.218
N	1846	1844	1844	1844	1835

'NA' indicates not applicable because the values are not in the model

* indicates statistically significant with $p < 0.01$; ** indicates statistically significant with $p < 0.05$

In addition to the previous results, separate analyses to determine the factors that influence age at first marriage for Syrian women who marry before migration and who marry after migration are also conducted. The results of these analyses are presented in Table 4.36 and 4.37, respectively. Both of these analyses consist of four models in total and variables are added into the models in a stepwise manner.

Duration of stay is the first independent variable that is introduced into the analysis for Syrian women who married after migration, and the variable found not to be significant (Table 4.36). The overall model is also not statistically significant ($p=0.39$ and Nagelkerke $R^2=0.03$). In Model 2, age, education and work experience is introduced and the model is found to be significant with Nagelkerke R^2 value increases from 3% to 12% ($p < 0.05$ and Nagelkerke $R^2=0.120$). Among these variables age is a significant variable indicating that for each additional year of age, age at first marriage increases by 0.2 years. For education level, only the 'secondary and higher' category is found to be significant suggesting that women who completed secondary and higher education marry 1.9 years later compared to women who have no education in the pre-migration period in Syria. In a similar manner, women who have ever worked also marry 0.6 years later compared to women who have never worked. In Model 3, ethnicity, brides money and consanguinity are introduced and

the model is significant overall ($p < 0.05$ and Nagelkerke $R^2 = 0.143$). Syrian women with Kurdish origin appear to marrying significantly later (1.4 years) than Turkish and other origin Syrian women. Brides money is not a statistically significant variable in this model, while consanguinity found to be significant. Syrian women who are related with their husbands get marry 0.9 years earlier compared to those who are not related with their husbands. The last model is also statistically significant explaining %14 of the variance in the dependent variable ($p < 0.05$ and Nagelkerke $R^2 = 0.145$). Wealth status and regions are added into the analysis in which both of these predictor's categories were found not significant.

Table 4.32. Age at First Marriage among Syrian Refugee Women Who Had Married Before Migration: Multiple Linear Regression Results, 2018 TDHS-S

	Model 1	Model 2	Model 3	Model 4
Variables				
Duration of Stay				
0-2 Years (Ref.)	-	-	-	-
3-4 Years	-0.530	-0.965*	-0.968*	-0.950*
5-6 Years	-0.503	-0.998*	-1.146*	-1.113*
7+ Years	-0.874	-1.670*	-1.912*	-1.915*
Age	NA	0.150*	0.155*	0.155*
Education Level				
No Education (Ref.)	-	-	-	-
Primary	NA	0.284	0.356	0.377
Secondary and Higher	NA	1.894*	1.964*	2.018*
Ever Worked				
Not Worked (Ref.)	-	-	-	-
Worked	NA	0.613**	0.592**	0.585**
Ethnicity				
Turkish and Other (Ref.)	-	-	-	-
Kurdish	NA	NA	1.350*	1.381*
Arabic	NA	NA	-0.389	-0.414

Table 4.32. (Continued) Age at First Marriage among Syrian Refugee Women Who Had Married Before Migration: Multiple Linear Regression Results, 2018 TDHS-S

	Model 1	Model 2	Model 3	Model 4
Brides Money				
Not Taken (Ref.)	-	-	-	-
Taken	NA	NA	-0.114	-0.079
Consanguinity				
Not Related (Ref.)	-	-	-	-
Related	NA	NA	-0.943*	-0.950*
Wealth Status				
Low (Ref.)	-	-	-	-
Middle	NA	NA	NA	-0.458
High	NA	NA	NA	-0.242
Regions				
North East Syria (Ref.)	-	-	-	-
Central Syria	NA	NA	NA	-0.007
South West Syria	NA	NA	NA	0.106
Nagelkerke R²	0.003	0.120	0.143	0.145
N	1844	1844	1844	1835

‘NA’ indicates not applicable because the values are not in the model

* indicates statistically significant with $p < 0.01$; ** indicates statistically significant with $p < 0.05$

A similar analysis and modeling are conducted for Syrian women who had married after migration (Table 4.37). In Model 1 duration of stay is added in which the model is found not be not significant ($p=0.17$ and Nagelkerke $R^2=0.015$). As age, education and ever-worked added into the Model 2, the model is found to be statistically significant and Nagelkerke R^2 increases up to 90%. Previously added duration of stay and its categories become a significant predictor as well signifying that Syrian women who have been in Turkey 3-4 years tend to marry at a younger age compared to who have stayed 0-2 years. As the duration of stay increases, it is observed that Syrian women marry much earlier reaching to 1.8 years for who stayed in Turkey 7 or more years. As the age of Syrian women increases, they are more likely to marry later (0.9 years). The categories of

education are not statistically significant. Model 3 includes ethnicity, brides money and consanguinity and although the model is significant ($p<0.05$ and Nagelkerke $R^2=0.899$) the newly introduced variables found not to be significant. The final model uses wealth status and regions as the new additions and the model is statistically significant ($p<0.05$ and Nagelkerke $R^2=0.900$). According to the findings, Syrian women in the middle and high wealth status tend to marry at slightly younger ages compared to those in the low wealth status. However, the variable regions found not statistically significant.

Table 4.33. Age at First Marriage among Syrian Refugee Women Had Married After Migration: Multiple Linear Regression Results, 2018 TDHS-S

	Model 1	Model 2	Model 3	Model 4
Variables				
Duration of Stay				
0-2 Years (Ref.)	-	-	-	-
3-4 Years	-1.186	-0.841*	-0.867*	-0.873*
5-6 Years	-0.601	-1.325*	-1.352*	-1.346*
7+ Years	0.486	-1.809*	-1.849*	-1.835*
Age	NA	0.904*	0.898*	0.897*
Education Level				
No Education (Ref.)	-	-	-	-
Primary	NA	-0.162	-0.139	-0.055
Secondary and Higher	NA	-0.085	-0.090	0.049
Ever Worked				
Not Worked (Ref.)	-	-	-	-
Worked	NA	0.353	0.345	0.310
Ethnicity				
Turkish and Other (Ref.)	-	-	-	-
Kurdish	NA	NA	0.246	0.146
Arabic	NA	NA	0.055	-0.055
Brides Money				
Not Taken (Ref.)	-	-	-	-
Taken	NA	NA	0.038	0.094

Table 4.33. (Continued) Age at First Marriage among Syrian Refugee Women Had Married After Migration: Multiple Linear Regression Results, 2018 TDHS-S

	Model 1	Model 2	Model 3	Model 4
Consanguinity				
Not Related (Ref.)	-	-	-	-
Related	NA	NA	-0.294	-0.321**
Wealth Status				
Low (Ref.)	-	-	-	-
Middle	NA	NA	NA	-0.408**
High	NA	NA	NA	-0.326**
Regions				
North East Syria (Ref.)	-	-	-	-
Central Syria	NA	NA	NA	-0.269
South West Syria	NA	NA	NA	0.174
Nagelkerke R²	0.015	0.897	0.899	0.900
N	1844	1844	1844	1835

‘NA’ indicates not applicable because the values are not in the model

* indicates statistically significant with $p < 0.01$; ** indicates statistically significant with $p < 0.05$

4.2.4. Multiple Linear Regression: Age at First Birth

Table 4.38 below presents the results of the multiple linear regression analysis results for age at first birth as the dependent variable. In Model 1 ($p < 0.05$ and Nagelkerke $R^2 = 0.004$), the table presents a basic regression model where the only independent variable is the timing of birth by migration. According to the findings, Syrian women who had their first birth after migrating to Turkey tend to have their first child at an older age compared to those who had their first birth before migration. Specifically, the age at first birth is expected to be 0.6 years higher for women who had their first child after migration, holding all other factors constant.

With Model 2, duration of stay is included, but the overall model found not to be significant ($p = 0.085$ and Nagelkerke $R^2 = 0.006$); similarly, the variable’s categories are

found not significant as well. Following this, Model 3 is significant with the addition of age, education and work experience variables ($p < 0.05$ and Nagelkerke $R^2 = 0.215$). For each additional year of a woman's age, the age at first birth of Syrian women is expected to increase by 0.25 years suggesting that women have their first birth at a slightly older age. Besides this, Syrian women with secondary or higher education tend to have their first birth 1.2 years later compared to women with no education, holding other variables constant. Syrian women who have ever experience working also have their first birth slightly later (0.8 years) compared to those who have never worked. In addition to these, it is observed that the coefficient for the timing of birth by migration increases from 0.571 in Model 1 to 3.097 in Model 3 which can be attributed to the inclusion of additional variables in Model 3 that control for other factors affecting the age at first birth.

Model 4 includes cultural variables such as ethnicity, brides Money and consanguinity into the analysis and the model is found to be significant ($p < 0.05$ and Nagelkerke $R^2 = 0.232$). According to the findings, Syrian women with Kurdish origin tend to have their first birth 0.8 years later compared to women from Turkish and other origin. On the other hand, Syrian women in consanguineous marriages tend to have their first birth slightly at a younger age by 0.8 years compared to women who are not related to their spouses.

Wealth status and regions are introduced in Model 5 and the model is found to be significant ($p < 0.05$ and Nagelkerke $R^2 = 0.239$). Although the categories of regions are not statistically significant, wealth status is a significant variable in this model. Women in the middle and high wealth status are more likely to start childbearing earlier than those with lower wealth status. For women in middle wealth status, this corresponds to 0.5 years earlier, while it is 0.8 years earlier for women in high wealth status

In the final model, age at first marriage and ever-used contraception were added into the analysis. The model is found to be statistically significant with Nagelkerke R^2 increases

compared to the previous model explaining 76% of the variance in the dependent variable ($p < 0.05$ and Nagelkerke $R^2 = 0.756$). For the predictor age at first marriage the results show that there is a positive relationship between age at first marriage and age at first birth. For every additional year increase in the age at first marriage, the age at first birth increases by approximately 0.8 years, holding all other variables constant (Table 4.38). On the other hand, Syrian women who have ever used modern contraceptive methods have their first birth at a younger age by 0.6 years compared to women who have never used any methods.

Table 4.34. Age at First Birth among All Syrian Refugee Women: Multiple Linear Regression Results, 2018 TDHS-S

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Variables						
Timing of Birth by Migration						
Before Migration (Ref.)	-	-	-	-	-	-
After Migration	0.571**	0.578**	3.097*	2.937*	2.990*	0.855*
Duration of Stay						
0-2 Years (Ref.)	-	-	-	-	-	-
3-4 Years	NA	-0.445	-1.071*	-1.068*	-1.014*	-0.291
5-6 Years	NA	-0.168	-1.052*	-1.145*	-1.061*	-0.166
7+ Years	NA	-0.400	-1.646*	-1.797*	-1.765*	0.465**
Age	NA	NA	0.246*	0.248*	0.252*	0.097*
Education Level						
No Education (Ref.)	-	-	-	-	-	-
Primary	NA	NA	0.088	0.155	0.307	-0.035
Secondary and Higher	NA	NA	1.155*	1.225*	1.555*	0.038
Ever Worked						
No (Ref.)	-	-	-	-	-	-
Yes	NA	NA	0.826*	0.769*	0.782*	0.409*
Ethnicity						
Turkish and Other (Ref.)	-	-	-	-	-	-
Kurdish	NA	NA	NA	0.829**	0.635	-0.374
Arabic	NA	NA	NA	-0.488	-0.684	-0.141

Table 4.34. (Continued) Age at First Birth among All Syrian Refugee Women: Multiple Linear Regression Results, 2018 TDHS-S

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Brides Money						
Not Taken (Ref.)	-	-	-	-	-	-
Taken	NA	NA	NA	-0.214	-0.156	-0.061
Consanguinity						
Not Related (Ref.)	-	-	-	-	-	-
Related	NA	NA	NA	-0.769*	-0.784*	-0.057
Wealth Status						
Low (Ref.)	-	-	-	-	-	-
Middle	NA	NA	NA	NA	0.542**	-0.189
High	NA	NA	NA	NA	-0.828*	-0.486*
Regions						
North East Syria (Ref.)	-	-	-	-	-	-
Central Syria	NA	NA	NA	NA	-0.398	-0.283
South West Syria	NA	NA	NA	NA	0.049	-0.213
Age at First Marriage	NA	NA	NA	NA	NA	0.774*
Ever Use Contraception						
Never Used Method (Ref.)	-	-	-	-	-	-
Used Only Traditional Method	NA	NA	NA	NA	NA	-0.154
Used Modern Method	NA	NA	NA	NA	NA	-0.626*
Nagelkerke R²	0.004	0.006	0.215	0.232	0.239	0.756
N	1649	1647	1647	1647	1640	1640

'NA' indicates not applicable because the values are not in the model

* indicates statistically significant with $p < 0.01$; ** indicates statistically significant with $p < 0.05$

Analyses results regarding age at first birth before and after migration also presented in Table 4.39 and 4.40 respectively. Pre-migration period analysis utilizes five models. Model 1 introduces duration of stay but the overall model and the variable found not be significant ($p=0.28$ and Nagelkerke $R^2=0.004$). Model 2 presents the results with the newly added age, education and ever-worked and both the overall model and the variables

resulted statistically significant ($p < 0.05$ and Nagelkerke $R^2 = 0.144$). As the age of Syrian women increases, the age of first birth also tends to increase. Women with secondary and higher education have a higher age at first birth in pre-migration period (1.3 year later) compared to women with no education. Women who have ever worked also had their first birth 0.8 years later compared to those who have not worked. Cultural variables are introduced in Model 3 and overall model is significant ($p < 0.05$ and Nagelkerke $R^2 = 0.159$). Only consanguinity is significant among the new variables which indicates that Syrian women are related with their partner tend to have their first birth 0.8 years earlier compared to those who are not in the pre-migration period. Model 4 is also significant with Nagelkerke R^2 increasing to %17 and among the newly added variables only wealth status is significant. Women in middle and high wealth status had their first birth approximately 0.7 years earlier compared to women in low wealth status. In the final model, Nagelkerke R^2 reaches to 72% and the overall model is statistically significant. The older age at first marriage associated with an older age at first birth in the pre-migration period suggesting a 0.8 years delay. On the other hand, Syrian women who use modern contraceptive methods 0.8 earlier compared to those who never used any methods.

Table 4.35. Age at First Birth among Syrian Women Who Had Their First Birth Before Migration: Multiple Linear Regression Results, 2018 TDHS-S

	Model 1	Model 2	Model 3	Model 4	Model 5
Variables					
Duration of Stay					
0-2 Years (Ref.)	-	-	-	-	-
3-4 Years	-0.541	-1.050**	-1.025**	-1.008*	-0.264
5-6 Years	-0.291	-0.936**	-1.031*	-0.974*	-0.112
7+ Years	-0.994	-1.929*	-2.088*	-2.147*	-0.558
Age	NA	0.177*	0.181*	0.185*	0.079*
Education Level					
No Education (Ref.)	-	-	-	-	-
Primary	NA	0.211	0.269	0.417	0.033
Secondary and Higher	NA	1.315*	1.367*	1.728*	0.053

Table 4.35. (Continued) Age at First Birth among Syrian Women Who Had Their First Birth Before Migration: Multiple Linear Regression Results, 2018 TDHS-S

	Model 1	Model 2	Model 3	Model 4	Model 5
Ever Worked					
No (Ref.)	-	-	-	-	-
Yes	NA	0.846*	0.812*	0.827*	0.483*
Ethnicity					
Turkish and Other (Ref.)	-	-	-	-	-
Kurdish	NA	NA	0.389	0.235	-0.596
Arabic	NA	NA	-0.714	-0.890	-0.300
Brides Money					
Not Taken (Ref.)	-	-	-	-	-
Taken	NA	NA	-0.134	-0.087	-0.079
South West Syria	NA	NA	NA	-0.461	-0.334
Age at First Marriage	NA	NA	NA	NA	0.763*
Ever Use Contraception					
Never Used Method (Ref.)	-	-	-	-	-
Used Only Traditional Method	NA	NA	NA	NA	-0.238
Used Modern Method	NA	NA	NA	NA	-0.745*
Nagelkerke R²	0.004	0.144	0.159	0.168	0.723
N	1647	1647	1647	1640	1640

'NA' indicates not applicable because the values are not in the model

* indicates statistically significant with $p < 0.01$; ** indicates statistically significant with $p < 0.05$

Post-migration results of age at first birth are different compared to pre-migration status and presented in the blow table of 4.40. Similar to the previous table, Model 1 and the categories of duration of stay are not significant ($p=0.57$ and Nagelkerke $R^2=0.005$). The second model is significant with Nagelkerke R^2 rising up to 0.884 and age and education found to be statistically significant. As Syrian women's age increases by one year, her age at first birth is expected to be nearly 0.9 years later in the post-migration period, holding all other factors constant in the model. On the other hand, Syrian women who have primary level education tend to had their first birth 0.4 years earlier compared to those who have no education. Model 3 is statistically significant with the addition of ethnicity, brides money and consanguinity ($p < 0.05$ and Nagelkerke $R^2=0.884$), though these

variables and their categories found not be significant. With Model 4 wealth status and regions were introduced the overall model also the variables are statistically significant ($p < 0.05$ and Nagelkerke $R^2 = 0.888$). According to the findings, Syrian women with high wealth status tend to have a slightly earlier first birth (0.4 years) than women from households with low wealth status, holding all other variables constant in the model. Syrian women from Central Syria also tend to have their first birth 0.5 years earlier compared to those who arrive from North East Syria. In Model 5 age at first marriage and ever-use of contraception is introduced and the model also the variables found statistically significant ($p < 0.05$ and Nagelkerke $R^2 = 0.927$). For each additional year in a woman's age at first marriage, the expected age at first birth increases by 0.4 years, holding all other variables constant. On the other hand, Syrian women who have ever used modern contraceptive methods tend to have their first birth 0.6 years earlier in the post-migration period.

Table 4.36. Age at First Birth among Syrian Women Had Their First Birth After Migration: Multiple Linear Regression Results, 2018 TDHS-S

	Model 1	Model 2	Model 3	Model 4	Model 5
Variables					
Duration of Stay					
0-2 Years (Ref.)	-	-	-	-	-
3-4 Years	-0.003	-0.754*	-0.748*	-0.660*	-0.419**
5-6 Years	0.352	-1.465*	-1.463*	-1.377*	-0.806*
7+ Years	0.877	-1.815*	-1.805*	-1.669*	-1.049*
Age	NA	0.879*	0.877*	0.874*	0.598*
Education Level					
No Education (Ref.)	-	-	-	-	-
Primary	NA	-0.416*	-0.413**	-0.341	-0.247
Secondary and Higher	NA	-0.055	-0.036	0.143	0.041

Table 4.36. (Continued) Age at First Birth among Syrian Women Had Their First Birth After Migration: Multiple Linear Regression Results, 2018 TDHS-S

	Model 1	Model 2	Model 3	Model 4	Model 5
Ever Worked					
No (Ref.)	-	-	-	-	-
Yes	NA	0.089	0.065	0.052	0.035
Ethnicity					
Turkish and Other (Ref.)	-	-	-	-	-
Kurdish	NA	NA	0.098	-0.028	-0.161
Arabic	NA	NA	-0.005	-0.092	0.110
Brides Money					
Not Taken (Ref.)	-	-	-	-	-
Taken	NA	NA	-0.114	-0.065	-0.027
Consanguinity					
Not Related (Ref.)	-	-	-	-	-
Related	NA	NA	-0.011	-0.042	0.022
Wealth Status					
Low (Ref.)	-	-	-	-	-
Middle	NA	NA	NA	-0.168	-0.010
High	NA	NA	NA	-0.399**	-0.186
Regions					
North East Syria (Ref.)	-	-	-	-	-
Central Syria	NA	NA	NA	-0.518*	-0.509*
South West Syria	NA	NA	NA	0.429	0.106
Age at First Marriage	NA	NA	NA	NA	0.365*
Ever Use Contraception					
Never Used Method (Ref.)	-	-	-	-	-
Used Only Traditional Method	NA	NA	NA	NA	-0.170
Used Modern Method	NA	NA	NA	NA	-0.593*
Nagelkerke R²	0.005	0.884	0.884	0.888	0.927
N	1647	1647	1647	1640	1640

'NA' indicates not applicable because the values are not in the model

* indicates statistically significant with p<0.01; ** indicates statistically significant with p<0.05

CHAPTER 5. DISCUSSION AND CONCLUSION

This thesis delves into the nuanced fertility trajectories of Syrian women in Turkey, focusing on the shifts in marital, fertility, and reproductive practices in the post-migration period using comprehensive data from the 2018 TDHS-S, along with some of the comparative analyses with other datasets. The findings from both descriptive and multivariate analyses underscore the multifaceted determinants shaping these trajectories. Specifically, this study reveals that Syrian refugee women experience significant changes regarding their marital and reproductive behaviors after their migration to Turkey.

In multivariate analyses, binary logistic regression analysis is implemented for Syrian refugee women who had married and who had their first birth prior to and following migration. Following this, multiple linear regression analysis is conducted using age at first marriage and age at first birth as dependent variables. In the first part of this analysis, ‘timing of marriage by migration’ is utilized as an independent variable and added in the Model 1 for the all-Syrian refugee population, then separate analyses regarding pre- and post-migration periods were also conducted. The same procedure is implemented for age at first birth by adding ‘timing of birth by migration’ as the first variable following by the separate analyses for before and after migration. With these separate analyses, similar and different determinants for the first marriage and first birth before migration in Syria and after migration in Turkey are comparatively evaluated. The analyses are conducted based on women aged 15-49 who were ever married when analyzing the marriage determinants and who had at least one child when analyzing the first birth determinants. The sample design of the study was complex, therefore both analyses are implemented using the ‘complex sample’ module of the IBM SPSS 24 software by defining the strata, cluster and weighing the data in accordance with the complex design.

In the binary logistic regression analysis method, the dependent variables were recoded into two categories. For the timing of first marriage by migration, the variable was created as women who had their first marriage before migration (in Syria) (0) and who had their first marriage after

migration (in Turkey) (1). After the first part of the analysis is presented according to this variable, another analysis based on the timing of first birth by migration was implemented. For this analysis, the dependent variable is recoded similarly as women who had their first birth before migration (in Syria) (0) and who had their first birth after migration (in Turkey) (1). In the analysis of the timing of the first marriage by migration a total of nine independent variables were used related to migration, individual characteristics, cultural characteristics, and contextual characteristics of women. These independent variables are categorized into four distinct models in which these grouped variables are added in a stepwise manner. Results of the binary logistic regression analysis show that the first marriage among Syrian refugee women in Turkey is significantly related with most of the variables. The results reveal that duration of stay, age, education level, work experience, ethnicity, brides money, and consanguinity are risk factors that increase the likelihood of first marriage among Syrian women in the post-migration period in Turkey. Duration of stay is a significant factor in the binary logistic regression analysis affecting the likelihood of first marriage after migration. The results show that longer women stay in Turkey, the more likely it is that they will get married. This finding implies that Syrian refugees are more likely to follow through with major life events such as marriage as they spend more time in the host country. Another finding shows that the odds of getting married post-migration decrease significantly with age indicating a strong negative association between age and the likelihood of getting married after migration. As the age of Syrian women increases, there have been lower odds of them getting married, indicating that older women are much less likely to marry for the first time in the post-migration period. This trend may signify postponed marriages attributed to uncertainties, migration-related challenges or the process of adaptation to different socio-cultural environments. Furthermore, compared to women with no education and women who have never worked, Syrian women with secondary or higher education and those who have ever worked are more likely to be (approximately 1.6 times) married for the first time after migration. These significant positive associations highlight that higher education levels and the role of work experience gained even once shape the marital outcomes of Syrian women after migration. Women of Arabic origin and women whose husbands/parents paid brides money are less likely to marry after migration compared to Turkish and other origin groups and those who did not paid brides money. These suggest that cultural norms,

values or practices are less likely influence the occurrence of marriage in Turkey and traditional marriage practices involving brides money are less prevalent or less feasible in the post-migration period. Similarly, women who marry within their family are less likely to have their first marriage in Turkey which reflect a shift away from consanguineous marriages in the post-migration period. These results suggest that in the post-migration period in Turkey, women's marriage patterns are influenced by a combination of socio-economic, cultural and migration factors showing initial signs of integration to new societal norms and differences compared to the pre-migration period in Syria.

A similar analysis is implemented for the odds of having first birth after migration among Syrian refugee women to understand the risk factors that are specifically effective on this probability. The same variables that were used for first marriage were used in this analysis as well, but additionally two more independent variables were added into the analysis. Thus, in addition to the initial four models, one more model was introduced to include variables related to the marital and fertility characteristics of women. As a result, a total of eleven independent variables and five models were utilized in the second part of the binary logistic regression analysis. The findings of the regression analysis based on the finalized model indicate that duration of stay, age, wealth status, age at first marriage and ever use of contraception are the risk factors influencing the likelihood of having first birth after migration among Syrian refugees. Duration of stay is a significant factor affecting the likelihood of having first birth after the migration. Similar to the probability of having first marriage, a longer duration of stay in Turkey is strongly associated with an increased likelihood of having the first birth post-migration. This indicates that as Syrian refugee women stay in Turkey for longer periods, they are more likely to establish their families and have children there. This trend suggests that the longer Syrian refugee women stay in Turkey, the more likely they are to integrate and adapt to the host country's culture, norms and values facilitating the odds of starting a family. On the other hand, with each additional year of in a woman's age, the odds of having her first birth after migration versus before migration decreases. This finding can be interpreted as older women being less likely to have their first birth after migration, and more likely to have had their first birth before migration. Wealth status is another significant predictor in influencing the probability of having a first birth in the post-migration period. Compared to Syrian women with low wealth status, women

with medium and high wealth status are significantly 1.6 and 1.9 times more likely to have their first birth after migration versus before migration. The contextual meaning of this is that economic factors play a crucial role in determining the timing of childbirth relative to migration as women from wealthier households in a better position to start their families after settling in the host country, thus starting childbearing after migration. This may also reflect better access to healthcare and socio-economic resources among wealthier Syrian refugee women, enabling them to make informed reproductive decisions. These results contradict with previous research, which found that household wealth has no discernible effect on the likelihood of conception (Agadjanian and Prata, 2002). Another factor that is significant on the first marriage decision after migration among Syrian refugee women is the age at first marriage. The analysis results suggest that in contrast to their counterparts in Syria, Syrian women in Turkey tend to marry at later ages, implying a higher probability of delayed first births among Syrian refugee women. This indicates a potential shift in marriage patterns and reproductive behaviors in the post-migration period and could reflect the impact of migration, the socio-economic adjustments or changes in family planning behaviors among Syrian refugee women who migrate to Turkey. Modern contraception usage among Syrian women is also associated with a lower likelihood of having their first birth in Turkey, while the use of traditional methods does not show a significant association. This suggests that access to and utilization of modern contraceptive methods influence reproductive decisions among Syrian refugee women in Turkey. Studies in the literature also show similar results as the use of modern contraceptive methods is likely to decrease fertility (Kirk and Pillet, 1998). However, during the time of the survey, it was also revealed that 57% of the Syrian refugee women were not using any contraceptive method suggesting their intention to get pregnant. Overall, the results of the analyses show that Syrian refugee women's reproductive decisions and behaviors in Turkey are influenced by a combination of demographic, migration, cultural, marital and fertility factors.

Multiple linear regression analyses which were conducted for age at first birth and age at first marriage also complement the results of the binary logistic regression analyses. Comparing the results for women who married before and after migration highlights similarities and differences in the factors influencing age at first marriage in these two periods, providing valuable insights into

the complexities of marriage decisions among Syrian refugee women in different migration contexts. First, an analysis regarding all Syrian population in Turkey is conducted where the timing of marriage by migration is introduced as the first variable into the analysis. By including this variable first, a baseline comparison between two distinct groups is established and thus the influence of migration on the marital and fertility trajectories are explored. According to the findings in the, Syrian women who married after migration experience this event 1.3 years later compared to the pre-migration period, while in the finalized model it rises up to 3 years with the addition of other variables. The increase in the coefficient as more variables are added suggests that this delay in marriage is influenced by a combination of migration effects and other factors such as age, education, work experience and cultural aspects. The persistence of this effect even after controlling for wealth and regions highlights the robust influence of migration on marital timing. For women who married before migration, duration of stay, age, education, ever-worked, ethnicity and consanguinity were found to be significant, while for women who married after migration, duration of stay, age, consanguinity and wealth status were influential. Generally, duration of stay, age and consanguinity are common predictors for both groups in pre- and post-migration period, wealth status only significant in post-migration, whereas the education, work experience and ethnicity are only significant in the pre-migration period.

On the other hand, for age at first birth, a similar way of analysis is followed in which timing of first birth by migration is added as the first variable into the modelling and a total of six models were achieved. After this analysis, pre- and post-migration periods are analyzed separately with five models in total. The results of the first analysis on general population indicate that Syrian women who had their first birth experience this event 0.6 years later compared to women in the pre-conflict period with the first model. Although the coefficient increases up to 3.1 in Model 3, in the finalized model it stands at 0.9. In addition to this preliminary analysis, the age at first birth in pre- and post-migration settings are analyzed as well by selecting the sub-population initially for Syrian refugee women who had their first birth in Syria and the same procedure is implemented again for Syrian women who had their first in Turkey. According to the results of these analyses, duration of stay, age, work experience, wealth status, age at first marriage and ever use of

contraception were significant in the pre-migration period in Syria, while in post-conflict period in Turkey duration of stay, age, regions, age at first marriage and ever use of contraception are statistically significant influencing on the likelihood of age at first birth. Work experience and wealth are differentiating factors in the pre-migration period, while regions is the only different predictor in the post-migration period in Turkey that vary from Syria. For women who had their first birth in Syria, the longer stays in Turkey, having a high wealth status and use of modern contraception methods are associated with earlier ages at first birth. On the other hand, for Syrian women who had their first birth in Turkey, women who migrated from Central Syria are more likely to have their first birth in Turkey and earlier compared to women from North East Syria. As the duration of stay in Turkey increases, Syrian women more likely to have their first birth in Turkey and those who stay in Turkey longer have their first child earlier than those who stay shorter periods. Older age at first marriage delay age at first birth, while women who have ever used modern of contraceptive methods are more likely to have earlier age at first births. These interpretations highlight how demographic, socio-economic and migration factors, along with marital and fertility-related elements influence the age at first birth among Syrian refugee women before and after migration.

In addition to the regression analysis, the descriptive analysis of the thesis revealed that Syrian refugee population in Turkey is not homogenous and there are different demographic and ethnic groups among them. While the majority of Syrians in Turkey are of Arab origin, there are also significant groups of Kurdish, Turkish and other ethnic backgrounds present among them (Table 4.13). On the other hand, MAAFAM has already presented different findings for Syrian women based on the timing of marriage according to migration even before conducting survival and regression analyses. For both 20-49 and 25-49 age groups, the age at first birth is notably higher among those who married after migration compared to those who married before. The increase is more significant for the 25-49 age group who married after migration where they realize this event much later (6 years) compared to women who had married before migration (Table 4.18). This information also supported by the Table 4.19 which presents the distribution of pre- and post-migration marriages according to age and different background characteristics. According to this

table, among the women who married after migration 35% of them are in 15-19 age group, while among the women who married before migration this percentage corresponds to 3.3%. This information highlights that a considerable number of Syrian in the post-migration period tend to marry at earlier ages meaning that early marriages are common in post-migration period. In addition to this, a younger women aged 15-24 dominate the group of women who married after migration, while women who are aged 25 and above are more likely to have already married before migration. On the other hand, the majority of women aged 25 and older were more likely to marry before migration, with significant portions (e.g., 23% of those aged 25-29 and 21% of those aged 30-34) marrying prior to migrating. This indicates that older women were already married before migrating and may have started their reproductive behaviors. Therefore, it is also important to acknowledge that some women initiated some of the fertility behaviors in Syria, irrespective of the conflict and subsequent migration. Nevertheless, the survival analysis that is conducted for the transitions to reproductive events among Syrian refugees who married before and after migration also suggest that timing and occurrence of these events differs in both periods. Women who married before migrating to Turkey tend to experience reproductive events such as first marriage, first and subsequent births at earlier ages compared to those who married after migration (Figure 4.11). This is reflected in the higher survival probabilities for the later ages in the tables for women married after migration. The slower decline in survival probabilities for each reproductive event indicating delays in marriage and childbirth compared to women who married before migration.

The results of the analyses discussed above reveal heterogeneous empirical evidence fertility trajectories of Syrian women according to conflict-induced migration. As argued in the literature, there exist diverse mechanisms connecting conflict and fertility, and these mechanisms and their impacts are expected to differ based on the specific characteristics of a conflict (Kraehnert et al., 2019). As noted before, fertility patterns in developing countries are often shaped by socio-economic, marital, family planning and institutional characteristics; however, not all anticipated outcomes occur uniformly across all conflict-affected populations. For instance, while a severe imbalance in the sex ratio, a temporary skew towards females and their negative influence on the marriage market is usually expected in conflict-affected populations (Buvinic et al., 2013), the

Syrian refugee population in Turkey shows a sex ratio of 108 males per 100 females (HUIPS, 2019b) and this does not necessarily indicate a major abnormality. A strong “replacement effect” is another frequently uttered outcome of the violent conflicts (Schindler and Brick, 2011; Lindskog, 2017) which again does not manifest itself for Syrian refugee women residing in Turkey. On the other hand, Syrian refugees still tend to marry and have their first births relatively early compared to Turkish women; however, these transitions also occur at later ages compared to their pre-conflict patterns. All these findings suggest a mixed response to marriage, childbearing and fertility among Syrian refugees.

Going back to the immigrant fertility hypotheses, it was previously specified that there were mainly four main hypotheses to be tested and evaluated in this thesis. The first one of these hypotheses is socialization which suggests immigrants' later reproduction behavior is influenced by their early exposure to fertility norms and practices. As a result of this, these values become resistant to change specifically for first-generation migrants and relatively high levels of fertility emerge among them as they follow the fertility patterns of their origin country rather than the host country (Milewski, 2007; Impicciatore et al., 2020). It is also highlighted that the fertility of women is believed to remain unaffected by any post-migration experiences of them (Ortensi, 2015). Thus, with this information, it can be argued that either the Syrian refugee women's reproductive behavior and fertility patterns should be similar to Syrian women in the pre-conflict period or these fertility trajectories expected to be higher than the native Turkish women's. In other words, irrespective of their duration of stay in Turkey, for socialization hypothesis to be valid, marriage, fertility or birth patterns of Syrian refugees in Turkey should be more similar with the pre-conflict period. Considering this information, if we examine the total fertility rates of Syrian women in Turkey compared to Turkish women, it can be observed that TFR of Syrian women is 5.3 (Table 4.22 and 4.23); whereas the corresponding rate for native Turkish women is 2.3 (HUIPS, 2019a). A similar trend is also evident among Syrian refugees residing in Jordan. Based on the results from 2017-2018 and 2023 Jordan Population and Family Health Surveys (JPFHS), the total fertility rates for Syrians were recorded at 4.7 and 4.1 for the respective years. In contrast, TFRs among Jordanians were 2.6 and 2.5 for the same respective years (DOS and ICF, 2019; DOS, The DHS Program and

ICF; 2023). Compared to the native populations, high fertility rates of Syrian refugee women are noticeable in both examples. On the other hand, total fertility rates could not be computed using the available 2006 SMICS or 2009 SFHS data. Though, the Arabic report on 2009 SFHS revealed that TFR of Syrians was 3.5 in 2009 (PAPFAM, 2009). This difference in total fertility rates between pre-migration period in Syria and post-migration period in Jordan were explained with the selection hypothesis by some scholars, as the majority of the Syrian refugee population in Jordan arrive from rural areas of Syria with much higher total fertility rates (Sieverding et al., 2018). In addition to these results, based on the survival analysis findings (Section 4.1.4), it can be inferred that the transition to first marriage and first birth occur very early for Syrian refugee women compared to their native counterparts indicating the presence of socialization hypothesis. Comparison of pre-migration and post-migration transitions within the same analysis also yielded similar results, indicating that Syrian women are more likely to experience reproductive behaviors earlier during the pre-migration period.

The second main hypothesis of immigrant fertility is the adaptation hypothesis, which argues that the fertility behavior of immigrants tends to change over time as they adjust to the norms, customs, and socio-economic conditions of the host country. Initially, high fertility among immigrants is expected, but this tends to decrease with time, and convergence with the host country's fertility levels is achieved. According to the premises of this hypothesis, it is either expected that Syrian refugees in Turkey experience reproductive events at later ages compared to the pre-migration period or it is expected that the difference between Syrian refugees and Turkish women's transition times to reproductive events such as second birth, third birth and subsequent births should decrease or converge as the duration of stay of the refugees increases. This outcome is evident from both survival analysis and binary logistic regression analyses. The findings of the survival analysis highlight that while the median transition times to reproductive events such as first marriage and first birth before and after migration are close to each other, for late transitions such as second birth and third birth the length of time between them has widened. In fact, Syrian refugees in the post-migration period experience these events at later ages compared to the pre-migration period. On the other hand, it also cannot be stated that the transition times to reproductive events between

Syrian refugee women and Turkish women have converged. The duration of stay in the target country is regarded as a measure of exposure to host country's customs and values (Carter, 2000; Ford, 1990) thus, even though this convergence has not yet been reached, with longer durations in the host country, it may be over time. On the other hand, binary logistic regression analysis revealed that while cultural factors such as ethnicity, brides money and consanguinity are significant risk factors on the occurrence of the first marriage in the post-migration period, these predictors are no longer significant on the occurrence of the first births among Syrian women in Turkey. This suggests that these cultural predictors are not significant during the time interval between first marriage and first birth in the post-migration period in Turkey. As argued by Afulani and Asunka (2015), adaptation describes two crucial factors that impacts the fertility behavior of migrants which are "resources and cultural adaptation". In this case, the wane of cultural factors in post-migration may possibly be explained with immigrants adapting to the socio-economic and cultural environment of the host country. Duration of stay is another significant factor and the findings of the analysis suggest that odds ratios increase over time so that the longer Syrian refugee women stay in Turkey, the more likely they are to marry and have their first child in the host country. This result can also be seen as an early sign of adaptation hypothesis, since the hypothesis suggests that the more time spent in the host country, the fertility behaviors begin to resemble more those of native population. Overall, all these findings suggest a trend toward adaptation, although they do not conclusively prove a complete convergence.

Disruption hypothesis is the third hypothesis that needs to be evaluated. Among other theoretical perspectives, this is the only hypothesis that deals with the tempo of fertility (i.e., the timing of birth), suggesting that migration can lead to temporary declines in fertility rates among immigrants. This hypothesis suggests that during times of crisis, such as wars, economic recessions or pandemics, individuals may delay or forgo having children due to uncertainty and instability. The 2011 Syrian Civil War serves as a prime example of this hypothesis which has led to the displacement of millions of Syrians. As a result of the conflict, many Syrian refugee women have been separated from their husbands or other family members which often causes reluctance among them to start or expand their families in the absence of their partners or due to the uncertain living conditions. In the literature, it is argued that this situation initially leads to low levels of fertility

prior to or during the migration, but elevated fertility rates are observed immediately after the migration (Saarela and Wilson, 2022; Impicciatore, 2020). In this recovery period that follows the disruption, fertility loss from the previous periods is compensated. Considering the prerequisites of this hypothesis, a delay in the timing of childbearing among Syrian women is expected as a result of conflict-induced migration. In other words, as a result of the disruption, “a tempo delay, followed by a tempo increase, leading to quantum recovery” is anticipated in the post-migration period (Tonnessen and Wilson, 2023). The results of the binary logistic regression and survival analyses indicate that Syrian refugee women in Turkey tend to marry and have their first and subsequent births at later ages compared to the pre-conflict period. However, with these analyses, it is not precisely known whether these births are the delayed ones prior to or during the migration, or if they occur immediately after migration. Therefore, to test this hypothesis, a different method is implemented in which the mean age at childbearing (MAC) and then the adjusted fertility rates -TFRs that are decomposed from the tempo effect- are calculated for Turkish and Syrian refugee women. According to the results, total fertility rates for the 2016-2018, 2013-2015 and 2010-2012 periods are 5.3, 4.8 and 5.8 among Syrian refugee women, respectively; while the adjusted total fertility rates correspond to 4.7, 5.4 and 7.4, respectively (Koç, 2022). The increase in the mean age of childbearing, an indicator of delayed childbearing, is clearly noticeable in the results. During the periods of 2010-2012 and 2015-2013, which coincides with the civil war, it is observed that MACs for Syrian women significantly increased, reaching to 28.6 and 28.0 years, respectively. However, in the 2016-2018 period, when the effects of war had somewhat subsided, the MAC for Syrian refugees in Turkey drops to 26.3 years. Furthermore, the tempo effect which was -1.21 among Syrian refugees in the 2010-2012 period, decreased to -0.55 in the 2013-2015 period, indicating a persistence of delayed childbearing. This trend then reversed, rising to 0.70 in the 2016-2018 period. This supporting detail indicates that the postponed births of Syrian refugees during the civil war and migration period are being realized in Turkey in the post-migration period.

The last theoretical perspective of the thesis was the selection hypothesis emphasizing the self-selectivity and rationality of the migrants. This hypothesis posits that migrants have distinct characteristics that are different from their origin country and take migration decisions intentionally. Therefore, the observed fertility features of migrants in the host country often display patterns that

migrants possessed before migration. Conversely, since the migration decision is taken on purpose, the reproductive and fertility patterns or practices of migrants often overlap with those of the destination country. Syrian refugees in Turkey primarily arrive in the country from the northern parts due to the proximity of these governorates to the Turkish border. This information does not, however, necessarily suggest that they are a unique population with reproductive traits that set them apart from people in their origin country. Additionally, migration occurs rather forcefully instead of as a deliberate decision due to the 2011 Syrian Civil War. The findings of the analyses also do not display any outcome that is indicative of different levels of education, cultural attitudes or socioeconomic status compared to characteristics of the origin country, highlighting that selection is not a determining hypothesis of the fertility patterns among Syrian refugees in Turkey.

All these findings discussed above imply that fertility patterns and reproductive behaviors of Syrian refugee women are shaped by the intersection of numerous factors, reflecting the presence of multiple immigrant fertility hypotheses. While the early transitions to the reproductive events display the impact of the socialization hypothesis, the increasing odds ratios for childbirth in the post-migration period indicates that Syrian women are more likely to follow through with these significant life events as they stay longer periods in Turkey, reflecting a shift towards the host country's reproductive norms. Additionally, while the early signs of adaptation can be observed in these findings, it can be stated that a full convergence has not yet been achieved. On the other hand, the disruption hypothesis is also evident with the postponed childbearing occurring prior to and during migration, followed by compensated childbearing in the aftermath of migration.

In conclusion, by examining the fertility trajectories of Syrian refugee women in Turkey, it becomes evident that a blend of socialization, adaptation and disruption hypotheses shapes their reproductive behaviors. These outcomes suggest the emergence of a hybrid reproductive and fertility pattern among Syrian refugee women in Turkey. These women exhibit a profile that adheres to both their origin country's fertility norms and the host country's expectations, yet achieving a full convergence remains challenging. However, considering the presence of a younger Syrian population in Turkey, it appears more likely that they will adapt to the prevailing values,

norms and practices in this new environment, leading to a potential convergence of these women with the Turkish women in the near future.

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APPENDICES

APPENDIX A. SUPPORTING TABLES FOR SURVIVAL ANALYSIS

**Table A.1. Survival Table for Age at First Marriage among Syrian Refugee Women, 2018
TDHS-S**

Interval Start Time	Number Entering Interval	Number Withdrawing during Interval	Number Exposed to Risk	Number of Terminal Events	Proportion Terminating	Proportion Surviving	Cumulative Proportion Surviving at End of Interval	Std. Error of Cumulative Proportion Surviving at End of Interval	Probability Density	Std. Error of Probability Density	Hazard Rate	Std. Error of Hazard Rate
0	2216	0	2216.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
1	2216	0	2216.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
2	2216	0	2216.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
3	2216	0	2216.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
4	2216	0	2216.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
5	2216	0	2216.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
6	2216	0	2216.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
7	2216	0	2216.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
8	2216	0	2216.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
9	2216	0	2216.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
10	2216	0	2216.000	23	.01	.99	.99	.00	.010	.002	.01	.00
11	2193	0	2193.000	14	.01	.99	.98	.00	.006	.002	.01	.00
12	2179	0	2179.000	36	.02	.98	.97	.00	.016	.003	.02	.00
13	2143	0	2143.000	58	.03	.97	.94	.01	.026	.003	.03	.00
14	2085	0	2085.000	122	.06	.94	.89	.01	.055	.005	.06	.01
15	1963	56	1935.000	185	.10	.90	.80	.01	.085	.006	.10	.01
16	1722	67	1688.500	230	.14	.86	.69	.01	.109	.007	.15	.01
17	1425	38	1406.000	245	.17	.83	.57	.01	.121	.007	.19	.01
18	1142	32	1126.000	208	.18	.82	.47	.01	.106	.007	.20	.01
19	902	23	890.500	157	.18	.82	.38	.01	.082	.006	.19	.02
20	722	13	715.500	118	.16	.84	.32	.01	.063	.006	.18	.02
21	591	7	587.500	136	.23	.77	.25	.01	.074	.006	.26	.02
22	448	15	440.500	75	.17	.83	.20	.01	.042	.005	.19	.02
23	358	9	353.500	77	.22	.78	.16	.01	.045	.005	.24	.03
24	272	6	269.000	58	.22	.78	.13	.01	.034	.004	.24	.03
25	208	5	205.500	31	.15	.85	.11	.01	.019	.003	.16	.03
26	172	4	170.000	26	.15	.85	.09	.01	.016	.003	.17	.03

Table A.1. (Continued) Survival Table for Age at First Marriage among Syrian Refugee Women, 2018 TDHS-S

Interval Start Time	Number Entering Interval	Number Withdrawing during Interval	Number Exposed to Risk	Number of Terminal Events	Proportion Terminating	Proportion Surviving	Cumulative Proportion Surviving at End of Interval	Std. Error of Cumulative Proportion Surviving at End of Interval	Probability Density	Std. Error of Probability Density	Hazard Rate	Std. Error of Hazard Rate
27	142	6	139.000	19	.14	.86	.08	.01	.012	.003	.15	.03
28	117	4	115.000	16	.14	.86	.07	.01	.011	.003	.15	.04
29	97	0	97.000	17	.18	.82	.06	.01	.012	.003	.19	.05
30	80	5	77.500	7	.09	.91	.05	.01	.005	.002	.09	.04
31	68	8	64.000	7	.11	.89	.04	.01	.005	.002	.12	.04
32	53	4	51.000	2	.04	.96	.04	.01	.002	.001	.04	.03
33	47	3	45.500	3	.07	.93	.04	.01	.003	.002	.07	.04
34	41	2	40.000	1	.03	.98	.04	.01	.001	.001	.03	.03
35	38	2	37.000	2	.05	.95	.04	.01	.002	.001	.06	.04
36	34	2	33.000	4	.12	.88	.03	.00	.004	.002	.13	.06
37	28	2	27.000	2	.07	.93	.03	.00	.002	.002	.08	.05
38	24	2	23.000	2	.09	.91	.03	.00	.003	.002	.09	.06
39	20	2	19.000	2	.11	.89	.02	.00	.003	.002	.11	.08
40	16	3	14.500	1	.07	.93	.02	.00	.002	.002	.07	.07
41	12	2	11.000	1	.09	.91	.02	.00	.002	.002	.10	.10
42	9	0	9.000	0	.00	1.00	.02	.00	.000	.000	.00	.00
43	9	2	8.000	0	.00	1.00	.02	.00	.000	.000	.00	.00
44	7	1	6.500	0	.00	1.00	.02	.00	.000	.000	.00	.00
45	6	0	6.000	0	.00	1.00	.02	.00	.000	.000	.00	.00
46	6	1	5.500	1	.18	.82	.02	.01	.004	.004	.20	.20
47	4	0	4.000	0	.00	1.00	.02	.01	.000	.000	.00	.00
48	4	1	3.500	0	.00	1.00	.02	.01	.000	.000	.00	.00
49	3	3	1.500	0	.00	1.00	.02	.01	.000	.000	.00	.00

Table A.2. Survival Table for Age at First Birth among Syrian Refugee Women, 2018 TDHS-S

Interval Start Time	Number Entering Interval	Number Withdrawing during Interval	Number Exposed to Risk	Number of Terminal Events	Proportion Terminating	Proportion Surviving	Cumulative Proportion Surviving at End of Interval	Std. Error of Cumulative Proportion Surviving at End of Interval	Probability Density	Std. Error of Probability Density	Hazard Rate	Std. Error of Hazard Rate
0	2216	0	2216.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
1	2216	0	2216.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
2	2216	0	2216.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
3	2216	0	2216.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
4	2216	0	2216.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
5	2216	0	2216.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
6	2216	0	2216.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
7	2216	0	2216.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
8	2216	0	2216.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
9	2216	0	2216.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
10	2216	0	2216.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
11	2216	0	2216.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
12	2216	0	2216.000	4	.00	1.00	1.00	.00	.002	.001	.00	.00
13	2212	0	2212.000	7	.00	1.00	1.00	.00	.003	.001	.00	.00
14	2205	0	2205.000	26	.01	.99	.98	.00	.012	.002	.01	.00
15	2179	58	2150.000	55	.03	.97	.96	.00	.025	.003	.03	.00
16	2066	84	2024.000	109	.05	.95	.91	.01	.052	.005	.06	.01
17	1873	56	1845.000	159	.09	.91	.83	.01	.078	.006	.09	.01
18	1658	60	1628.000	221	.14	.86	.72	.01	.112	.007	.15	.01
19	1377	41	1356.500	227	.17	.83	.60	.01	.120	.007	.18	.01
20	1109	26	1096.000	184	.17	.83	.50	.01	.100	.007	.18	.01
21	899	22	888.000	141	.16	.84	.42	.01	.079	.006	.17	.01
22	736	31	720.500	130	.18	.82	.34	.01	.075	.006	.20	.02
23	575	20	565.000	104	.18	.82	.28	.01	.063	.006	.20	.02
24	451	12	445.000	94	.21	.79	.22	.01	.059	.006	.24	.02
25	345	13	338.500	51	.15	.85	.19	.01	.033	.005	.16	.02
26	281	8	277.000	36	.13	.87	.16	.01	.024	.004	.14	.02
27	237	10	232.000	42	.18	.82	.13	.01	.029	.004	.20	.03
28	185	7	181.500	29	.16	.84	.11	.01	.021	.004	.17	.03
29	149	7	145.500	14	.10	.90	.10	.01	.011	.003	.10	.03
30	128	10	123.000	10	.08	.92	.09	.01	.008	.003	.08	.03
31	108	10	103.000	16	.16	.84	.08	.01	.014	.004	.17	.04
32	82	7	78.500	8	.10	.90	.07	.01	.008	.003	.11	.04

Table A.2. (Continued) Survival Table for Age at First Birth among Syrian Refugee Women, 2018 TDHS-S

Interval Start Time	Number Entering Interval	Number Withdrawing during Interval	Number Exposed to Risk	Number of Terminal Events	Proportion Terminating	Proportion Surviving	Cumulative Proportion Surviving at End of Interval	Std. Error of Cumulative Proportion Surviving at End of Interval	Probability Density	Std. Error of Probability Density	Hazard Rate	Std. Error of Hazard Rate
33	67	3	65.500	1	.02	.98	.07	.01	.001	.001	.02	.02
34	63	3	61.500	1	.02	.98	.07	.01	.001	.001	.02	.02
35	59	3	57.500	4	.07	.93	.06	.01	.005	.002	.07	.04
36	52	3	50.500	1	.02	.98	.06	.01	.001	.001	.02	.02
37	48	5	45.500	1	.02	.98	.06	.01	.001	.001	.02	.02
38	42	5	39.500	2	.05	.95	.06	.01	.003	.002	.05	.04
39	35	3	33.500	3	.09	.91	.05	.01	.005	.003	.09	.05
40	29	5	26.500	3	.11	.89	.05	.01	.006	.003	.12	.07
41	21	4	19.000	0	.00	1.00	.05	.01	.000	.000	.00	.00
42	17	2	16.000	0	.00	1.00	.05	.01	.000	.000	.00	.00
43	15	3	13.500	1	.07	.93	.04	.01	.003	.003	.08	.08
44	11	1	10.500	0	.00	1.00	.04	.01	.000	.000	.00	.00
45	10	1	9.500	0	.00	1.00	.04	.01	.000	.000	.00	.00
46	9	2	8.000	0	.00	1.00	.04	.01	.000	.000	.00	.00
47	7	3	5.500	0	.00	1.00	.04	.01	.000	.000	.00	.00
48	4	1	3.500	0	.00	1.00	.04	.01	.000	.000	.00	.00
49	3	3	1.500	0	.00	1.00	.04	.01	.000	.000	.00	.00

Table A.3. Survival Table for Age at Second Birth among Syrian Refugee Women, 2018
TDHS-S

Interval Start Time	Number Entering Interval	Number Withdrawing during Interval	Number Exposed to Risk	Number of Terminal Events	Proportion Terminating	Proportion Surviving	Cumulative Proportion Surviving at End of Interval	Std. Error of Cumulative Proportion Surviving at End of Interval	Probability Density	Std. Error of Probability Density	Hazard Rate	Std. Error of Hazard Rate
0	1684	0	1684.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
1	1684	0	1684.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
2	1684	0	1684.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
3	1684	0	1684.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
4	1684	0	1684.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
5	1684	0	1684.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
6	1684	0	1684.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
7	1684	0	1684.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
8	1684	0	1684.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
9	1684	0	1684.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
10	1684	0	1684.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
11	1684	0	1684.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
12	1684	0	1684.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
13	1684	0	1684.000	2	.00	1.00	1.00	.00	.001	.001	.00	.00
14	1682	0	1682.000	3	.00	1.00	1.00	.00	.002	.001	.00	.00
15	1679	3	1677.500	7	.00	1.00	.99	.00	.004	.002	.00	.00
16	1669	9	1664.500	20	.01	.99	.98	.00	.012	.003	.01	.00
17	1640	16	1632.000	51	.03	.97	.95	.01	.031	.004	.03	.00
18	1573	24	1561.000	105	.07	.93	.89	.01	.064	.006	.07	.01
19	1444	33	1427.500	156	.11	.89	.79	.01	.097	.007	.12	.01
20	1255	36	1237.000	177	.14	.86	.68	.01	.113	.008	.15	.01
21	1042	34	1025.000	166	.16	.84	.57	.01	.110	.008	.18	.01
22	842	18	833.000	139	.17	.83	.47	.01	.095	.008	.18	.02
23	685	19	675.500	119	.18	.82	.39	.01	.083	.007	.19	.02
24	547	14	540.000	109	.20	.80	.31	.01	.079	.007	.22	.02
25	424	12	418.000	89	.21	.79	.24	.01	.066	.007	.24	.03
26	323	8	319.000	64	.20	.80	.20	.01	.049	.006	.22	.03
27	251	15	243.500	55	.23	.77	.15	.01	.044	.006	.25	.03
28	181	8	177.000	28	.16	.84	.13	.01	.024	.004	.17	.03
29	145	8	141.000	33	.23	.77	.10	.01	.030	.005	.27	.05
30	104	5	101.500	18	.18	.82	.08	.01	.017	.004	.19	.05
31	81	3	79.500	16	.20	.80	.06	.01	.016	.004	.22	.06
32	62	5	59.500	15	.25	.75	.05	.01	.016	.004	.29	.07

Table A.3. (Continued) Survival Table for Age at Second Birth among Syrian Refugee Women, 2018 TDHS-S

Interval Start Time	Number Entering Interval	Number Withdrawing during Interval	Number Exposed to Risk	Number of Terminal Events	Proportion Terminating	Proportion Surviving	Cumulative Proportion Surviving at End of Interval	Std. Error of Cumulative Proportion Surviving at End of Interval	Probability Density	Std. Error of Probability Density	Hazard Rate	Std. Error of Hazard Rate
33	42	6	39.000	6	.15	.85	.04	.01	.007	.003	.17	.07
34	30	1	29.500	1	.03	.97	.04	.01	.001	.001	.03	.03
35	28	3	26.500	3	.11	.89	.03	.01	.004	.003	.12	.07
36	22	3	20.500	1	.05	.95	.03	.01	.002	.002	.05	.05
37	18	1	17.500	2	.11	.89	.03	.01	.004	.003	.12	.09
38	15	1	14.500	2	.14	.86	.03	.01	.004	.003	.15	.10
39	12	0	12.000	1	.08	.92	.02	.01	.002	.002	.09	.09
40	11	1	10.500	3	.29	.71	.02	.01	.007	.004	.33	.19
41	7	1	6.500	0	.00	1.00	.02	.01	.000	.000	.00	.00
42	6	0	6.000	1	.17	.83	.01	.00	.003	.003	.18	.18
43	5	1	4.500	0	.00	1.00	.01	.00	.000	.000	.00	.00
44	4	1	3.500	0	.00	1.00	.01	.00	.000	.000	.00	.00
45	10	1	9.500	0	.00	1.00	.04	.01	.000	.000	.00	.00
46	9	2	8.000	0	.00	1.00	.04	.01	.000	.000	.00	.00
47	7	3	5.500	0	.00	1.00	.04	.01	.000	.000	.00	.00
48	4	1	3.500	0	.00	1.00	.04	.01	.000	.000	.00	.00
49	3	3	1.500	0	.00	1.00	.04	.01	.000	.000	.00	.00

Table A.4. Survival Table for Age at Third Birth among Syrian Refugee Women, 2018
TDHS-S

Interval Start Time	Number Entering Interval	Number Withdrawing during Interval	Number Exposed to Risk	Number of Terminal Events	Proportion Terminating	Proportion Surviving	Cumulative Proportion Surviving at End of Interval	Std. Error of Cumulative Proportion Surviving at End of Interval	Probability Density	Std. Error of Probability Density	Hazard Rate	Std. Error of Hazard Rate
0	1393	0	1393.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
1	1393	0	1393.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
2	1393	0	1393.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
3	1393	0	1393.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
4	1393	0	1393.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
5	1393	0	1393.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
6	1393	0	1393.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
7	1393	0	1393.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
8	1393	0	1393.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
9	1393	0	1393.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
10	1393	0	1393.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
11	1393	0	1393.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
12	1393	0	1393.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
13	1393	0	1393.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
14	1393	0	1393.000	3	.00	1.00	1.00	.00	.002	.001	.00	.00
15	1390	0	1390.000	2	.00	1.00	1.00	.00	.001	.001	.00	.00
16	1388	1	1387.500	2	.00	1.00	.99	.00	.001	.001	.00	.00
17	1385	4	1383.000	5	.00	1.00	.99	.00	.004	.002	.00	.00
18	1376	18	1367.000	17	.01	.99	.98	.00	.012	.003	.01	.00
19	1341	23	1329.500	47	.04	.96	.94	.01	.035	.005	.04	.01
20	1271	26	1258.000	61	.05	.95	.90	.01	.046	.006	.05	.01
21	1184	29	1169.500	90	.08	.92	.83	.01	.069	.007	.08	.01
22	1065	35	1047.500	112	.11	.89	.74	.01	.089	.008	.11	.01
23	918	33	901.500	121	.13	.87	.64	.01	.099	.009	.14	.01
24	764	24	752.000	124	.16	.84	.54	.01	.106	.009	.18	.02
25	616	26	603.000	95	.16	.84	.45	.01	.084	.008	.17	.02
26	495	12	489.000	81	.17	.83	.38	.01	.075	.008	.18	.02
27	402	22	391.000	70	.18	.82	.31	.01	.067	.008	.20	.02
28	310	13	303.500	59	.19	.81	.25	.01	.060	.008	.22	.03
29	238	8	234.000	35	.15	.85	.21	.01	.037	.006	.16	.03
30	195	8	191.000	45	.24	.76	.16	.01	.050	.007	.27	.04
31	142	8	138.000	29	.21	.79	.13	.01	.034	.006	.23	.04
32	105	6	102.000	23	.23	.77	.10	.01	.029	.006	.25	.05

Table A.4. (Continued) Survival Table for Age at Third Birth among Syrian Refugee Women, 2018 TDHS-S

Interval Start Time	Number Entering Interval	Number Withdrawing during Interval	Number Exposed to Risk	Number of Terminal Events	Proportion Terminating	Proportion Surviving	Cumulative Proportion Surviving at End of Interval	Std. Error of Cumulative Proportion Surviving at End of Interval	Probability Density	Std. Error of Probability Density	Hazard Rate	Std. Error of Hazard Rate
33	76	10	71.000	6	.08	.92	.09	.01	.008	.003	.09	.04
34	60	10	55.000	10	.18	.82	.07	.01	.016	.005	.20	.06
35	40	4	38.000	9	.24	.76	.06	.01	.018	.006	.27	.09
36	27	1	26.500	0	.00	1.00	.06	.01	.000	.000	.00	.00
37	26	2	25.000	1	.04	.96	.05	.01	.002	.002	.04	.04
38	23	3	21.500	0	.00	1.00	.05	.01	.000	.000	.00	.00
39	20	2	19.000	2	.11	.89	.05	.01	.006	.004	.11	.08
40	16	4	14.000	1	.07	.93	.05	.01	.003	.003	.07	.07
41	11	1	10.500	0	.00	1.00	.05	.01	.000	.000	.00	.00
42	10	0	10.000	0	.00	1.00	.05	.01	.000	.000	.00	.00
43	10	2	9.000	0	.00	1.00	.05	.01	.000	.000	.00	.00
44	8	2	7.000	0	.00	1.00	.05	.01	.000	.000	.00	.00
45	6	2	5.000	0	.00	1.00	.05	.01	.000	.000	.00	.00
46	4	3	2.500	0	.00	1.00	.05	.01	.000	.000	.00	.00
47	1	0	1.000	0	.00	1.00	.05	.01	.000	.000	.00	.00
48	1	0	1.000	0	.00	1.00	.05	.01	.000	.000	.00	.00
49	1	1	.500	0	.00	1.00	.05	.01	.000	.000	.00	.00

**Table A.5. Survival Table for Age at Fourth Birth among Syrian Refugee Women, 2018
TDHS-S**

Interval Start Time	Number Entering Interval	Number Withdrawing during Interval	Number Exposed to Risk	Number of Terminal Events	Proportion Terminating	Proportion Surviving	Cumulative Proportion Surviving at End of Interval	Std. Error of Cumulative Proportion Surviving at End of Interval	Probability Density	Std. Error of Probability Density	Hazard Rate	Std. Error of Hazard Rate
0	1050	0	1050.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
1	1050	0	1050.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
2	1050	0	1050.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
3	1050	0	1050.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
4	1050	0	1050.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
5	1050	0	1050.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
6	1050	0	1050.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
7	1050	0	1050.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
8	1050	0	1050.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
9	1050	0	1050.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
10	1050	0	1050.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
11	1050	0	1050.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
12	1050	0	1050.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
13	1050	0	1050.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
14	1050	0	1050.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
15	1050	0	1050.000	1	.00	1.00	1.00	.00	.001	.001	.00	.00
16	1049	1	1048.500	3	.00	1.00	1.00	.00	.003	.002	.00	.00
17	1045	0	1045.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
18	1045	0	1045.000	3	.00	1.00	.99	.00	.003	.002	.00	.00
19	1042	7	1038.500	6	.01	.99	.99	.00	.006	.002	.01	.00
20	1029	7	1025.500	10	.01	.99	.98	.00	.010	.003	.01	.00
21	1012	12	1006.000	30	.03	.97	.95	.01	.029	.005	.03	.01
22	970	10	965.000	44	.05	.95	.91	.01	.043	.006	.05	.01
23	916	22	905.000	56	.06	.94	.85	.01	.056	.007	.06	.01
24	838	20	828.000	69	.08	.92	.78	.01	.071	.008	.09	.01
25	749	24	737.000	86	.12	.88	.69	.01	.091	.009	.12	.01
26	639	17	630.500	74	.12	.88	.61	.02	.081	.009	.12	.01
27	548	22	537.000	66	.12	.88	.53	.02	.075	.009	.13	.02
28	460	23	448.500	63	.14	.86	.46	.02	.075	.009	.15	.02
29	374	19	364.500	52	.14	.86	.39	.02	.065	.009	.15	.02
30	303	17	294.500	47	.16	.84	.33	.02	.063	.009	.17	.03
31	239	10	234.000	30	.13	.87	.29	.02	.042	.007	.14	.02

Table A.5. (Continued) Survival Table for Age at Fourth Birth among Syrian Refugee Women, 2018 TDHS-S

Interval Start Time	Number Entering Interval	Number Withdrawing during Interval	Number Exposed to Risk	Number of Terminal Events	Proportion Terminating	Proportion Surviving	Cumulative Proportion Surviving at End of Interval	Std. Error of Cumulative Proportion Surviving at End of Interval	Probability Density	Std. Error of Probability Density	Hazard Rate	Std. Error of Hazard Rate
32	199	16	191.000	37	.19	.81	.23	.02	.056	.009	.21	.04
33	146	14	139.000	24	.17	.83	.19	.01	.040	.008	.19	.04
34	108	10	103.000	20	.19	.81	.15	.01	.037	.008	.22	.05
35	78	11	72.500	6	.08	.92	.14	.01	.013	.005	.09	.04
36	61	8	57.000	11	.19	.81	.11	.01	.027	.008	.21	.06
37	42	5	39.500	5	.13	.87	.10	.01	.014	.006	.14	.06
38	32	4	30.000	3	.10	.90	.09	.01	.010	.006	.11	.06
39	25	4	23.000	1	.04	.96	.09	.01	.004	.004	.04	.04
40	20	5	17.500	2	.11	.89	.08	.01	.010	.007	.12	.09
41	13	3	11.500	0	.00	1.00	.08	.01	.000	.000	.00	.00
42	10	2	9.000	0	.00	1.00	.08	.01	.000	.000	.00	.00
43	8	3	6.500	0	.00	1.00	.08	.01	.000	.000	.00	.00
44	5	2	4.000	1	.25	.75	.06	.02	.019	.017	.29	.28
45	2	0	2.000	0	.00	1.00	.06	.02	.000	.000	.00	.00
46	2	0	2.000	0	.00	1.00	.06	.02	.000	.000	.00	.00
47	2	1	1.500	0	.00	1.00	.06	.02	.000	.000	.00	.00
48	1	1	.500	0	.00	1.00	.06	.02	.000	.000	.00	.00

Table A.6. Survival Table for Age at Fifth Birth among Syrian Refugee Women, 2018 TDHS-S

Interval Start Time	Number Entering Interval	Number Withdrawing during Interval	Number Exposed to Risk	Number of Terminal Events	Proportion Terminating	Proportion Surviving	Cumulative Proportion Surviving at End of Interval	Std. Error of Cumulative Proportion Surviving at End of Interval	Probability Density	Std. Error of Probability Density	Hazard Rate	Std. Error of Hazard Rate
0	750	0	750.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
1	750	0	750.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
2	750	0	750.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
3	750	0	750.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
4	750	0	750.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
5	750	0	750.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
6	750	0	750.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
7	750	0	750.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
8	750	0	750.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
9	750	0	750.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
10	750	0	750.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
11	750	0	750.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
12	750	0	750.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
13	750	0	750.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
14	750	0	750.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
15	750	0	750.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
16	750	0	750.000	1	.00	1.00	1.00	.00	.001	.001	.00	.00
17	749	0	749.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
18	749	0	749.000	2	.00	1.00	1.00	.00	.003	.002	.00	.00
19	747	0	747.000	2	.00	1.00	.99	.00	.003	.002	.00	.00
20	745	1	744.500	2	.00	1.00	.99	.00	.003	.002	.00	.00
21	742	5	739.500	5	.01	.99	.98	.00	.007	.003	.01	.00
22	732	2	731.000	12	.02	.98	.97	.01	.016	.005	.02	.00
23	718	5	715.500	24	.03	.97	.94	.01	.032	.007	.03	.01
24	689	5	686.500	25	.04	.96	.90	.01	.034	.007	.04	.01
25	659	9	654.500	29	.04	.96	.86	.01	.040	.007	.05	.01
26	621	15	613.500	48	.08	.92	.79	.02	.067	.009	.08	.01
27	558	19	548.500	47	.09	.91	.73	.02	.068	.010	.09	.01
28	492	21	481.500	47	.10	.90	.66	.02	.071	.010	.10	.01
29	424	6	421.000	48	.11	.89	.58	.02	.075	.010	.12	.02
30	370	12	364.000	41	.11	.89	.52	.02	.065	.010	.12	.02
31	317	13	310.500	41	.13	.87	.45	.02	.068	.010	.14	.02
32	263	16	255.000	30	.12	.88	.39	.02	.053	.009	.13	.02

Table A.6. (Continued) Survival Table for Age at Fifth Birth among Syrian Refugee Women, 2018 TDHS-S

Interval Start Time	Number Entering Interval	Number Withdrawing during Interval	Number Exposed to Risk	Number of Terminal Events	Proportion Terminating	Proportion Surviving	Cumulative Proportion Surviving at End of Interval	Std. Error of Cumulative Proportion Surviving at End of Interval	Probability Density	Std. Error of Probability Density	Hazard Rate	Std. Error of Hazard Rate
33	217	22	206.000	32	.16	.84	.33	.02	.061	.010	.17	.03
34	163	11	157.500	21	.13	.87	.29	.02	.044	.009	.14	.03
35	131	11	125.500	12	.10	.90	.26	.02	.028	.008	.10	.03
36	108	9	103.500	12	.12	.88	.23	.02	.030	.008	.12	.04
37	87	10	82.000	12	.15	.85	.20	.02	.034	.009	.16	.05
38	65	10	60.000	7	.12	.88	.17	.02	.023	.008	.12	.05
39	48	8	44.000	4	.09	.91	.16	.02	.016	.008	.10	.05
40	36	4	34.000	1	.03	.97	.15	.02	.005	.005	.03	.03
41	31	4	29.000	0	.00	1.00	.15	.02	.000	.000	.00	.00
42	27	4	25.000	1	.04	.96	.15	.02	.006	.006	.04	.04
43	22	3	20.500	0	.00	1.00	.15	.02	.000	.000	.00	.00
44	19	8	15.000	0	.00	1.00	.15	.02	.000	.000	.00	.00
45	11	5	8.500	0	.00	1.00	.15	.02	.000	.000	.00	.00
46	6	0	6.000	0	.00	1.00	.15	.02	.000	.000	.00	.00
47	6	2	5.000	0	.00	1.00	.15	.02	.000	.000	.00	.00
48	4	4	2.000	0	.00	1.00	.15	.02	.000	.000	.00	.00

Table A.7. Survival Table for Age at First Marriage among Turkish Women, 2018 TDHS

Interval Start Time	Number Entering Interval	Number Withdrawing during Interval	Number Exposed to Risk	Number of Terminal Events	Proportion Terminating	Proportion Surviving	Cumulative Proportion Surviving at End of Interval	Std. Error of Cumulative Proportion at End of Interval	Probability Density	Std. Error of Probability Density	Hazard Rate	Std. Error of Hazard Rate
0	7346	0	7346.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
1	7346	0	7346.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
2	7346	0	7346.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
3	7346	0	7346.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
4	7346	0	7346.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
5	7346	0	7346.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
6	7346	0	7346.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
7	7346	0	7346.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
8	7346	0	7346.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
9	7346	0	7346.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
10	7346	0	7346.000	10	.00	1.00	1.00	.00	.001	.000	.00	.00
11	7336	0	7336.000	10	.00	1.00	1.00	.00	.001	.000	.00	.00
12	7326	0	7326.000	31	.00	1.00	.99	.00	.004	.001	.00	.00
13	7295	0	7295.000	65	.01	.99	.98	.00	.009	.001	.01	.00
14	7230	0	7230.000	151	.02	.98	.96	.00	.021	.002	.02	.00
15	7079	163	6997.500	225	.03	.97	.93	.00	.031	.002	.03	.00
16	6691	186	6598.000	419	.06	.94	.87	.00	.059	.003	.07	.00
17	6086	240	5966.000	504	.08	.92	.80	.00	.074	.003	.09	.00
18	5342	193	5245.500	584	.11	.89	.71	.01	.089	.004	.12	.00
19	4565	157	4486.500	577	.13	.87	.62	.01	.091	.004	.14	.01
20	3831	123	3769.500	534	.14	.86	.53	.01	.088	.004	.15	.01
21	3174	117	3115.500	449	.14	.86	.45	.01	.077	.003	.16	.01
22	2608	110	2553.000	422	.17	.83	.38	.01	.075	.004	.18	.01
23	2076	88	2032.000	309	.15	.85	.32	.01	.058	.003	.16	.01
24	1679	78	1640.000	283	.17	.83	.27	.01	.056	.003	.19	.01
25	1318	74	1281.000	234	.18	.82	.22	.01	.049	.003	.20	.01
26	1010	53	983.500	172	.17	.83	.18	.01	.038	.003	.19	.01
27	785	41	764.500	148	.19	.81	.14	.00	.035	.003	.21	.02
28	596	35	578.500	96	.17	.83	.12	.00	.024	.002	.18	.02
29	465	17	456.500	77	.17	.83	.10	.00	.020	.002	.18	.02
30	371	15	363.500	49	.13	.87	.09	.00	.014	.002	.14	.02
31	307	14	300.000	38	.13	.87	.08	.00	.011	.002	.14	.02
32	255	17	246.500	26	.11	.89	.07	.00	.008	.002	.11	.02

Table A.7. (Continued) Survival Table for Age at First Marriage among Turkish Women, 2018 TDHS

Interval Start Time	Number Entering Interval	Number Withdrawing during Interval	Number Exposed to Risk	Number of Terminal Events	Proportion Terminating	Proportion Surviving	Cumulative Proportion Surviving at End of Interval	Std. Error of Cumulative Proportion Surviving at End of Interval	Probability Density	Std. Error of Probability Density	Hazard Rate	Std. Error of Hazard Rate
33	212	18	203.000	14	.07	.93	.06	.00	.005	.001	.07	.02
34	180	9	175.500	12	.07	.93	.06	.00	.004	.001	.07	.02
35	159	12	153.000	13	.08	.92	.05	.00	.005	.001	.09	.02
36	134	7	130.500	11	.08	.92	.05	.00	.005	.001	.09	.03
37	116	8	112.000	4	.04	.96	.05	.00	.002	.001	.04	.02
38	104	11	98.500	5	.05	.95	.05	.00	.002	.001	.05	.02
39	88	7	84.500	2	.02	.98	.04	.00	.001	.001	.02	.02
40	79	7	75.500	0	.00	1.00	.04	.00	.000	.000	.00	.00
41	72	4	70.000	3	.04	.96	.04	.00	.002	.001	.04	.03
42	65	10	60.000	1	.02	.98	.04	.00	.001	.001	.02	.02
43	54	9	49.500	2	.04	.96	.04	.00	.002	.001	.04	.03
44	43	5	40.500	3	.07	.93	.04	.00	.003	.002	.08	.04
45	35	8	31.000	0	.00	1.00	.04	.00	.000	.000	.00	.00
46	27	8	23.000	0	.00	1.00	.04	.00	.000	.000	.00	.00
47	19	4	17.000	0	.00	1.00	.04	.00	.000	.000	.00	.00
48	15	7	11.500	1	.09	.91	.03	.00	.003	.003	.09	.09
49	7	7	3.500	0	.00	1.00	.03	.00	.000	.000	.00	.00

Table A.8. Survival Table for Age at First Birth among Turkish Women, 2018 TDHS

Interval Start Time	Number Entering Interval	Number Withdrawing during Interval	Number Exposed to Risk	Number of Terminal Events	Proportion Terminating	Proportion Surviving	Cumulative Proportion Surviving at End of Interval	Std. Error of Cumulative Proportion Surviving at End of Interval	Probability Density	Std. Error of Probability Density	Hazard Rate	Std. Error of Hazard Rate
0	7346	0	7346.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
1	7346	0	7346.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
2	7346	0	7346.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
3	7346	0	7346.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
4	7346	0	7346.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
5	7346	0	7346.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
6	7346	0	7346.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
7	7346	0	7346.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
8	7346	0	7346.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
9	7346	0	7346.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
10	7346	0	7346.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
11	7346	0	7346.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
12	7346	0	7346.000	2	.00	1.00	1.00	.00	.000	.000	.00	.00
13	7344	0	7344.000	10	.00	1.00	1.00	.00	.001	.000	.00	.00
14	7334	0	7334.000	24	.00	1.00	1.00	.00	.003	.001	.00	.00
15	7310	163	7228.500	65	.01	.99	.99	.00	.009	.001	.01	.00
16	7082	191	6986.500	139	.02	.98	.97	.00	.020	.002	.02	.00
17	6752	242	6631.000	240	.04	.96	.93	.00	.035	.002	.04	.00
18	6270	210	6165.000	410	.07	.93	.87	.00	.062	.003	.07	.00
19	5650	170	5565.000	494	.09	.91	.79	.00	.077	.003	.09	.00
20	4986	151	4910.500	533	.11	.89	.71	.01	.086	.004	.11	.00
21	4302	132	4236.000	527	.12	.88	.62	.01	.088	.004	.13	.01
22	3643	134	3576.000	464	.13	.87	.54	.01	.080	.004	.14	.01
23	3045	106	2992.000	431	.14	.86	.46	.01	.078	.004	.16	.01
24	2508	98	2459.000	327	.13	.87	.40	.01	.061	.003	.14	.01
25	2083	103	2031.500	266	.13	.87	.35	.01	.052	.003	.14	.01
26	1714	75	1676.500	236	.14	.86	.30	.01	.049	.003	.15	.01
27	1403	73	1366.500	210	.15	.85	.25	.01	.046	.003	.17	.01
28	1120	59	1090.500	171	.16	.84	.21	.01	.040	.003	.17	.01
29	890	33	873.500	127	.15	.85	.18	.01	.031	.003	.16	.01
30	730	26	717.000	119	.17	.83	.15	.01	.030	.003	.18	.02
31	585	30	570.000	69	.12	.88	.13	.01	.018	.002	.13	.02
32	486	29	471.500	68	.14	.86	.11	.00	.019	.002	.16	.02
33	389	26	376.000	43	.11	.89	.10	.00	.013	.002	.12	.02

**Table A.8. (Continued) Survival Table for Age at First Birth among Turkish Women, 2018
TDHS**

Interval Start Time	Number Entering Interval	Number Withdrawing during Interval	Number Exposed to Risk	Number of Terminal Events	Proportion Terminating	Proportion Surviving	Cumulative Proportion Surviving at End of Interval	Std. Error of Cumulative Proportion Surviving at End of Interval	Probability Density	Std. Error of Probability Density	Hazard Rate	Std. Error of Hazard Rate
34	320	17	311.500	23	.07	.93	.09	.00	.007	.002	.08	.02
35	280	16	272.000	19	.07	.93	.09	.00	.007	.001	.07	.02
36	245	13	238.500	17	.07	.93	.08	.00	.006	.001	.07	.02
37	215	13	208.500	12	.06	.94	.08	.00	.005	.001	.06	.02
38	190	15	182.500	10	.05	.95	.07	.00	.004	.001	.06	.02
39	165	16	157.000	3	.02	.98	.07	.00	.001	.001	.02	.01
40	146	11	140.500	10	.07	.93	.07	.00	.005	.002	.07	.02
41	125	7	121.500	0	.00	1.00	.07	.00	.000	.000	.00	.00
42	118	15	110.500	0	.00	1.00	.07	.00	.000	.000	.00	.00
43	103	20	93.000	2	.02	.98	.06	.00	.001	.001	.02	.02
44	81	9	76.500	2	.03	.97	.06	.00	.002	.001	.03	.02
45	70	12	64.000	1	.02	.98	.06	.00	.001	.001	.02	.02
46	57	13	50.500	0	.00	1.00	.06	.00	.000	.000	.00	.00
47	44	12	38.000	0	.00	1.00	.06	.00	.000	.000	.00	.00
48	32	16	24.000	0	.00	1.00	.06	.00	.000	.000	.00	.00
49	16	16	8.000	0	.00	1.00	.06	.00	.000	.000	.00	.00

Table A.9. Survival Table for Age at Second Birth among Turkish Women, 2018 TDHS

Interval Start Time	Number Entering Interval	Number Withdrawing during Interval	Number Exposed to Risk	Number of Terminal Events	Proportion Terminating	Proportion Surviving	Cumulative Proportion Surviving at End of Interval	Std. Error of Cumulative Proportion Surviving at End of Interval	Probability Density	Std. Error of Probability Density	Hazard Rate	Std. Error of Hazard Rate
0	5074	0	5074.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
1	5074	0	5074.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
2	5074	0	5074.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
3	5074	0	5074.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
4	5074	0	5074.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
5	5074	0	5074.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
6	5074	0	5074.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
7	5074	0	5074.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
8	5074	0	5074.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
9	5074	0	5074.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
10	5074	0	5074.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
11	5074	0	5074.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
12	5074	0	5074.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
13	5074	0	5074.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
14	5074	0	5074.000	3	.00	1.00	1.00	.00	.001	.000	.00	.00
15	5071	1	5070.500	11	.00	1.00	1.00	.00	.002	.001	.00	.00
16	5059	1	5058.500	14	.00	1.00	.99	.00	.003	.001	.00	.00
17	5044	6	5041.000	50	.01	.99	.98	.00	.010	.001	.01	.00
18	4988	8	4984.000	102	.02	.98	.96	.00	.020	.002	.02	.00
19	4878	13	4871.500	156	.03	.97	.93	.00	.031	.002	.03	.00
20	4709	24	4697.000	253	.05	.95	.88	.00	.050	.003	.06	.00
21	4432	29	4417.500	353	.08	.92	.81	.01	.071	.004	.08	.00
22	4050	29	4035.500	321	.08	.92	.75	.01	.065	.003	.08	.00
23	3700	46	3677.000	390	.11	.89	.67	.01	.079	.004	.11	.01
24	3264	55	3236.500	370	.11	.89	.59	.01	.076	.004	.12	.01
25	2839	51	2813.500	331	.12	.88	.52	.01	.070	.004	.13	.01
26	2457	44	2435.000	296	.12	.88	.46	.01	.064	.004	.13	.01
27	2117	50	2092.000	239	.11	.89	.41	.01	.052	.003	.12	.01
28	1828	49	1803.500	210	.12	.88	.36	.01	.047	.003	.12	.01
29	1569	42	1548.000	197	.13	.87	.31	.01	.046	.003	.14	.01
30	1330	52	1304.000	178	.14	.86	.27	.01	.043	.003	.15	.01
31	1100	43	1078.500	120	.11	.89	.24	.01	.030	.003	.12	.01
32	937	54	910.000	102	.11	.89	.21	.01	.027	.003	.12	.01
33	781	42	760.000	88	.12	.88	.19	.01	.025	.003	.12	.01

**Table A.9. (Continued) Survival Table for Age at Second Birth among Turkish Women, 2018
TDHS**

Interval Start Time	Number Entering Interval	Number Withdrawing during Interval	Number Exposed to Risk	Number of Terminal Events	Proportion Terminating	Proportion Surviving	Cumulative Proportion Surviving at End of Interval	Std. Error of Cumulative Proportion Surviving at End of Interval	Probability Density	Std. Error of Probability Density	Hazard Rate	Std. Error of Hazard Rate
34	651	40	631.000	95	.15	.85	.16	.01	.028	.003	.16	.02
35	516	32	500.000	63	.13	.87	.14	.01	.020	.002	.13	.02
36	421	30	406.000	33	.08	.92	.13	.01	.011	.002	.08	.01
37	358	28	344.000	31	.09	.91	.12	.01	.012	.002	.09	.02
38	299	20	289.000	26	.09	.91	.11	.01	.011	.002	.09	.02
39	253	20	243.000	16	.07	.93	.10	.01	.007	.002	.07	.02
40	217	30	202.000	4	.02	.98	.10	.01	.002	.001	.02	.01
41	183	16	175.000	3	.02	.98	.10	.01	.002	.001	.02	.01
42	164	20	154.000	2	.01	.99	.09	.01	.001	.001	.01	.01
43	142	20	132.000	2	.02	.98	.09	.01	.001	.001	.02	.01
44	120	24	108.000	0	.00	1.00	.09	.01	.000	.000	.00	.00
45	96	20	86.000	0	.00	1.00	.09	.01	.000	.000	.00	.00
46	76	25	63.500	0	.00	1.00	.09	.01	.000	.000	.00	.00
47	51	21	40.500	0	.00	1.00	.09	.01	.000	.000	.00	.00
48	30	21	19.500	0	.00	1.00	.09	.01	.000	.000	.00	.00
49	9	9	4.500	0	.00	1.00	.09	.01	.000	.000	.00	.00

Table A.10. Survival Table for Age at Third Birth among Turkish Women, 2018 TDHS

Interval Start Time	Number Entering Interval	Number Withdrawing during Interval	Number Exposed to Risk	Number of Terminal Events	Proportion Terminating	Proportion Surviving	Cumulative Proportion Surviving at End of Interval	Std. Error of Cumulative Proportion Surviving at End of Interval	Probability Density	Std. Error of Probability Density	Hazard Rate	Std. Error of Hazard Rate
0	4059	0	4059.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
1	4059	0	4059.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
2	4059	0	4059.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
3	4059	0	4059.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
4	4059	0	4059.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
5	4059	0	4059.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
6	4059	0	4059.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
7	4059	0	4059.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
8	4059	0	4059.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
9	4059	0	4059.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
10	4059	0	4059.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
11	4059	0	4059.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
12	4059	0	4059.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
13	4059	0	4059.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
14	4059	0	4059.000	0	.00	1.00	1.00	.00	.000	.000	.00	.00
15	4059	0	4059.000	2	.00	1.00	1.00	.00	.000	.000	.00	.00
16	4057	0	4057.000	2	.00	1.00	1.00	.00	.000	.000	.00	.00
17	4055	0	4055.000	8	.00	1.00	1.00	.00	.002	.001	.00	.00
18	4047	2	4046.000	12	.00	1.00	.99	.00	.003	.001	.00	.00
19	4033	4	4031.000	33	.01	.99	.99	.00	.008	.001	.01	.00
20	3996	5	3993.500	59	.01	.99	.97	.00	.015	.002	.01	.00
21	3932	26	3919.000	81	.02	.98	.95	.00	.020	.002	.02	.00
22	3825	21	3814.500	146	.04	.96	.91	.00	.036	.003	.04	.00
23	3658	33	3641.500	155	.04	.96	.88	.01	.039	.003	.04	.00
24	3470	37	3451.500	148	.04	.96	.84	.01	.038	.003	.04	.00
25	3285	39	3265.500	199	.06	.94	.79	.01	.051	.004	.06	.00
26	3047	49	3022.500	175	.06	.94	.74	.01	.046	.003	.06	.00
27	2823	67	2789.500	160	.06	.94	.70	.01	.043	.003	.06	.00
28	2596	63	2564.500	147	.06	.94	.66	.01	.040	.003	.06	.00
29	2386	53	2359.500	121	.05	.95	.63	.01	.034	.003	.05	.00
30	2212	64	2180.000	155	.07	.93	.58	.01	.044	.003	.07	.01
31	1993	72	1957.000	125	.06	.94	.54	.01	.037	.003	.07	.01
32	1796	84	1754.000	107	.06	.94	.51	.01	.033	.003	.06	.01
33	1605	79	1565.500	102	.07	.93	.48	.01	.033	.003	.07	.01

Table A.10. (Continued) Survival Table for Age at Third Birth among Turkish Women, 2018 TDHS

Interval Start Time	Number Entering Interval	Number Withdrawing during Interval	Number Exposed to Risk	Number of Terminal Events	Proportion Terminating	Proportion Surviving	Cumulative Proportion Surviving at End of Interval	Std. Error of Cumulative Proportion Surviving at End of Interval	Probability Density	Std. Error of Probability Density	Hazard Rate	Std. Error of Hazard Rate
34	1424	86	1381.000	78	.06	.94	.45	.01	.027	.003	.06	.01
35	1260	75	1222.500	61	.05	.95	.43	.01	.022	.003	.05	.01
36	1124	82	1083.000	53	.05	.95	.41	.01	.021	.003	.05	.01
37	989	79	949.500	31	.03	.97	.39	.01	.013	.002	.03	.01
38	879	76	841.000	21	.02	.98	.38	.01	.010	.002	.03	.01
39	782	64	750.000	9	.01	.99	.38	.01	.005	.002	.01	.00
40	709	88	665.000	16	.02	.98	.37	.01	.009	.002	.02	.01
41	605	68	571.000	9	.02	.98	.36	.01	.006	.002	.02	.01
42	528	57	499.500	4	.01	.99	.36	.01	.003	.001	.01	.00
43	467	59	437.500	1	.00	1.00	.36	.01	.001	.001	.00	.00
44	407	74	370.000	2	.01	.99	.36	.01	.002	.001	.01	.00
45	331	60	301.000	0	.00	1.00	.36	.01	.000	.000	.00	.00
46	271	78	232.000	0	.00	1.00	.36	.01	.000	.000	.00	.00
47	193	75	155.500	0	.00	1.00	.36	.01	.000	.000	.00	.00
48	118	75	80.500	0	.00	1.00	.36	.01	.000	.000	.00	.00
49	43	43	21.500	0	.00	1.00	.36	.01	.000	.000	.00	.00

APPENDIX B. SUPPORTING TABLES FOR BINARY LOGISTIC REGRESSION ANALYSIS

Table B.1. Categorical Variable Information of the Timing of Marriage by Migration (Final Model)

		Weighted Count	Weighted Percent
Timing of Marriage by Migration ^a	First Marriage in Turkey	417.301	23.20%
	First Marriage in Syria ^b	1.378.955	76.80%
Duration of Stay	3-4 Years	602.048	33.50%
	5-6 Years	755.046	42.00%
	7+ Years	136.742	7.60%
	0-2 Years	302.420	16.80%
Education Level	Complete Primary	884.911	49.30%
	Complete Secondary and Higher	566.364	31.50%
	No Education	344.980	19.20%
Ever Worked	Yes	458.723	25.50%
	No	1.337.532	74.50%
Ethnicity	Kurdish	140.572	7.80%
	Arabic	1.551.981	86.40%
	Turkish and Other	103.703	5.80%
Brides Money	Yes	1.330.945	74.10%
	No	465.310	25.90%
Consanguinity	Related	826.219	46.00%
	Not Related	970.036	54.00%
Wealth Status	Middle	605.589	33.70%
	High	597.728	33.30%
	Low	592.938	33.00%
Regions	Central Syria	247.595	13.80%
	South West Syria	101.030	5.60%
	North East Syria	1.447.631	80.60%
Population Size		1.796.255	100.00%
a Dependent Variable			
b Reference Category			

Table B.2. Tests of Model Effects for Syrian Women Who Had Married After Migration (Final Model)

	Wald Chi-Square	df	Sig.
Duration of Stay	51.947	3.000	0.000
Age	215.433	1.000	0.000
Education Level	17.982	2.000	0.000
Ever Worked	9.460	1.000	0.002
Ethnicity	17.371	2.000	0.000
Brides Money	9.586	1.000	0.002
Consanguinity	5.124	1.000	0.024
Wealth Status	2.953	2.000	0.228
Regions	2.355	2.000	0.308

Table B.3. Coefficients and Statistical Estimates of the Syrian Women Who Had Married After Migration (Final Model)

	B	SE	%95 CI	p-value
Duration of Stay				
0-2 Years (Ref.)	-	-	-	-
3-4 Years	0.807	0.239	[0.333, 1.281]	0.001
5-6 Years	1.236	0.228	[0.783, 1.689]	0.000
7+ Years	2.260	0.332	[1.600, 2.920]	0.000
Age	-0.278	0.019	[-0.315, -0.240]	0.000
Education Level				
No Education (Ref.)	-	-	-	-
Complete Primary	-0.228	0.204	[-0.632, 0.176]	0.265
Complete Secondary and Higher	0.452	0.200	[0.054, 0.850]	0.027
Ever Worked				
Not Worked (Ref.)	-	-	-	-
Worked	0.503	0.163	[0.178, 0.827]	0.003
Ethnicity				
Turkish and Other (Ref.)	-	-	-	-
Kurdish	0.346	0.385	[-0.418, 1.110]	0.371
Arabic	-0.642	0.269	[-1.176, -0.109]	0.019

Table B.3. (Continued) Coefficients and Statistical Estimates for Syrian Women Who Had Married After Migration (Final Model)

	B	SE	%95 CI	p-value
Brides Money				
Not Taken (Ref.)	-	-	-	-
Taken	-0.428	0.138	[-0.703, -0.154]	0.003
Consanguinity				
Not Related (Ref.)	-	-	-	-
Related	-0.341	0.151	[-0.640, -0.042]	0.026
Wealth Status				
Low (Ref.)	-	-	-	-
Medium	0.263	0.184	[-0.101, 0.627]	0.155
High	0.271	0.168	[-0.063, 0.605]	0.110
Regions				
North East Syria (Ref.)	-	-	-	-
Central Syria	-0.299	0.216	[-0.727, 0.129]	0.168
South West Syria	0.143	0.311	[-0.475, 0.761]	0.648

Table B.4. Categorical Variable Information of the Timing of First Birth by Migration (Final Model)

		Weighted Count	Weighted Percent
Timing of Birth by Migration ^a	First Birth Occur in Turkey	448.900	28.00%
	First Birth Occur in Syria ^b	1.152.044	72.00%
Duration of Stay	3-4 Years	536.830	33.50%
	5-6 Years	690.336	43.10%
	7+ Years	126.182	7.90%
	0-2 Years	247.596	15.50%
Education Level	Complete Primary	801.435	50.10%
	Complete Secondary and Higher	489.393	30.60%
	No Education	310.116	19.40%
Ever Worked	Yes	396.121	24.70%
	No	1.204.823	75.30%

Table B.4. (Continued) Categorical Variable Information of the Timing of First Birth by Migration (Final Model)

		Weighted Count	Weighted Percent
Ethnicity	Kurdish	121.586	7.60%
	Arabic	1.381.299	86.30%
Brides Money	Turkish and Other	98.059	6.10%
	Yes	1.203.204	75.20%
Consanguinity	No	397.740	24.80%
	Related	744.526	46.50%
Wealth Status	Not Related	856.418	53.50%
	Middle	545.989	34.10%
	High	531.589	33.20%
Regions	Low	523.366	32.70%
	Central Syria	227.932	14.20%
	South West Syria	89.040	5.60%
Ever Use Contraception	North East Syria	1.283.972	80.20%
	Used Only Traditional Methods	284.732	17.80%
	Used Modern Methods	947.513	59.20%
Population Size	Knows No Methods	368.699	23.00%
a Dependent Variable		1.600.944	100.00%
b Reference Category			

Table B.5. Tests of Model Effects for Syrian Women Who Had Their First Birth After Migration (Final Model)

	Wald Chi-Square	df	Sig.
Duration of Stay	72.360	3.000	0.000
Age	103.551	1.000	0.000
Education Level	1.695	2.000	0.428
Ever Worked	1.506	1.000	0.220
Ethnicity	2.067	2.000	0.356
Brides Money	0.055	1.000	0.815
Consanguinity	0.357	1.000	0.550
Wealth Status	8.837	2.000	0.012
Regions	1.631	2.000	0.442
Age at First Marriage	87.075	1.000	0.000
Ever Use Contraception	8.153	2.000	0.017

Table B.6. Coefficients and Statistical Estimates for Syrian Women Who Had Their First Birth After Migration (Final Model)

	B	SE	%95 CI	p-value
Duration of Stay				
0-2 Years (Ref.)	-	-	-	-
3-4 Years	1.848	0.320	[1.212, 2.484]	0.000
5-6 Years	3.094	0.400	[2.300, 3.887]	0.000
7+ Years	4.451	0.568	[3.323, 5.579]	0.000
Age	-0.736	0.072	[-0.879, -0.592]	0.000
Education Level				
No Education (Ref.)	-	-	-	-
Complete Primary	-0.384	0.326	[-1.031, 0.264]	0.242
Complete Secondary and Higher	-0.195	0.349	[-0.888, 0.498]	0.577
Ever Worked				
Not Worked (Ref.)	-	-	-	-
Worked	0.298	0.243	[-0.184, 0.781]	0.223
Ethnicity				
Turkish and Other (Ref.)	-	-	-	-
Kurdish	0.738	0.603	[-0.459, 1.934]	0.224
Arabic	0.351	0.536	[-0.713, 1.415]	0.514

Table B.6. (Continued) Coefficients and Statistical Estimates for Syrian Women Who Had Their First Birth After Migration (Final Model)

	B	SE	%95 CI	p-value
Brides Money				
Not Taken (Ref.)	-	-	-	-
Taken	-0.049	0.212	[-0.470, 0.371]	0.816
Consanguinity				
Not Related (Ref.)	-	-	-	-
Related	-0.100	0.167	[-0.431, 0.232]	0.552
Wealth Status				
Low (Ref.)	-	-	-	-
Medium	0.494	0.240	[0.018, 0.970]	0.042
High	0.645	0.220	[0.208, 1.082]	0.004
Regions				
North East Syria (Ref.)	-	-	-	-
Central Syria	-0.330	0.276	[-0.878, 0.217]	0.234
South West Syria	-0.303	0.397	[-1.090, 0.485]	0.447
Age at First Marriage	0.684	0.073	[0.538, 0.829]	0.000
Ever Use Contraception				
Never Used Method (Ref.)	-	-	-	-
Used Only Traditional Method	0.065	0.229	[-0.390, 0.521]	0.777
Used Modern Method	-0.525	0.229	[-0.980, -0.070]	0.024
N=1640				

APPENDIX C. SUPPORTING TABLES FOR MULTIPLE LINEAR REGRESSION ANALYSIS

Table C.1. Coefficients and Statistical Estimates of Age at First Marriage for All Syrian Women (Final Model)

	B	SE	%95 CI	p-value
Timing of Marriage by Migration				
Before Migration (Ref.)	-	-	-	-
After Migration	3.012	0.260	[2.495, 3.529]	0.000
Duration of Stay				
0-2 Years (Ref.)	-	-	-	-
3-4 Years	-1.093	0.312	[-1.713, -0.473]	0.001
5-6 Years	-1.260	0.332	[-1.920, -0.600]	0.000
7+ Years	-1.726	0.440	[-2.600, -0.852]	0.000
Age	0.213	0.016	[0.181, 0.244]	0.000
Education Level				
No Education (Ref.)	-	-	-	-
Complete Primary	0.446	0.291	[-0.131, 1.023]	0.128
Complete Secondary and Higher	1.952	0.335	[1.288, 2.617]	0.000
Ever Worked				
Not Worked (Ref.)	-	-	-	-
Worked	0.666	0.223	[0.244, 1.109]	0.004
Ethnicity				
Turkish and Other (Ref.)	-	-	-	-
Kurdish	1.109	0.424	[0.267, 1.951]	0.010
Arabic	-0.689	0.398	[-1.480, 0.101]	0.087
Brides Money				
Not Taken (Ref.)	-	-	-	-
Taken	-0.084	0.211	[-0.502, 0.335]	0.693
Consanguinity				
Not Related (Ref.)	-	-	-	-
Related	-1.043	0.165	[-1.371, -0.716]	0.000

Table C.1. (Continued) Coefficients and Statistical Estimates of Age at First Marriage for All Syrian Women (Final Model)

	B	SE	%95 CI	p-value
Wealth Status				
Low (Ref.)	-	-	-	-
Medium	-0.465	0.281	[-1.022, 0.092]	0.101
High	-0.376	0.292	[-0.957, 0.205]	0.202
Regions				
North East Syria (Ref.)	-	-	-	-
Central Syria	-0.187	0.334	[-0.849, 0.476]	0.578
South West Syria	0.283	0.390	[-0.492, 1.057]	0.471

Table C.2. Coefficients and Statistical Estimates for Age at First Birth for All Syrian Women (Final Model)

	B	SE	%95 CI	p-value
Timing of Birth by Migration				
Before Migration (Ref.)	-	-	-	-
After Migration	0.855	0.151	[0.555, 1.155]	0.000
Duration of Stay				
0-2 Years (Ref.)	-	-	-	-
3-4 Years	-0.291	0.180	[-0.649, -0.068]	0.111
5-6 Years	-0.166	0.174	[-0.511, 0.178]	0.341
7+ Years	-0.465	0.225	[-0.911, -0.019]	0.041
Age	0.097	0.012	[0.074, 0.121]	0.000
Education Level				
No Education (Ref.)	-	-	-	-
Complete Primary	-0.035	0.167	[-0.368, 0.297]	0.833
Complete Secondary and Higher	0.038	0.184	[-0.327, 0.404]	0.836
Ever Worked				
Not Worked (Ref.)	-	-	-	-
Worked	0.409	0.141	[0.130, 0.689]	0.005

Table C.2. (Continued) Coefficients and Statistical Estimates for Age at First Birth for All Syrian Women (Final Model)

Ethnicity				
Turkish and Other (Ref.)	-	-	-	-
Kurdish	-0.374	0.317	[-1.002, 0.255]	0.241
Arabic	-0.141	0.270	[-0.677, 0.396]	0.603
Brides Money				
Not Taken (Ref.)	-	-	-	-
Taken	-0.061	0.112	[-0.283, 0.161]	0.588
Consanguinity				
Not Related (Ref.)	-	-	-	-
Related	-0.057	0.112	[-0.278, 0.165]	0.614
Wealth Status				
Low (Ref.)	-	-	-	-
Medium	-0.189	0.145	[-0.476, 0.098]	0.194
High	-0.486	0.117	[-0.717, -0.254]	0.000
Regions				
North East Syria (Ref.)	-	-	-	-
Central Syria	-0.283	0.146	[-0.572, 0.006]	0.055
South West Syria	-0.213	0.165	[-0.541, 0.115]	0.2
Age at First Marriage	0.774	0.024	[0.727, 0.821]	0.000
Ever Use Contraception				
Never Used Method (Ref.)	-	-	-	-
Used Only Traditional Method	-0.154	0.148	[-0.447, 0.139]	0.299
Used Modern Method	-0.626	0.152	[-0.927, -0.324]	0.000

APPENDIX D. COLLINEARTY STATISTICS: VIF AND TOLERANCE VALUES

Table D.1. Variance Inflation Factor and Tolerance Values for Syrian Women Who Married Before/After Migration

	Tolerance	VIF
Duration of Stay	0.984	1.017
Age	0.933	1.071
Education	0.943	1.061
Ever Worked	0.974	1.027
Ethnicity	0.952	1.051
Brides Money	0.955	1.047
Consanguinity	0.987	1.014
Wealth Status	0.964	1.037
Regions	0.960	1.042

Table D.2. Variance Inflation Factor and Tolerance Values for Syrian Women Who Had Their First Birth Before/After Migration

	Tolerance	VIF
Duration of Stay	0.978	1.022
Age	0.819	1.221
Education	0.928	1.078
Ever Worked	0.967	1.035
Ethnicity	0.951	1.051
Brides Money	0.955	1.047
Consanguinity	0.958	1.044
Wealth Status	0.953	1.049
Regions	0.958	1.044
Age at First Marriage	0.901	1.110
Ever Use Contraception	0.903	1.108

Table D.3. Variance Inflation Factor and Tolerance Values for Age at First Marriage

	Tolerance	VIF
Duration of Stay	0.985	1.015
Age	0.935	1.069
Education	0.943	1.061
Ever Worked	0.972	1.028
Ethnicity	0.952	1.051
Brides Money	0.956	1.046
Consanguinity	0.988	1.012
Wealth Status	0.955	1.047
Regions	0.962	1.039

Table D.4. Variance Inflation Factor and Tolerance Values for Age at First Birth

	Tolerance	VIF
Duration of Stay	0.980	1.021
Age	0.822	1.217
Education	0.929	1.077
Ever Worked	0.965	1.036
Ethnicity	0.952	1.051
Brides Money	0.954	1.048
Consanguinity	0.959	1.043
Wealth Status	0.951	1.052
Regions	0.955	1.047
Age at First Marriage	0.899	1.113
Ever Use Contraception	0.904	1.106

APPENDIX E. ORIGINAL ARTICLE

ORPHANHOOD AND LIVING ARRANGEMENTS OF SYRIAN CHILDREN IN TÜRKİYE: A COMPARATIVE ANALYSIS OF PRE- AND POST-CONFLICT PERIODS (2006- 2018)*

Seda YUMLU¹

İsmet KOÇ²

Abstract

This article examines how armed conflicts influence orphanhood and living arrangements of children and specifically compares Syrian orphan children's living arrangements in the pre-conflict period in Syria and the post-conflict period in Türkiye by using the data of the 2006 Syrian Arab Republic Multiple Indicator Cluster Survey (SMICS) and 2018 Türkiye Demographic and Health Survey Syrian Migrant Sample (TDHS-S). The study aims to understand the prevalence and magnitude of orphanhood among Syrian refugee children, to investigate the social consequences of orphanhood and to reveal how various living arrangements of orphaned Syrian children differ in pre- and post-conflict periods. The research employs a comparative analysis based on the descriptive statistics of two datasets. The results of the study indicate that orphanhood among Syrian children has increased in the post-conflict period for all age groups and both sexes. A key finding shows that paternal orphanhood is more prevalent in the post-conflict period among all orphanhood types with a 4.8%. The incidence of not living with a biological parent is highest for the 15-17 age group in Türkiye reaching 17%. The increase in percentages of working children, the general decline in school attendance ratios and high percentages in early marriages are other prominent findings observed in the post-conflict period.

Key Words: *Armed conflict, conflict-induced-migration, orphanhood, living arrangements, Syrian refugee children*

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TÜRKİYE'DEKİ SURİYELİ ÇOCUKLARIN ÖKSÜZLÜĞÜ VE YAŞAM DÜZENLEMELERİ: ÇATIŞMA ÖNCESİ VE SONRASI DÖNEMİN KARŞILAŞTIRMALI BİR ANALİZİ (2006- 2018)

Öz

Bu makale, silahlı çatışmaların çocukların öksüz kalması ve yaşam düzenlemelerini nasıl etkilediğini incelemekte, daha özel olarak ise Suriyeli öksüz ve yetim çocukların Suriye'deki çatışma öncesi dönem ile Türkiye'deki çatışma sonrası dönemdeki yaşam düzenlemelerini 2006 Suriye Arap Cumhuriyeti Çoklu Göstergeli Kümeleme Araştırması ve 2018 Türkiye Nüfus ve Sağlık Araştırması (TNSA) Suriyeli göçmen örneklemleri verilerini kullanarak ele almaktadır. Çalışma, Suriyeli mülteci çocuklar arasında öksüzlük ve yetimliğin yaygınlığını ve boyutunu anlamayı, öksüzlüğün sosyal sonuçlarını incelemeyi ve Suriyeli öksüz çocukların çeşitli yaşam düzenlemelerinin çatışma öncesi ve sonrası dönemde nasıl farklılaştığını ortaya koymayı amaçlamaktadır. Çalışma, iki veri setinin tanımlayıcı istatistiklerine dayanan karşılaştırmalı bir analiz kullanmaktadır. Araştırmanın sonuçları, çatışma sonrası dönemde Suriyeli çocuklar arasında öksüzlüğün tüm yaş grupları ve her iki cinsiyet için arttığını göstermektedir. Önemli bir bulgu, baba yetimliğinin çatışma sonrası dönemde tüm öksüz türleri arasında %4,8 ile daha yaygın olduğunu göstermektedir. Biyolojik ebeveyn ile yaşamama oranının Türkiye'de en yüksek olduğu yaş grubu 15-17 yaş grubunda %17'ye ulaştığı görülmektedir. Çalışan öksüzlerin yüzdesindeki artış, okula devam oranlarındaki genel düşüş ve erken evliliklerin yüzdesindeki yükseklik de çatışma sonrası dönemde gözlemlenen önemli bulgular olarak öne çıkmaktadır.

Anahtar Kelimeler: Silahlı çatışma, çatışma kaynaklı göç, öksüzlük, yaşam düzenlemeleri, Suriyeli göçmen çocuklar

INTRODUCTION

As the frequency of wars, armed conflicts, and violence has been escalating over the years, this surge has led to increased humanitarian crises not only within the countries directly affected but also among neighboring nations contending with the consequences of these conflicts. Since March 2011, the aftermath of the Syrian civil war has perpetuated the loss of thousands of civilians and the involuntary displacement of millions of people including women and children. Children, given their heightened vulnerability, emerge as the most adversely impacted segment of the population, constituting a demographic at a higher risk. They confront the severe repercussions of the conflict, encompassing forced migration, family separation, orphanhood, child labor, child soldiering, or exposure to violence. At present, Türkiye is hosting over half of the Syrian refugee population and under UNHCR's mandate, it is estimated that 3.7 million people are under temporary protection with 322,000 asylum seekers and refugees of which 1.7 million of them are children (UNHCR, 2022).

The majority of Syrians who arrived in Türkiye following the conflict originated from the governorates located in the North East and Central regions



Figure 1. Map of Syrian Arab Republic

of Syria, notably with Aleppo and Idlib experiencing the highest number of migrants (AFAD, 2014). As depicted in Figure 1, the geographical proximity of these governorates to the Turkish border contributes to a substantial influx of Syrians from Aleppo and Idlib to Türkiye, while the least number of migrants arrived from distant governorates such as Quneitra, Daraa and As-Suwayda.

Original Source: Adapted from UN Geospatial, Syria Arab Republic, Map No. 4204 Rev. 3, (2012) Modified for clarity and relevance.

Given the background information outlined above, this article delves into the implications of the 2011 Syrian conflict on children, with a specific emphasis on orphanhood and living arrangements. The focus is particularly directed toward Syrian children in both the pre-and post-conflict periods, aiming to comprehend specific changes and outcomes arising from the conflict. Despite the extensive research on armed conflicts and children, the existing literature primarily underscores specific facets of this relationship, emphasizing psychological and physical health outcomes (Bürgin et al, 2022; Le and Nguyen, 2023), or issues such as child soldiering, education and development of the child (Haer, 2019; Cervantes-Duarte and Fernández-Cano, 2016); while the aspect of orphanhood and living arrangements is generally neglected or studied intensely for the HIV/AIDS cases that are located in South Africa region (Gregson et al., 1994; Hosegood et al., 2007; Hill et al., 2008; Beegle et al., 2010; Ardington and Leibbrandt, 2010).

Thus, the main purposes of this article are (1) to examine and compare the orphanhood and living arrangements of Syrian children in the pre-conflict period in Syria and post-conflict period in Türkiye with demographic data, (2) to document the propensity of orphanhood by providing an assessment of the prevalence and magnitude of it among Syrian refugee children in Türkiye, and lastly (3) to understand the survival status of parents and living and care arrangements of orphaned Syrian refugee children in Türkiye by looking into the various contexts in which these children find themselves. Secondary objectives that are closely related to the main purposes are (a) to examine the social outcomes of orphanhood on educational achievement, child/adolescent labor and child/early marriage, and (b) to shed light on the issue of orphanhood and its consequences to raise awareness and inform policymakers for supporting and protecting these vulnerable children.

LITERATURE REVIEW

Literature on Armed Conflicts and Children

The theoretical foundation to understand armed conflicts and wars is vast, complex and diverse encompassing a range of perspectives from various

disciplines that predominantly center on large-scale events. Consequently, the related theories concerning this issue are typically positioned at the macro-level, addressing the overarching impacts of conflict and the numerous factors that either contribute to or resolve conflicts. On the other hand, the relationship between armed conflicts and children -a more specific and focused approach within the context- requires a micro-level point of view as the focus is to understand the individual or group dynamics that shape children's experiences, behaviors or responses. The studies on armed conflicts and children gained significant attention under these micro perspectives which scholars from various disciplines have extensively discussed and analyzed since the late 20th century. In the existing literature, despite the abundance of studies exploring the impact of armed conflicts on children, many of them offer a specific perspective categorized within certain groupings as a part of various academic disciplines. Some of the notable approaches that provide a specific dimension on the impact of armed conflicts on children can be categorized as follows: (1) psychosocial and mental health perspective that primarily focuses on the well-being of the child as well as the psychological effects of armed conflicts on the child (Stichick Betancourt and Khan, 2008, Bürgin et al, 2022); (2) child rights perspective that approaches the issue from a legal dimension including international human rights frameworks and child protection (Richards, 2004; Kures, 2001); (3) child soldier perspective which generally examines the reasons and consequences of the child recruitment in armed conflicts (Wessells, 2017; Haer, 2019); (4) gender perspective as how girls and boys are influenced differently by armed conflicts and how the social norms affect their experiences in general (Singh et al, 2022; Buvinic et al, 2013); (5) education and development perspective which discusses how armed conflicts disrupt the education of children in general affecting schooling and drop-out rates, but also the access to basic services in conflict-affected areas (Poirier, 2012; Bircan ve Sunata, 2015).

Yet, research with a demographic perspective that uses demographic data and analysis on children in conflict-affected areas is very scarce in the literature. From a demographic standpoint, the literature on armed conflicts addresses the issue from two different units of analysis. The first approach

focuses on a broader level and discusses the impact of armed conflicts on the household level in which the effects include changes in the household composition or household welfare (Justino, 2011; Sánchez-Céspedes, 2017; Brück and Schindler, 2009). The second approach tackles the issue from an individual level by concentrating only on children and highlights how armed violent conflicts affect them directly or indirectly. In this article, the second level of analysis that focuses on children will be embraced.

According to Bahgat et al. (2017), the existing data on children who are exposed to conflict are influenced by several factors such as the population density, size of the conflict zones and the share of the under-18 population in which the population density and size of conflict zones determine the number of children who are affected by conflict. A group of studies from this perspective examines the mortality aspect of the conflict focusing on how armed conflicts lead to child deaths directly or indirectly in the form of malnutrition, violence, diseases and lack of access to the healthcare system. Bendavid et al.'s (2021) research, for instance, presents the direct and indirect effects of the armed conflict specifically on women and children by compiling georeferenced child survival data from the Demographic and Health Surveys (DHS). The authors concluded that armed conflicts increase mortality among children indirectly, cause acute or chronic malnutrition who are living within the proximity of conflict, induce sexual violence and also lead to mental health issues such as post-traumatic stress disorder, anxiety or depression. A separate study with a demographic and health perspective investigates the impact of the 2002–2007 armed conflict in Côte d'Ivoire and indicates that the extent of the conflict causes a significant deterioration in the child's health of children aged 6-60 months who live in conflict-affected areas suffered greatly compared to the children in less-affected areas (Minou and Shemyakina, 2014). The detrimental impact intensifies for children exposed to the conflict for a long duration, for children in rural communities and for children living in victimized households.

The other group of studies that can also be identified within the demographic perspective concentrates on migration consequences of armed

conflict, commonly referred to as ‘conflict-induced migration’ (or sometimes conflict-induced displacement) which is frequently recognized as a subset of ‘forced migration’ in the literature. The primary difference between the two is while forced migration is a broader term and encompasses various reasons for displacement such as persecution, human rights violations, environmental disasters, state failure, etc., conflict-induced migration specifically focuses on displacement caused by armed conflicts and the associated violence and instability. Conflict-induced migration generally causes displacement of mass numbers of people, and children constitute a significant proportion of this population. In fact, it is argued that half of the world’s refugees consist of children (Raman et al., 2017). However, regarding the conflict-induced migration in the available literature, either the reason, motivation and decision behind the migration is studied (Adhikari, 2013; Borowiecki, 2013; Schon, 2019; Seven, 2022) or a more generalized approach to the consequences of conflict-induced migration is adopted (Lischer, 2007). Only a few studies have focused on the impact of conflict-induced migration on children. One of those studies discusses the unaccompanied refugee minors who reach the destination countries and examine how they become unaccompanied with a focus on Syrian minors (Ullah, 2018). They highlight that most of the unaccompanied Syrian children are psychologically traumatized and experience high levels of separation stress and anxiety. Regarding conflict-induced migration and children, studies particularly analyze displaced children due to armed conflicts and the challenges they face such as loss of parents, separation from family, access to health and education services and orphanhood in conflict zones.

Literature on Orphanhood and Living Arrangements of Children

It is important to indicate that there is a gap in the literature regarding the relationship between armed conflicts, orphanhood and living arrangements of children. Among the few works in the literature, studies that focus on the relationship between armed conflicts and their impact on orphanhood and children’s living arrangements are a handful. Although the issue of children’s orphanhood is studied frequently in academia, the focus is almost always the AIDS-induced orphanhood especially in sub-Saharan Africa or COVID-

induced orphanhood with the recent pandemic; while the conflict-induced orphanhood is less studied, likewise the living arrangements of children.

Within the conflict-induced orphanhood studies, adult mortality as a result of armed conflicts and its indirect effect on orphanhood are particularly investigated. One of those recent studies examine the impact of armed conflict on mortality among 15-49 age women and orphanhood among children who are under the age of 15 in Africa (Wagner et al., 2019). According to the analysis based on the sample of 1,629,352 women and 2,354,041 children under the age of 15, as the conflict intensifies above the median exposure, the risk of orphanhood also increases in proportion following the exposure to conflict by nearly 6%. During the low-intensity conflicts, mortality and orphanhood resulted as statistically insignificant, while the high-intensity conflicts have increased these events. Another study by the same authors also indicates that armed conflicts continually and significantly increase infant mortality rates in Africa and as the conflicts tend to be more chronic meaning that they last at least more than 5 consecutive years, the lingering effects become much greater for child's first year of life (Wagner et al, 2018). It is frequently stressed that especially mother's absence is crucial and has a strong negative effect on the survival of children as mothers are the primary caregivers to children, spending more time with them, performing housekeeping tasks and maintaining connections with the extended kin and neighbors; on the other hand, father's role is primarily economic based on providing goods and services for the household (van Poppel and van Gaalen, 2008).

As orphans, children who are affected by armed conflicts face compelling disruptions and challenges in their living arrangements as well. It is important to note that the literature and the specific findings on the living arrangements of children due to armed conflict usually vary based on the region, the nature and scope of the conflict being studied, and the time being examined. Thus, while it is difficult to make generalizations about the issue, some common themes, trends and key points that are depicted are as follows. Among the 153 million orphans in the world, 116 million are single orphans with a living parent and 14 million of them are double orphans who have no

surviving parent (UNICEF, 2021a). Inherently, the most prevalent form of living arrangement for single orphans is to live with the surviving biological parent. The literature is also in parallel with this observation indicating that in households with high child-parent co-residency, there is a higher likelihood that the children will be living with the surviving parent when one parent dies (Hosegood et al., 2007; Monasch and Boerma, 2004). However, in case both parents are dead, namely the situation for double orphans, kinship care is the second most frequently encountered form of care arrangement where children are taken in and cared by their extended family members. A recent study based on the 2015-2016 National Family Health Survey in India proves this formation highlighting that it is more likely for paternal and maternal orphans to live with their mothers and fathers respectively, followed by their grandparents (Singh and Sekher, 2021). Another study based on Lesotho, Malawi and Zimbabwe, also suggested that the pre-orphanhood living arrangement of children has an important impact on the living arrangements of orphaned children in the aftermath (Shoko and Ibisomi, 2017). Although their focus is mainly the children orphaned by AIDS, their identification may also be correct for conflict-induced orphanhood. The authors argue that living arrangements for orphans vary according to their orphan state. In case the mother dies, the husband asks his relatives to take care of his children, but in case the father dies, his wife usually assumes the headship in the household. If both parents die, the orphans have to be adopted by caretakers or be independent by themselves. Thus, a large number of orphans stay either with the remaining living parent or reside with their extended families. Kinship care is also often considered the most desirable and culturally appropriate type of care as it helps children maintain their connections with their extended family and community. Nonetheless, in situations where kinship care is not available or suitable, orphaned children are often put into institutional care usually in the form of orphanages or residential homes. Despite the wide variance in estimates and the difficulty to gauge accurately, figures indicate that ranging from 2.7 to 5.4 million children are considered to be in various forms of institutional care (UNICEF, 2021b).

Independent living is another form of living arrangement that is generally seen among older orphans who have reached adulthood which could involve living alone or with peers, taking on responsibility and self-sufficiency at a relatively young age. Child-only or child-headed households (CHHs) among this arrangement is a frequent living arrangement for children that usually emerges as a result of huge crises such as conflict, war or HIV/AIDS and their aftermath effects such as the death or disappearance of parents, separation, displacement or economic hardships. Households where all individuals are younger than 18 years are typically called CHHs as the children take the role of the head of the household. Although the definition slightly differs from the Children's Act as they refer to CHHs as households in which the child manages, due to the fact that adults are too sick or too old; the fact that a child assumes headship applies to both situations ultimately. A study conducted in Burundi, a conflict-affected country between 1993 and 2006, finds that CHHs in the camps for internally displaced persons are extremely high (UNICEF, 2009). Usually, there have been social networks that look out for children and orphans in the pre-conflict period; however, in the post-conflict situations, these structures are destroyed leaving children even more at risk. The general opinion in the literature assumes the number of CHHs is increasing and highly prevalent. However, longitudinal data from demographic surveillance systems proved that the rise in orphanhood ratios does not lead to a substantial increase in child-headed households in Tanzania, Malawi and South Africa (Hosegood et al, 2007). In fact, in some towns, very few or no CHHs were identified. Hence, contrary to the existing assumptions, CHHs are a rare occurrence and even for the few cases where children live alone, this situation is often temporal until new family arrangements are established.

METHODOLOGY

Data Sources and Method of Analysis

In order to analyze the impact of armed conflicts and conflict-induced migration on children's orphanhood and living arrangements, the case of Syrian children will be examined specifically. A comparative analysis will be conducted by looking at the pre-conflict and post-conflict periods to

understand the orphanhood in a non-conflict environment in Syria where the population was stable and secure without being disrupted by violence and conflict. 2006 Syrian Arab Republic Multiple Indicator Cluster Survey (SMICS) will be used for the pre-conflict analysis to present the peacetime situation of children. MICS programs are designed to collect information on the situation of children and women specifically and in 2006 SMICS used a two-stage, stratified, cluster sample design. In the selected sampling, 19019 among 20022 households were interviewed and, in these households, 25026 women aged 15-49 were interviewed successfully in which the data of 48139 children under age 18 were collected. 2006 SMICS data was requested via MICS's website by selecting the country and year of the survey, and the data was accessed after the access permission was granted by the UNICEF MICS team. For the post-conflict period, the most recent 2018 Türkiye Demographic and Health Survey's Syrian Migrant Sample (2018 TDHS-S) will be utilized as a natural reflection of the situation in Syria where millions of people have to migrate to neighboring countries where Türkiye alone hosts the largest population (IOM, 2021). 2018 TDHS-S presents data both on the household and individual level about the demographic and health indicators for the Syrian migrant population living in Türkiye. The sample design used a multi-stage, stratified cluster sampling approach and a total of 1960 households were selected where 1826 of them were interviewed for the survey. Among these households, 2216 women interviews between 15-49 were conducted and information on 5510 children under age 18 was collected successfully (HUIPS, 2019). 2018 TDHS-S data which is available to researchers is first requested through the Hacettepe University Institute of Population Studies (HUIPS) website, and after the data request is approved, the Syrian migrant sample datasets were downloaded and accessed by using a suitable software program.

As a method of analysis, descriptive statistics will be applied by using the IBM SPSS Statistics 26 program based on the datasets of the 2018 TDHS-S 'PR' (household members) file and the 2006 SMICS 'hl' (household members) file. All of the calculations were based on using a weighted sample for both datasets. The small percentage of children for whom the survival status of one or both parents is categorized as "don't know" is made system missing and excluded from the analysis involving orphan status. The data quality and

representativeness are robust and adequate for both datasets; thus, the analysis gives valuable insights into the current situation and sets the stage for future research.

Construction of Variables

For the analysis, it is important to define the terminology regarding orphanhood as some of the terms are mutually exclusive or inclusive. According to UNICEF, USAIDS and UNAIDS (2004), a child who is under 18 years of age and lost one or both biological parents to any cause of death is defined as an “orphan” and this definition will be used throughout the article. Besides, there are different orphan statuses depending on which family member has deceased. A “maternal orphan” is defined as a child whose mother has died but father alive and a “paternal orphan” is a child whose father has died but the mother is reported to be alive. A child who has lost one of their parents due to death is described as a “single orphan” and those who have lost both of their parents are called “double orphan” and sometimes “true orphan”.

Since the unit of analysis of this study is children, the related variables are constructed in the light of this foundation. The dependent variable therefore is the status of being an orphan which is a categorical variable with multiple levels such as maternal, paternal and double orphans that are calculated with the help of the existing variables in the dataset. For the living arrangements, in addition to the survival status of parents, the information of which family member the child lives with is included in the formation of the variables. The armed conflict in Syria is primarily one of the independent variables. Additionally, demographic factors such as age, sex and country of citizenship, and geographic factors such as region and residence are the other independent variables. Educational attainment, child or adolescent labor and early or child marriages are the outcomes that will be focused on in the analysis to further explore the influence of armed conflicts on orphan children’s lives in the post-conflict period.

Limitations

Although many factors affect the decision to migrate, it is now a known fact that the armed conflict that began in 2011 has established the root cause for Syrians to seek refuge in Türkiye. The conflict resulted in widespread violence, displacement and the loss of lives for many Syrians including a significant number of children who have lost their parents or guardians due to violence, the destruction of their homes or the overall instability and chaos. However, since the reason of orphanhood is not asked in the questionnaire of 2018 TDHS-S, one limitation is the uncertainty about whether the children are directly orphaned because of the armed conflict in Syria. While the armed conflict is a primary reason, other factors such as displacement, separation from family, and other forms of violence can also contribute to the orphanhood of Syrian children in Türkiye. On the other hand, it is not totally wrong to assume that most of the children who are double orphans or single orphans in Türkiye have probably been orphaned as a result of the direct or indirect effects of the conflict in their home country. The population pyramid and age structure from the 2018 TDHS-S clearly indicate that Syrians in Türkiye have a younger population structure compared to the pre-conflict period in Syria (Koç ve Saraç, 2021). Thus, although not certain, the presence of maternal or paternal orphaned children in Türkiye can be attributed to the reason of armed conflict in Syria as adult mortalities at a young age are not very common and generally lower for adults compared to infants, children or older individuals.

Another limitation is that in the 2006 MICS household members dataset, the relationship between orphanhood and marriage cannot be analyzed for the pre-conflict period due to the lack of information about the marital status of the household members. Therefore, only post-conflict period analysis will be presented for this relationship.

FINDINGS

Survival Status of Parents, Orphanhood and Living Arrangements

Table 1 illustrates the orphanhood status of Syrian children according to age and sex characteristics during the pre-conflict period in Syria and the post-conflict period in Türkiye. It is observed that the ratio of orphans has increased significantly in the post-war period. The proportion of orphanhood which was 3.3% in the pre-war period, has increased almost twice to 6.3% in the post-war period. While the proportion of double orphanhood remains unchanged, the ratios of maternal and particularly, paternal orphanhood have noticeably increased due to the impact of armed conflict. Upon scrutinizing the table based on gender, there is no notable change between males and females, although there has been an increase in the post-conflict period for both sexes. Furthermore, substantial differences have been identified concerning age. In the pre-conflict period, the proportion of orphanhood, which increases with age, was 7.2% in the 15-17 age group. Upon examining the post-conflict period, it has been observed that this percentage has increased by almost two times, reaching 13%. Another finding highlights that a significant portion of children identified as orphans, especially during the conflict period, are paternal orphans.

Table 1. Percent Distribution of Syrian Children under Age 18 by Orphan Status According to Age and Sex in Pre-Conflict Period in Syria and Post-Conflict Period in Türkiye, 2006 SMICS and 2018 TDHS-S

		Non-Or- phans	Orphans	Maternal Orphans	Paternal Orphans	Double Orphans	Missing	Total	Number of Children
Pre-Conflict Period									
Age	0-4	99.4	0.6	0.1	0.5	0.0	0.0	100.0	11103
	5-9	97.8	2.3	0.3	1.8	0.1	0.1	100.0	14579
	10-14	95.5	4.5	0.6	3.6	0.1	0.2	100.0	14730
	15-17	92.8	7.1	0.7	5.6	0.5	0.3	100.0	7727
Sex	Male	96.8	3.2	0.4	2.6	0.1	0.1	100.0	24988

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	Female	96.5	3.6	0.4	2.8	0.2	0.2	100.0	23150
Total		96.7	3.3	0.4	2.7	0.1	0.1	100.0	48139
Post-Conflict Period									
Age	0-4	98.0	2.0	0.2	1.8	0.0	0.0	100.0	1958
	5-9	94.6	5.4	0.2	5.1	0.1	0.0	100.0	1491
	10-14	91.8	8.2	1.4	6.7	0.1	0.0	100.0	1424
	15-17	87.0	13.0	2.5	9.6	0.9	0.0	100.0	605
Sex	Male	94.0	6.1	0.8	5.0	0.3	0.0	100.0	2876
	Female	94.5	5.5	0.8	4.7	0.0	0.0	100.0	2603
Total		93.7	6.3	0.8	4.8	0.1	0.6	100.0	5478

Figure 2 demonstrates the percentages of non-orphan and orphan during the pre-conflict and post-conflict periods. As per the graph, there is a decrease in the percentages of non-orphans with living parents, while both maternal and paternal orphanhood have increased nearly twofold in the post-conflict period, as a probable impact of conflict.

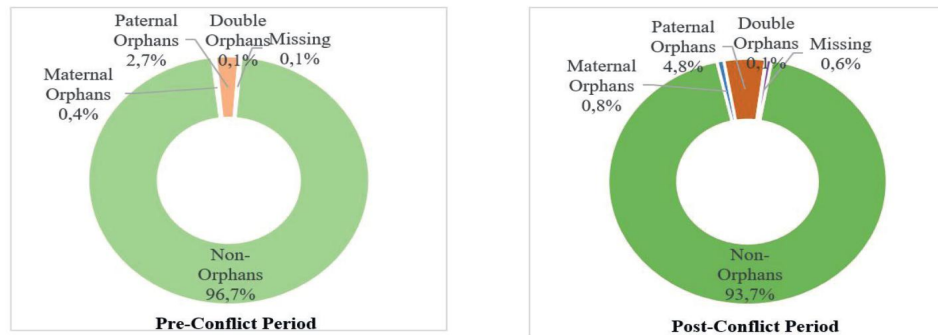


Figure 2. Percent Distribution of Orphanhood Status of Syrian Children under Age 18 in Pre-Conflict Period in Syria and Post-Conflict Period in Türkiye

The orphan and non-orphan children's living arrangements in the post-conflict period in Türkiye can be analyzed through Table 2 which shows the relationship structure and relationship to the head in the household. According to this table, cases where the child is the head of the household, namely, child-headed households are non-existent in Türkiye where orphans live with at least

one adult in the households. For all orphanhood types, households that have three or more related adults are high and as the relationship to head depicts, it can be inferred that these adults are grandparents or siblings of the child. Especially for double orphans, living with three or more related adults (85.7%) has the largest proportion, while living with unrelated adults (14.3%) is also the highest compared to other orphanhood types. Households with one adult and two adults from the same sex are specifically high for paternal orphans compared to other orphanhood types with 8.0% and 6.6% indicating that the mother probably takes care of children alone or with the help of another elder adult in the family.

The relationship of orphaned children to the head of the household appears majorly to be linked to being children or grandchildren, followed by being a sibling. Double orphans generally live with the household head as the niece or nephew by marriage with 42.9%, while this living arrangement is followed equally by living with a grandparent, sibling, other relatives or unrelated adults. Children who are adopted have the highest ratio for maternal and paternal orphans with 2.5% and 2.3% respectively.

Table 2. Percent Distribution of Syrian Orphan and Non-Orphan Children under Age 18 According to Relationship Structure and Relationship to the Head in the Household in Türkiye, 2018 TDHS-S

Relationship Structure	Non-Orphans	Maternal Orphans	Paternal Orphans	Double Orphans
No adults	0.0	(0.0)	0.0	(0.0)
One adult	0.8	(2.5)	8.0	(0.0)
Two adults, opposite sex	40.4	(15.1)	8.1	(0.0)
Two adults, same sex	0.4	(0.0)	6.6	(0.0)
Three+ related adults	57.5	(79.9)	75.6	(85.7)
Unrelated adults	0.9	(2.5)	1.6	(14.3)
Total	100.0	(100.0)	100.0	(100.0)

Relationship to Head	Non-Orphans	Maternal Orphans	Paternal Orphans	Double Orphans
Head	0.0	(0.0)	0.0	(0.0)
Wife or husband	0.2	(0.0)	0.4	(0.0)
Son/daughter	84.7	(77.3)	52.4	(0.0)
Son/daughter-in-law	0.5	(2.5)	2.1	(0.0)
Grandchild	9.7	(12.6)	22.0	(14.3)
Parent	0.0	(0.0)	0.0	(0.0)
Parent-in-law	0.0	(0.0)	0.0	(0.0)
Brother/sister	0.9	(5.1)	3.0	(14.3)
Co-spouse	0.0	(0.0)	0.0	(0.0)
Other relative	0.8	(0.0)	5.4	(14.3)
Adopted/foster child	0.1	(2.5)	2.3	(0.0)
Not related	0.3	(0.0)	0.0	(14.3)
Niece/nephew by blood	2.4	(0.0)	9.1	(0.0)
Niece/nephew by marriage	0.4	(0.0)	3.3	(42.9)
Total	100.0	(100.0)	100.0	(100.0)
Number of Children	5163	(43)	264	(8)

Note: Figures in parenthesis indicates that a figure is based on 0-49 weighted cases.

Living arrangements of the Syrian orphan and non-orphan children in pre-conflict and post-conflict periods based on the 2006 SMICS and 2018 TDHS-S are presented in Table 3 below. The table demonstrates the percentages of Syrian children under age 18 which are grouped according to the survival status of parents, as well as the orphanhood and living arrangement status by highlighting the characteristics such as age, sex, residence and region. Columns (1), (2), (3) and (4) indicate children whose one or parents are alive and the percentages who are living with them; while columns (5), (6), (7), (8) and (9) shows the orphanhood status of children who have lost one or both parents.

Pre-conflict period signifies low levels of orphanhood in all background characteristics; while in the post-conflict period, orphanhood has risen at least

two times for all age groups and sex. The proportion of children whose one or both parents had died (12) has increased from 3.2% in the pre-conflict period to 5.7% in the post-conflict period. Another salient indicator emerges for children who are not living with their biological parents (11) which has increased from 0.7% in the pre-conflict period to 2.9% in the post-conflict period. For children who are under age 18 and under age 15, there hasn't been a significant difference in total numbers except for children who are not living with either parent despite the fact that they are alive (4). In the post-conflict period, while the percentage is 0.7% for children under age 15, it rises to 2.1% for children under age 18 indicating that children are more likely to leave their parents' households at ages 15, 16 and 17.

When the background characteristics are examined, changes are observed according to age, sex, residence and region. Especially in the 15-17 age group and for Syrian regions, there has been a remarkable increase in the post-conflict period compared to the pre-conflict time. On the basis of region, there has been a general decline in the living arrangements of children who live with both parents, on the other hand, a high increase is observed especially in the paternal orphanhood indicators. While paternal orphans who live with their mother (5) in the 15-17 age group was 5.5% in the pre-conflict period, this has increased to 7.1% in the post-conflict period. With the additional 2.3% increase of paternal orphans who do not live with their mother (7), the total paternal orphans in the 15-17 age group (5) + (7) are 9.4% in the post-conflict period. The total orphanhood (12) in the same age group is 12.8%, reflecting an almost two-fold increase compared to the pre-conflict period. The notable increase during the post-conflict period can be elucidated by referring to Table 4, which presents information on school attendance, working status and ever-married percentages of non-orphans and orphans under age 18. According to Table 4, for orphans in the 15-17 age group, attending school decreases significantly for both sexes, while the working status of orphans increases up to 38.2% for males and to 11.9% for females in the post-conflict period, indicating the possibility of adolescent labor. Additionally, the marriage ratio among females in the same age group is elevated at 40.3%, although it is not comparable to the pre-conflict period.

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Table 3. Percent Distribution of Syrian Children's Orphanhood and Living Arrangements According to Background Characteristics^{1,2}

Background characteristics		One or Both Parents Alive				One or Both Parents Deceased
		Living with both parents	Living with only mother, father alive	Living with only father, mother alive	Not living either parent, both alive	Paternal Orphans living with mother
		(1)	(2)	(3)	(4)	(5)
Pre-Conflict						
Age	0-4	98.1	1.2	0.1	0.0	0.5
	5-9	96.2	1.2	0.3	0.2	1.7
	10-14	93.4	1.4	0.6	0.2	3.5
	15-17	88.8	1.4	0.5	2.0	5.5
Sex	Male	95.1	1.2	0.4	0.1	2.5
	Female	94.0	1.3	0.3	0.8	2.7
Residence	Urban	94.8	0.9	0.5	0.5	2.6
	Rural	94.4	1.6	0.3	0.3	2.5
Regions	North East Syria	94.6	1.1	0.3	0.4	2.9
	Central Syria	94.6	1.2	0.3	0.2	2.7
	South West Syria	94.5	1.5	0.7	0.6	1.9
Total < 15		95.7	1.2	0.4	0.1	2.0
Total < 18		94.6	1.3	0.4	0.4	2.6
Post-Conflict						
Age	0-4	91.7	5.1	0.6	0.4	1.7
	5-9	88.4	4.3	0.8	0.4	4.8
	10-14	82.2	6.1	1.3	1.5	6.2
	15-17	65.1	6.5	1.5	12.9	7.1
Sex	Male	85.0	5.3	1.1	2.1	4.5
	Female	85.8	5.3	0.8	2.1	4.1
Residence	Non-Camp	85.1	5.4	0.9	2.2	4.3
	Camp	89.9	3.4	0.7	0.1	4.2
Regions Türkiye	West	95.7	2.9	0.0	0.0	1.4
	South	93.7	4.7	0.5	0.2	0.4
	Central	86.3	10.0	0.9	1.8	0.0
	East	92.0	4.5	0.8	0.3	1.7
Regions Syria	North East Syria	82.6	5.3	1.0	3.0	5.4
	Central Syria	81.8	7.0	1.1	2.6	4.8
	South West Syria	76.5	5.2	1.8	1.6	13.0
Total < 15		87.9	5.2	0.9	0.7	3.9
Total < 18		85.4	5.3	0.9	2.1	4.3

¹ Administratively, the Syrian Arab Republic consists of 14 governorates, 107 districts and 2480 subdistricts, but for ease of comparison, the 2006 SMICS and 2018 TDHS-S data include 14 governorates of Syria as a variable, which are regrouped and then recoded into three main regions: North East Syria (Latakia, Tartus, Idlib and Raqqa), Central Syria (Hama, Homs, Latakia and Tartus) and South West Syria (Damascus, Daraa, Quneitra, Rif Dimashq and Latakia).

² There are missing values for this table based on the information on the mother or father. The missing values for the 2006 SMICS and 2018 TDHS-S are 1.2% and 1.0% respectively. The highest percentages are observed for 15-17 age group (1.2%) and children in camp areas (1.0%) in the post-conflict period.

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ound Characteristics in Pre-Conflict Period in Syria and Post-Conflict Period in Türkiye, 2006 SMICS and 2018

or Both Parents Dead							
Maternal Orphans living with father	Paternal Orphans not living with mother	Maternal Orphans not living with father	Double Orphans not living with either parent	Total	Percentage not living with a biological parent	Percentage with one or both parents dead	Number of children
(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Period							
0.1	0.0	0.0	0.0	100.0	0.0	0.6	11103
0.3	0.1	0.0	0.1	100.0	0.3	2.1	14579
0.5	0.2	0.1	0.1	100.0	0.5	4.3	14730
0.7	0.2	0.0	0.5	100.0	2.7	6.9	7727
0.3	0.1	0.0	0.1	100.0	0.4	3.1	24988
0.4	0.1	0.0	0.2	100.0	1.1	3.3	23150
0.3	0.1	0.0	0.2	100.0	0.8	3.2	24211
0.4	0.1	0.0	0.1	100.0	0.6	3.2	23928
0.3	0.1	0.0	0.1	100.0	0.7	3.4	23389
0.6	0.1	0.0	0.2	100.0	0.5	3.6	11361
0.3	0.1	0.1	0.1	100.0	0.9	2.5	13389
0.3	0.1	0.0	0.1	100.0	0.3	2.5	40412
0.4	0.1	0.0	0.1	100.0	0.7	3.2	48139
onflict Period							
0.2	0.1	0.0	0.1	100.0	0.5	2.0	1962
0.2	0.3	0.0	0.1	100.0	0.8	5.4	1501
1.2	0.5	0.2	0.1	100.0	2.2	8.2	1434
1.6	2.3	0.9	0.9	100.0	17.0	12.8	613
0.7	0.5	0.0	0.3	100.0	2.8	6.0	2891
0.5	0.5	0.2	0.0	100.0	2.9	5.4	2619
0.6	0.5	0.1	0.1	100.0	3.0	5.8	5241
0.7	0.0	0.0	0.0	100.0	0.1	4.9	270
0.0	0.0	0.0	0.0	100.0	0.0	1.4	304
0.0	0.4	0.0	0.0	100.0	0.5	0.8	614
0.0	0.0	0.0	0.0	100.0	1.8	0.0	120
0.2	0.1	0.0	0.0	100.0	0.3	1.8	651
0.9	0.6	0.2	0.2	100.0	4.1	7.4	3071
1.3	0.9	0.0	0.2	100.0	3.6	7.1	511
0.5	0.5	0.0	0.0	100.0	2.1	14.0	210
0.5	0.3	0.0	0.0	100.0	1.1	4.8	4898
0.7	0.5	0.1	0.1	100.0	2.9	5.7	5510

parison, the governorates are recoded both for 2006 SMICS and 2018 TDHS-S data in the table under 'regions'. Both 2006 in regions based on their geographic locations. The recoded regions are North East Syria (Aleppo, Deir ez-Zor, Al-Hasakah, q and As-Suwayda).

S usually ranged between 0.1% and 0.3%, while the rates are slightly higher and stretched from 0.2% to 1.2% for the 2018 period.

Educational Attainment

Armed conflicts yield multifaceted outcomes, extending beyond orphanhood and living arrangements of children to also impeding educational achievements by altering their schooling, enrollment processes and attendance dynamics. The disruptions in educational continuity, decline in school enrollment ratios and the rise in dropout percentages are some of the common consequences of conflicts. Research also points to similar results, indicating that the exposure to the conflict especially had a large and significant negative effect on both the enrollment and successful completion of mandatory schooling (Shemyakina, 2011; Akresh and de Walque, 2008). While all children bear the brunt of these adverse effects, the impact is more detrimental for orphans. The repercussions of losing one or both parents, particularly for orphans, often manifest in consequences such as discontinuing education, involvement in child labor, or exposure to discrimination. Aligned with this viewpoint, a study that analyzes nineteen DHS data across ten countries by comparing the household characteristics with and without orphans indicates a significant disparity in school enrollment between orphaned children and their non-orphan counterparts, with orphaned children exhibiting lower enrollment rates (Case et al., 2004).

Concerning Syrian children in Türkiye, the Turkish government has implemented an inclusivity program for them and has committed to integrating all school-aged Syrian refugees into the national public school system since 2017. However, low levels of enrollment in schools, the language barrier as well as the high percentage of child labor prevent children's access to education. The lack and the low command of Turkish language skills have challenged their integration into Turkish society, while the economic hardships of the parents compelled children to work instead of going to school. Based on the findings from the 2018 TDHS-S analysis, the negative impact of these challenges on education has become evident. The analysis indicates that out of the 5510 children under age eighteen, 3331 were not enrolled in education during the current school year at the time of the interview. According to the data presented in Table 4, school attendance percentages decrease by half

for both sexes in the post-conflict period, with males experiencing a more pronounced drop. The most substantial reductions are observed in the 15-17 age group, followed by the 10-14 age group. The severe decline in male school attendance is evident for both orphans and non-orphans in these age groups compared to the pre-conflict period. This shift could potentially be explained by the engagement of child or adolescent labor of the male children in these age groups. On the other hand, the most significant decrease in female school attendance percentages is noticed particularly for 15-17 age groups for both non-orphans and orphans. 15-17 age group female attendance percentage drops from 54.7% in the pre-conflict period to 25% in the post conflict period. Additionally, for orphan female children in the same age group, the attendance ratio drops from 47.7% to 34.5%. The increased proportion of girls who have been married at an early age within this age group could be associated with these declines, as it is possible that girls are compelled to discontinue their education due to early marriages.

Child and Adolescent Labor

According to the International Labour Organization (ILO), child labor is defined as work that “deprives children of their childhood, their potential and their dignity, and that is harmful to physical and mental development” (ILO, 2004). Although there is a widespread debate on this issue and there are many forms of child labor, the general opinion disapproves of child labor finding it mentally, physically and socially dangerous and harmful to children. Current legislation in Türkiye defines ‘child worker’ and ‘adolescent worker’ separately according to their age. A child worker is described as a child who has completed the age of 14, has not completed the age of 15 and has also finished primary education; while the adolescent worker is defined as a person who has completed the age of 15, but has not completed the age of 18.

In the 2018 TDHS-S, household members who are aged 12 years and over are asked if they are working in a job that generates income. (HUIPS, 2019). Based on the findings from this question, among the 5510 children under 18 years old, 20.3% are engaged in work, whereas this percentage drops to 12.0% for children below 15 years old. According to Table 4, the proportion

of children engaged in paid employment is remarkably low in the pre-conflict period for both sexes and for both non-orphans and orphans. Nevertheless, an opposite trend is evident in the post-conflict period as these ratios increase for both males and females. There is a noticeable rise in participation in labor for males when examining the age groups of 10-14 and 15-17. Despite the absence of a discernible distinction based on the orphan status, it is evident that a substantial proportion of children in these age groups are involved either in child or adolescent labor. These findings may indicate that children with or without any parental care tend to or have to work due to the difficult living conditions. On the other hand, child labor does not manifest itself in the age groups of 0-4 and 5-9. However, the fact that some of the children in the age groups of 10-14 and 15-17 are working in the post-conflict period indicates a higher tendency of child and particularly adolescent labor in Türkiye.

Child and Early Marriages

Another implication of armed conflicts on children is the heightened occurrence of early or child marriages. UNICEF defines child marriage as a union that takes place either before the age of 15 or before reaching 18 years old (UNICEF, 2022). In Syria, all the personal status laws permit child marriages and especially for girls there is no legal provision that prohibits the marriage of children. The Syrian Law of Personal Status states that the minimum legal age of marriage is 17 years for girls and 18 years for boys. However, with judicial consent, girls and boys who have reached puberty are able to marry respectively at the age of 13 and 15 years. Since the beginning of the civil war in Syria, it is generally reported that child marriages have increased significantly. Studies have also found similar outcomes exhibiting a significant positive relationship between armed conflicts and girl-child marriage ratios (DiGiuseppe and Haer, 2022; Singh et al., 2022).

Ever married percentages of non-orphan and orphan Syrian boys and girls under age 18 are presented in Table 4 below. This part does not demonstrate comparable data but only presents a post-conflict analysis due to the reason that the 2006 SMICS household file does not include any variable related to marital status. According to the data from the 2018 TDHS-S, orphan

Syrian children began marrying at the age of 15 and ever-married children are more commonly encountered in the 10-14 and 15-17 age groups with being higher in the latter group. In line with the findings of Table 4, the total percentage of ever-married children is 0.6% for males and 10.1% for females in the post-conflict period in Türkiye. Among all children, the ever-married percentages of females surpass those of males, conversely, orphaned female children display a higher percentage than their non-orphan peers in all age groups. This may indicate that female orphans who have lost one or more parents are more inclined to marry at early ages compared to the males as an indirect effect of the conflict.

Table 4. Percent Distribution of Syrian Non-Orphan and Orphan Children under Age 18 who Attends School, Works in Paid Job and Ever Married According to Age and Sex in Pre-Conflict Period in Syria and Post-Conflict Period in Türkiye, 2006 SMICS and 2018 TDHS-S

		Male				Female			
	Age	Attending School	Working In Paid Job	Ever Married	Number of Children	Attending School	Working In Paid Job	Ever Married	Number of Children
Pre-Conflict Period									
Non-Orphans	0-4	0.0	0.0	-	5818	0.0	0.0	-	5218
	5-9	99.3	0.2	-	7386	99.0	0.1	-	6879
	10-14	90.1	4.6	-	7120	88.9	1.1	-	6948
	15-17	52.6	0.0	-	3873	54.7	0.0	-	3295
Orphans	0-4	(0.0)	(0.0)	-	(32)	(0.0)	(0.0)	-	(34)
	5-9	100.0	0.7	-	153	97.5	0.0	-	151
	10-14	84.9	5.1	-	313	82.3	2.1	-	327
	15-17	45.3	0.0	-	270	47.7	0.0	-	262
Total		83.8	2.4	-	24964	84.4	0.6	-	23112
Post-Conflict Period									
Non-Orphans	0-4	1.8	0.0	0.0	1028	1.7	0.0	0.0	891
	5-9	71.2	0.0	0.0	718	67.1	0.0	0.0	692
Orphans	10-14	65.8	18.0	0.3	650	71.0	5.2	1.2	656
	15-17	16.0	49.3	0.8	306	25.0	8.1	22.4	221

	0-4	(0.0)	(0.0)	(0.0)	(21)	(2.1)	(0.0)	(0.0)	(17)
Orphans	5-9	(81.7)	(0.0)	(0.0)	(42)	77.6	(0.0)	(0.0)	(39)
	10-14	60.5	29.8	1.0	59	66.2	6.6	3.3	58
	15-17	20.6	38.2	2.1	51	(34.5)	(11.9)	(40.3)	(27)
Total		37.8	32.3	0.6	2891	41.5	6.4	10.1	2619

Note: Figures in parenthesis indicates that a figure is based on 0-49 weighted cases.

DISCUSSION AND CONCLUSION

Based on the statistical evidence provided, several key findings overlap with the existing literature that is provided. As a consequence of the destructiveness of the armed conflicts, the increase in the number of deaths manifests its effect especially in the form of adult male mortality as men are the main combatants in military operations. In the post-conflict period in Türkiye, this can be observed in the orphanhood types of children in which paternal orphanhood is the highest among others. The percentage of children who live with the mother although the father is alive is also high in the post-conflict period indicating a possible family separation during the conflict.

Living arrangements of orphan children differ according to orphanhood status. Among the single orphans in the post-conflict period, the general trend is to live with the surviving biological parent as in line with the literature. %82.4 of the maternal orphans and %89.6 of the paternal orphans under age 18 are living with their biological parents. The percentage not living with a biological parent is generally high for the 15-17 age group, for children who live in non-camp areas and whose place of birth is Syria. If the child is a double orphan, the living arrangement is either to live with related adults in the remaining family or with unrelated adults which the latter is higher contrary to the literature. The tendency of older orphans to live independently can be observed in the post-conflict period, especially for children in the 15-17 age group. As the age increases, the number of children who do not live with their biological parents also increases reaching a peak of 17% in this age group. However, as the findings suggest, the phenomenon of child-headed households is uncommon and not observed for Syrian children living in Türkiye. At least

one or more adults are living with the orphans in the households, but the cases in which unrelated adults are living with the orphans are especially high for the paternal orphanhood.

The disruptive effects and profound repercussions of armed conflicts on children extend to critical areas such as educational attainment, child labor and early marriages in the post-conflict period. Evidently, the analysis underscores a noticeable decline in school attendance ratios in the post-conflict period, affecting both male and female non-orphan and orphan children, thereby revealing the adverse influence of armed conflicts on all children. For orphaned children, the issue is exacerbated as male school attendance lags behind that of females during this period. A study by Kırdar et al. (2021) aligns with these findings, illustrating a comparable decrease in school enrollment ratios among Syrian refugee children in Türkiye, with boys experiencing a drop of half and girls two-thirds. Our own analysis closely mirrors this pattern, with a near-twofold reduction in attendance for both genders, but with boys disproportionately affected. Additionally, the detrimental aftermath of conflict is evident in the rise of child and adolescent labor, particularly pronounced in the post-conflict phase. The dire economic conditions faced by many Syrian refugees in Türkiye likely compel male children to abandon their education and engage in labor to contribute to their families' sustenance. This situation aligns with another study that highlights a significant prevalence of paid employment among Syrian refugee boys in the 15-17 age group, with a reported percentage of 48% (Dayıoğlu et al., 2023). This trend is observed in our analysis as well with 49.3% in the 15-17 age group for non-orphans, but additionally, the high proportion of working orphan boys is also apparent in the age groups of 10-14 (29.8%) and 15-17 (38.2%).

The last impact of the armed conflicts on children is also starkly evident in the prevalence of early marriages, predominantly affecting girls. Our post-conflict analysis produces similar results in parallel with the literature. Among all children who are over 12 and under 18 years old, 4.5% of them are married in the post-conflict period and while this percentage is 0.6% for males, it is 10.1% for females. The burden of orphanhood is evident specifically for orphan girls

with 40.3% of them married in the 15-17 age group. The absence of a parent in the household probably contributes to this unsettling trend, leaving these vulnerable children susceptible to coerced or early marriages.

The results of the study raise some important policy priorities regarding Syrian children living under temporary protection in Türkiye. The first of these priorities is the prevalence of orphanhood which has increased significantly compared to the pre-conflict period. The fact that 6 out of every 100 Syrian children living in Türkiye are orphans draws attention to the lack of socio-psychological support for these children, as well as pointing to the magnitude of conflict and conflict-induced migration. The fact that orphanhood reaches up to 13% at older ages indicates the seriousness of the issue. The results of the study show that 15 out of every 100 Syrian children live in a dissolved family (single-parent or other forms of dissolved families) which can be marked as an area where policies should be prioritized. Another policy priority area is the high percentage of child labor among Syrian orphan boys and low school attendance percentages among Syrian orphan girls and boys. Related to these issues, the notable prevalence of child marriages particularly among Syrian paternal orphan girls emerges as an area that should be given policy attention.

In light of the substantial empirical insights provided, it is imperative to establish a comprehensive policy framework that prioritizes the well-being and future prospects of children impacted by armed conflicts. Addressing the educational challenges highlighted in the analysis necessitates immediate attention to counteract the declining school attendance ratios of Syrian children who are destined to become a lost generation, especially orphaned children, through targeted education initiatives that ensure equitable access and quality learning environments. Concurrently, combating child and adolescent labor demands proactive measures to alleviate economic vulnerabilities and provide viable alternatives for vulnerable children, thus enabling their development. Moreover, to curtail the alarming prevalence of early marriages among girls, comprehensive awareness measures aimed at fostering gender equality, empowering girls through education, and addressing societal norms are imperative.

In conclusion, these policy priorities collectively reflect a steadfast commitment to safeguarding the rights and well-being of conflict-affected children, fostering their resilience and ensuring their potential to thrive despite adversities. It is of great importance that all of these policy priorities are implemented on the basis of the principle of “superior benefit of the child”.

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